



C 1. Symbol for the element carbon.
2. *Celsius*; *centigrade*; *cervical vertebra* (C1 to C7); *kilocalorie* (large calorie).

¹⁴C Carbon-14.

c *calorie*; *centum* (a hundred); *circa* (about); *clonus*; *closure*; *compound*; *congius* (gallon).

c̄ [L.] *cum*, with.

CA 125 An antigen produced by tissues derived from coelomic epithelium. It is associated with various epithelial cancers, including ovarian cancer. It may be used to assess response to treatment in women with known ovarian cancer.

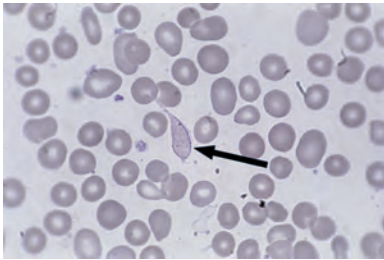
CA19-9 Cancer antigen 19-9; a carbohydrate (oligosaccharide) antigen found in patients with cancers of several internal organs, including adenocarcinomas of the pancreas, gallbladder, stomach, colon, and ovaries.

Ca Symbol for the element calcium.

CAAHEP *Commission on Accreditation for Allied Health Educational Programs*.

CABG *coronary artery bypass graft*.

Cabot's rings (kăb'ôts) [Richard C. Cabot, U.S. physician, 1868–1939] Blue-staining threadlike inclusions of unknown origin, found in the red blood cells in severe anemia. They may appear as rings, figures-of-eight, or twists. They seem to be parts of the nucleus, with histones and iron but no DNA. **SEE: illus.**



CABOT'S RING

(Orig, mag. ×640) — in pernicious anemia

CAC *Coronary artery calcification*.

CaC₂ Calcium carbide.

cac-, caci- [Gr. *kakos*, bad] **SEE: caco-**

cacao (kă-kă'ô, kă-kaw'ô) [Mex.-Sp. from Nahuatl *cacahuatl*, cacao beans]
1. The seed of *Theobroma cacao* used to prepare cacao butter (theobroma oil), chocolate, and cocoa. 2. A reddish to brown powder prepared from the roasted ripe seeds of *Theobroma cacao* (family Sterculiaceae), having a cho-

late odor and taste. It is used as a syrup base, as a flavoring for certain medications, and in beverages and confections.

Cacchi-Ricci syndrome (kôk'kê rî'chê, rê') [Roberto Cacchi, Vincenzo Ricci, 20th-cent. Ital. radiologists] Sponge kidney.

cachectin (kă-kêk'tin) Tumor necrosis factor alpha.

cachexia (kă-kêks'ê-ă) [Gr. *kakos*, bad, + *hexis*, condition] A state of ill health, malnutrition, and wasting. It may occur in many chronic diseases, malignancies, and infections. **cachectic** (-kêk'tik), *adj.*

PATIENT CARE: Activities should be interspersed with frequent rest periods, and the patient's response to activity monitored to prevent fatigue. Oral hygiene is provided before and after eating. Small, frequent meals of high-calorie, high-nutrient, concentrated soft foods are offered along with fluids to reduce the effort required in eating. The patient is bedbound, cachectic, and repositioned frequently to promote ventilatory excursions, to mobilize secretions, and to prevent skin breakdown. The skin is inspected for breakdown, and tissues are protected from pressure with flotation pads or mattresses and other assistive devices. When moved, the patient is handled gently and the joints are supported to prevent pain and pathological fractures. Assisted passive or active range-of-motion exercises are provided to maintain joint mobility. Elimination is monitored to prevent retention of urine or stools, and the patient is assisted with toileting. If incontinence occurs, steps are taken to protect skin integrity and to preserve the patient's self-esteem. Assistance is offered to the patient and family in coping with feelings about change in body image, illness state, and approaching death.

cancerous c. Wasting caused by cancer.

cardiac c. Muscle wasting and weight loss occurring in persons with congestive heart failure, and linked with excess circulating levels of tumor necrosis factor and other inflammatory cytokines. It has a poor prognosis.

malarial c. Wasting due to chronic malaria.

pituitary c. Panhypopituitarism.

cachinnation (kăk-i-nă'shün) [L. *cachinnare*, to laugh aloud] Excessive, inappropriate, loud laughter. It may be associated with schizophrenia.

CaCl₂ Calcium chloride.

CaCO₃ Calcium carbonate.

caco-, **caci-**, **cac-** [Gr. *kakos*, bad] Combining forms denoting *bad* or *ill*.

CaC₂O₄ Calcium oxalate.

cacodylate (kăk'ō-dīl-ăt) A salt of cacodylic acid.

cacogeusia (kăk'ō-gū'sē-ă) [r + *geusia*, taste] An unpleasant taste associated with foods that normally taste good.

cacosmia (kă-kōz'mē-ă) [r + *osme*, smell] 1. An unpleasant odor. 2. Subjective perception of a disagreeable odor. SYN: *kakosmia*. SEE: *hallucination*, *olfactory*; *parosmia*.

CAD *coronary artery disease*; *computer-assisted design*; *computer-aided dispatch*.

cadaver (kă-dăv'ēr) *pl.* **cadavera** [L. *cadaver*, dead body] A dead body; a corpse. **cadaveric**, **cadaverous** (kă-dăv'ēr-ik, kă-dăv'ēr-ūs), *adj.*

cadherin One of several cellular adhesion molecules, i.e., molecules that hold cells together. In cancer cells, mutations in cadherins keep cells from sticking together normally. As a result, malignant cells grow irregularly, invade other tissues, and metastasize to distant locations.

cadmium (kăd'mē-ūm) [Gr. *kadmia*, earth] SYMB: Cd. A soft bluish-white metal present in zinc ores; atomic number 48, atomic weight 112.40, specific gravity 8.65. It is used industrially in electroplating and in atomic reactors. Its salts are poisonous. SEE: *Poisons and Poisoning Appendix*.

caduceus (kă-dū'sē-ūs) [L., a herald's wand] In mythology, the wand or staff that belonged to Apollo and was given to Hermes, or Mercury. It consists of two serpents entwined around a staff, surmounted by two wings, and is used as the medical insignia of certain groups such as the U.S. Army Medical Corps. Although the caduceus is sometimes used to symbolize the medical profession, the staff of Aesculapius is considered the more appropriate symbol.

caecum (sē'kūm) Cecum.

caelotherapy (sē'lō-thēr'ă-pē) [L. *caelum*, heaven, + Gr. *therapeia*, treatment] Therapy using religion or religious symbols.

Caenorhabditis elegans (sē'nō-răb-dīt'is ēl'ă-gănz, -găns) A roundworm, about 1 mm long. It is the first multicellular organism for which the full genome was sequenced. Its cells are used in studies of the molecular basis of development, aging, and fat metabolism.

café au lait macules (kă-fă' ō lă) SEE: under *macule*.

caffeine (kăf'en, kă-fen') C₈H₁₀N₄O₂; an alkaloid present in coffee, chocolate, tea, many cola drinks, cocoa, and some over-the-counter medicines. The amount of caffeine in beverages varies from 40 to

180 mg in 6 oz (180 ml) of coffee, from 2 to 5 mg in decaffeinated coffee, and from 20 to 110 mg in 5 oz (150 ml) of tea. The caffeine in cola drinks ranges from 30 to 90 mg in a 360-ml (12-oz) serving. The pharmacological action of caffeine includes stimulation of the central nervous system and of gastric acid and pepsin secretion, elevation of free fatty acids in plasma, diuresis, basal metabolic rate increase, total sleep time decrease, and possible blood glucose level increase. Caffeine is considered an ergogenic aid in athletics because it tends to enhance endurance and improves reaction time. Adverse effects include drug dependence and withdrawal in some habitual users. SEE: *caffeine intoxication*; *caffeine withdrawal*.

caffeine intoxication SEE: under *intoxication*.

caffeinism (kăf'en-izm) Caffeine intoxication.

Caffey, John (kăf'fē) U.S. pediatrician, 1895–1966.

C.'s disease Infantile cortical hyperostosis.

cage, thoracic The soft tissue and bones enclosing the thoracic cavity.

CAGE-AID The CAGE screening technique *adapted to include drugs*. The patient is asked if he or she has ever had to cut down his or her use of alcohol or drugs or been annoyed by criticism of alcohol or drug use.

caged molecule A molecule that can become activated by particular wavelengths of light.

CAG repeat disease A group of neurodegenerative diseases characterized by the repetition of the nucleotides cytosine-adenine-guanine in specific genes. Diseases in this group include Huntington's chorea.

CAH *congenital adrenal hyperplasia*.

CAI *computer-assisted instruction*.

caida mollera, caida de la mollera (kă-ē'thă, -dă mō-yă-ră, -lyă') [Sp., fallen fontanel] Severe dehydration in infancy. In some Hispanic cultures *caida mollera* applies to any severe illness in infancy attributed to incorrect care or handling. Causes include diarrhea, decreased appetite, and an inability to nurse (similar to those found in acute gastroenteritis with dehydration). Findings include fever, irritability, restlessness, and sunken fontanels. Folk remedies for this illness include inserting a finger into the child's mouth and pushing up on the palate or applying substances to or sucking on the fontanel.

-caine (kăn) [Fr. (*co*)*caine*] A suffix used in pharmacology to designate a local anesthetic.

caisson disease (kă'sŏn') Decompression illness.

Cal Large *calorie*.

cal Small *calorie*.

calamine (kāl'ă-mîn) A pink powder, containing zinc oxide with a small amount of ferric oxide. It is used externally in various skin conditions as a protective and astringent, an ointment, or a lotion.

calamus scriptorius (kal'ă-mŭs) [L.] The inferior portion of the floor of the fourth ventricle of the brain. It is shaped like a pen and lies between the restiform bodies.

Calan, Calan SR SEE: *verapamil*.

calcaneopophysitis (kāl-kā'nē-ō-ă-pŏf'ē-zī'tis) [L. *calcaneus*, heel, + Gr. *apophysis*, offshoot, + *itis*, inflammation] Pain and inflammation of the posterior portion of the calcaneus at the place of insertion of the Achilles tendon.

calcaneodynia (kāl-kā'nē-ō-dīn'ē-ă) [" + Gr. *odyne*, pain] Pain in the heel.

calcaneofibular (kāl-kā'nē-ō-fīb'ū-lār) [" + *fibula*, pin] Pert. to the calcaneus and fibula.

calcaneonavicular (kāl-kā'nē-ō-nă-vīk'ū-lār) [" + *navicula*, boat] Pert. to the calcaneus and navicular bone.

calcaneoscapoid (kāl-kā'nē-ō-skā'fŏyd) [" + Gr. *skaphe*, skiff, + *eidōs*, form, shape] Pert. to the calcaneus and scapoid bone.

calcaneotibial (kāl-kā'nē-ō-tīb'ē-ăl) [" + *tibia*, shinbone] Pert. to the calcaneus and tibia.

calcaneum (kāl-kā'nē-ŭm) *pl.* *calcanea* [L. *calcaneus*, heel] Calcaneus.

calcaneus (kāl-kā'nē-ŭs) *pl.* *calcanei* [L.] The heel bone. It articulates with the cuboid bone and with the talus. SYN: *os calcis*. SEE: *leg* for ill. **calcaenal, calcanean** (-kă'nē-ăl, -ăn), *adj.*

calcar (kāl'kăr) [L., a spur] A spurlike process.

c. femorale A bony spur that strengthens the femoral neck. **calcarine**, *adj.*

calcareous (kāl-kā'rē-ŭs) [L. *calcarium*, of lime] Having the nature of lime; chalky.

calcemia (kāl-sē'mē-ă) [L. *calx*, lime, + Gr. *haima*, blood] Hypercalcemia.

calcic (kāl'sik) [L. *calcarium*] Pert. to calcium or lime.

calcicosis (kāl'si-kŏ'sis) [L. *calx*, lime, + Gr. *osis*, infection] Pneumoconiosis caused by inhaling dust from limestone (marble).

calcidiol (kāl-sī-dī'ŏl) 25-hydroxyvitamin D. It is the stored form of vitamin D that circulates in the body.

calciferol (kāl-sif'ēr-ŏl) Vitamin D₂. A synthetic vitamin D. It has the most vitamin D activity of those substances derived from ergosterol. It is used for prophylaxis and treatment of vitamin D deficiency, rickets, and hypocalcemic tetany. SYN: *ergocalciferol*.

calciferous (kāl-sif'ēr-ŭs) [" + *ferre*, to

carry] Containing calcium, chalk, or lime.

calcific (kāl-sif'ik) [" + *facere*, to make] Forming or composed of lime.

calcification (kāl'si-fi-kă'shŭn) The process in which organic tissue becomes hardened by the deposition of calcium salts in the tissues.

arterial c. Calcium deposition in the arterial walls.

dystrophic c. The deposition of calcium salts in dead, dying, or necrotic tissues.

metastatic c. Calcification of soft tissue with transference of calcium from bone, as in osteomalacia and disease of the parathyroid glands.

Mönckeberg's c. Calcium deposition in the media of arteries.

pathological c. Calcinosi.

placental c. The deposition of calcium in the placenta as a result of placental abortion, infarction, or aging. This form of placental degeneration may contribute to preterm labor and fetal distress. SEE: *abruptio placentae; infarction*.

calcific tendinitis Calcium deposition in a chronically inflamed tendon, esp. a tendon of the shoulder.

calcigerous (kāl-sij'ēr-ŭs) [" + *gerere*, to bear] Containing calcium or lime salts.

calcimimetic Any drug that acts like calcium, for example, that lowers serum parathyroid hormone levels.

calcination (kāl'si-nă'shŭn) [L. *calcinare*, to char] Drying by roasting to produce a powder.

calcine (kāl'sin) **1.** To expel water and volatile materials by heating to a high temperature. **2.** A powder produced by roasting.

calcinosi (kāl'si-nŏ'sis) [L. *calx*, lime, + Gr. *osis*, condition] A condition marked by abnormal deposition of calcium salts in tissues. SYN: *pathological calcificationion*.

c. circumscripta Subcutaneous calcification.

calcipexis, calcipexy (kāl'si-pĕk'sis, -pĕk'sē) [" + Gr. *pexis*, fixation] Fixation of calcium in body tissues. **calcipectic** (-pĕk'tik), *adj.*

calciphylaxis (kāl'si-fi-lăk'sis) [" + Gr. *phylaxis*, protection] A disease of small blood vessels in which calcium is deposited within the medial layer of the vessel wall. Gangrenous changes occur in organs that rely on blood flow through the affected vessels, esp. in the skin and in internal organs. The disease is usually found in patients with end-stage renal disease on hemodialysis but may occasionally occur in other patients. SYN: *calcific uremic arteriolopathy*.

calciprivia (kāl'si-priv'ē-ă) [" + *privus*, without] Deficiency or absence of calcium.

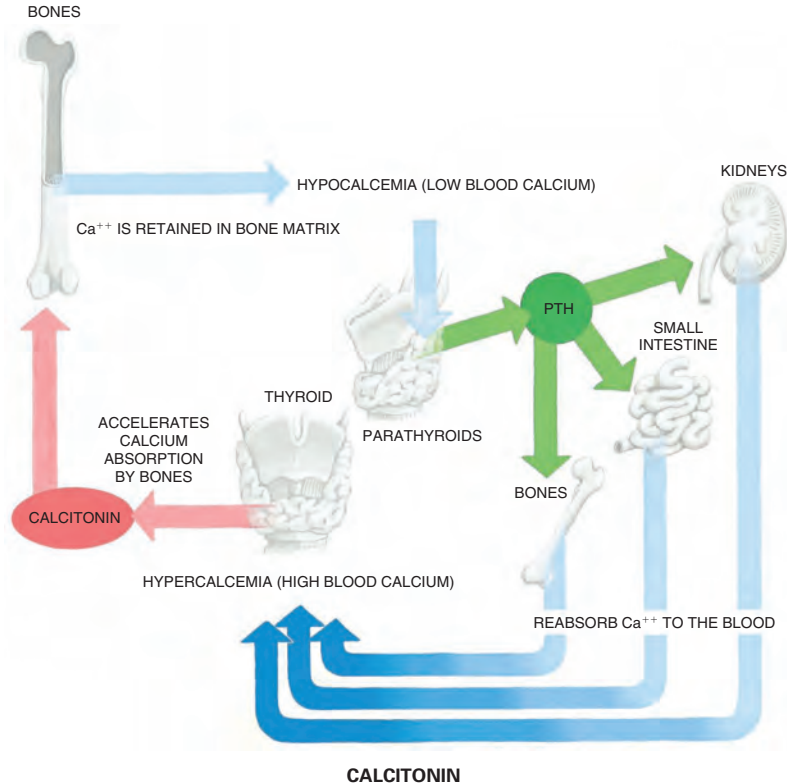
calcitonin (kāl'sī-tō'nīn) A hormone produced by the human thyroid gland that is important for maintaining a dense, strong bone matrix and regulating the blood calcium level. In patients with medullary carcinoma of the thyroid, calcitonin levels are markedly increased and serve as a tumor marker. Given nasally, salmon calcitonin can be used to treat osteoporosis. **SEE: illus.**

calcitriol (kāl-sī'trē-ō'l) The active hormone form of vitamin D that promotes the absorption of calcium and phosphate in the intestines, decreases calcium excretion by the kidneys, and acts along with parathyroid hormone to maintain bone homeostasis.

calcium (kāl'sē-ūm) [L. *calx*, lime] **SYMB:** Ca. A silver-white metallic element; atomic number 20, atomic weight 40.08. It is a major component of limestone. Lime, CaO, is its oxide. Calcium phosphate constitutes 75% of body ash and about 85% of mineral matter in bones.

FUNCTION: Calcium is important for blood clotting, enzyme activation, and acid-base balance; it gives firmness and rigidity to bones and teeth; and it is essential for lactation, the function of

nerves and muscles including heart muscle, and maintenance of membrane permeability. Most absorption of calcium occurs in the duodenum and is dependent on the presence of calcitriol. Dietary factors affecting calcium absorption include phytic acids found in grains, excess phosphorus consumption, and polyphenols found in teas. Approximately 40% of the calcium consumed is absorbed. Blood levels of calcium are regulated by parathyroid hormone; deficiency of this hormone produces hypocalcemia. Its serum level is normally about 8.5 to 10.5 mg/dl. Low blood calcium causes tetany, that is, muscular twitching, spasms, and convulsions. Blood deprived of its calcium will not clot. Calcium is deposited in the bones but can be mobilized from them to keep the blood level constant when dietary intake is inadequate. At any given time the body of an adult contains about 700 g of calcium phosphate; of this, 120 g is the element calcium. Adults should consume at least 1 g of calcium daily. Pregnant, lactating, and postmenopausal women should consume 1.2–1.5 g of calcium per day.



Complementary functions of calcitonin and parathyroid hormone

SOURCES: Excellent calcium sources include milk, yogurt, cheese (but not cottage cheese), calcium-fortified orange juice, and ice cream. Good sources include canned salmon and sardines, broccoli, tofu, rhubarb, almonds, figs, and turnip greens.

DEFICIENCY: The consequences of calcium deficiency include poor development of bones and teeth, osteoporosis, dental caries, rickets, and excessive bleeding. **SEE:** *osteoporosis*; *Recommended Daily Dietary Allowances Appendix*.



Laboratory error and variation may sometimes cause inaccurate or inconsistent values in evaluating the calcium level.

EXCESS: Hypercalcemia can cause constipation, renal stones, cardiac arrhythmias, cardiac arrest, and depressed brain function (e.g., lethargy or coma). High serum calcium levels are usually the result of either hyperparathyroidism or metastatic cancer and may be reduced with hydration, diuretics, corticosteroids, or bisphosphonate drugs like pamidronate.

c. chloride $\text{CaCl}_2 \cdot 2\text{H}_2\text{O}$; a salt used to raise the calcium content of the blood in disorders such as in hypocalcemic tetany, calcium channel blocker, or beta blocker overdose. It is used in solution and administered intravenously. It is incompatible with epinephrine.

c. cyclamate An artificial sweetening agent. **SEE:** *cyclamate*.

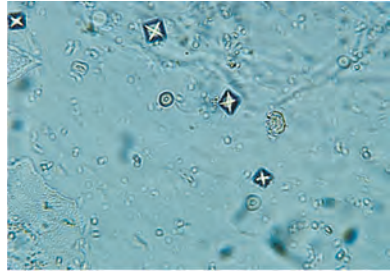
c. disodium edetate A substance used to bind metallic ions, such as lead or zinc. It is used to treat poisoning caused by those metals.

c. gluconate A granular or white powder without odor or flavor used, for example, to treat hypocalcemia, calcium channel blocker, or beta blocker overdose.

c. glycerophosphate The calcium salt of glycerophosphoric acid. It is used as a dietary supplement and in formulating drugs.

c. hydroxide $\text{Ca}(\text{OH})_2$; a white powder used as an astringent applied to the skin and mucous membranes and in dentistry as cavity liner or a pulp-capping material under a layer of zinc phosphate. It induces tertiary dentin formation for bridging or root closure, but may be related to a chronic pulpitis and pulp necrosis after pulp capping. **SYN:** *slaked lime*.

c. oxalate A calcium-containing compound present in urine in crystalline form. It is a constituent of some kidney stones. **SEE:** *illus*.



CALCIUM OXALATE CRYSTALS IN URINE

(Orig. mag. $\times 400$)

c. pantothenate One of the B complex vitamins. Biochemically, it transfers acetyl groups from one compound to another. Egg yolks, liver, and yeasts are nutritional sources.

c. saccharin An artificial sweetening agent. **SEE:** *saccharin*.

total serum c. The sum of the soluble and protein-bound calcium in the blood.

c. tungstate A fluorescent material used for radiological imaging. It is used in intensifying screens to amplify the image, thereby reducing the radiation exposure to the patient.

calcium-45 (^{45}Ca) A radioactive isotope of calcium. It has a half-life of 164 days.

calcium channel blocker Any of a group of drugs that slow the influx of calcium ions into smooth muscle cells, resulting in decreased arterial resistance and oxygen demand. These drugs are used to treat angina, hypertension, vascular spasm, intracranial bleeding, congestive heart failure, and supraventricular tachycardia. Because hypotension occurs as both an intended and occasionally an unwelcome effect, blood pressure must be monitored especially closely during the initial treatment period.

calcium pyrophosphate dihydrate crystal deposition disease Pseudogout.

calciuria ($\text{k\`a}l\text{'s}\bar{\text{e}}\text{-}\bar{\text{u}}\text{'r}\bar{\text{e}}\text{-}\bar{\text{a}}$) [l^+ + Gr. *ouros*, urine] Calcium in the urine.

calcofluor white stain ($\text{k\`a}l\text{'k}\bar{\text{o}}\text{-floo}'\bar{\text{o}}r$) A fluorescent stain used in microbiology to highlight fungi, including species of *Pneumocystis*.

calcospherite ($\text{k\`a}l\text{'k}\bar{\text{o}}\text{-sf}\bar{\text{e}}\text{'r}\bar{\text{i}}t$) [l^+ + Gr. *sphaira*, sphere] A small, calcified body found in specimens of the prostate, the thyroid, and some tumors.

calculogenesis ($\text{k\`a}l\text{'k}\bar{\text{u}}\text{-l}\bar{\text{o}}\text{-j}\bar{\text{e}}n\text{'\text{e}}\text{-s}\bar{\text{i}}s$) [l^+ + Gr. *genesis*, generation, birth] The formation of stones.

calculus ($\text{k\`a}l\text{'k}\bar{\text{u}}\text{-l}\bar{\text{u}}s$) *pl. calculi* [L^+ , pebble] A stone. It is usually composed of mineral salts. Stones can occur in the gallbladder, kidneys, ureters, bladder, or urethra. **SEE:** *gallstone*; *kidney stone*.

biliary c. Gallstone.

dental c. Mineralized dental plaque, located above or below the gums.

hemic c. A calculus formed from coagulated blood.

pancreatic c. A calculus in the pancreas, made of calcium carbonate with other salts and inorganic materials.

renal c. A calculus in the kidney that may block urine flow. If the ureter is blocked by the stone, there is sudden, severe, and paroxysmal renal colic often with chills, fever, hematuria, and frequency of urination. If stones do not pass spontaneously, they should be removed.

TREATMENT: Pain relief should be a priority, as should forcing fluids unless passage is completely blocked by the calculus. Smooth muscle relaxants help in passing the stone and relieving pain. If the stone is preventing urine flow or continues to grow and cause infection, surgery must be performed. Alternatively, the stone may be disintegrated ultrasonically. SEE: *extracorporeal shock-wave lithotripter*; *kidney stone removal*, *laser treatment for*.

salivary c. A calculus in the salivary duct. It usually affects the duct of the submandibular gland. The calculus obstructs the flow of saliva, causing severe pain and swelling of the gland, esp. during eating. Surgical removal of the stone is the treatment.

urinary c. SEE: *kidney stone*; *Nursing Diagnoses Appendix*.

vesical c. A kidney stone that has lodged or formed in the urinary bladder.

calefacient (kāl'ē-fā'shēnt) [L. *calere*, to be warm, + *facere*, to make] Conveying a sense of warmth when applied to a part of the body; something that conveys such a sense.

calendar blister A blister package in which each dose of a medication is labeled with a specific day of the week (M, T, W, etc.) or of the month (1st, 2nd, 3rd) to encourage daily compliance with medication dosing.

calf (kāf) [AS. *cealf*] The thick muscular back part of the leg below the knee, formed by the gastrocnemius and soleus muscles.

caliber (kāl'ī-bēr) [Fr. *calibre*, diameter of bore of gun] The diameter of any orifice, canal, or tube.

calibration (kāl'ī-brā'shūn) **1.** Determination of the accuracy of an instrument by comparing its output with that of a known standard or an instrument known to be accurate. **2.** Measuring of size, esp. the diameter of vessels or the caliber of an orifice.

c. of instruments A procedure in which the mechanical functioning or electrical circuitry of a device is brought into alignment with a known standard. SEE: *calibration*; *calibrator*.

calibrator (kāl'ī-brā-tor) **1.** An instrument for measuring the inside diameter of tubes or orifices. **2.** Any material or

tool used to ensure that a laboratory device, test specimen, or sample matches known standards and performs accurately.

caliceal (kāl'ī-sē'āl) [Gr. *kalyx*, cup of a flower] Pert. to a calix.

caliectasis (kāl'ī-sēk'tā-sīs) [r + *ektasis*, dilatation] Dilatation of the renal calyx. SYN: *caliectasis*.

calices (kā'ī-sēz') Pl. of calix.

Caliciviridae (kāl'ī-sē-vī'rī-dā) [L. *calice*, calyx, "cuplike" appearance of viral particles under electron microscopy] A virus family that was previously classed as a genus in the family of picornaviruses. SEE: *Astroviridae*; *Calicivirus*.

Calicivirus (kāl'īs'ī-vī'rūs) A genus of the family Caliciviridae that causes epidemic viral gastroenteritis in adults and children. Genera are classed in accordance with the geographic areas in which they have been identified. SEE: *Norwalk agent*.

caliculus (kā-lik'ū-lūs) [L., small cup] A cup-shaped structure.

c. ophthalmicus Optic cup.

caliectasis (kāl'ē-ēk'tā-sīs) [Gr. *kalyx*, cup of a flower, + *ektasis*, dilatation] Dilatation of the renal calyx. SYN: *caliectasis*.

California Verbal Learning Test ABBR: CVLT. A neuropsychiatric test to measure the ability to remember heard words and the categories in which they belong. The subject listens to 16 items (four items in each of four categories) and then repeats as many of those items as he or she can recall. The subject is assessed on the number of terms retained and on the ability to recall that a particular item that he or she failed to recall may be from a particular category, e.g., a fruit or a color. A second set of 16 items is then presented. Finally, after performing a series of tasks lasting 20 minutes, the subject is asked to recall the first 16 items again.

californium (kāl'ī-for'nē-ūm) [Named for California, the state and university where it was first discovered in 1950] SYMB: Cf. A chemical element prepared by bombardment of curium with alpha particles; atomic mass weight 251, atomic number 98. It has properties similar to dysprosium.

caligo (kā-lī'gō) [L., darkness] Dimness of vision.

caliper(s) (kāl'ī-pēr) [Fr. *calibre*, diameter of bore of gun] A hinged instrument for measuring thickness or diameter.

calisthenics (kāl'īs-thēn'īks) [Gr. *kalos*, beautiful, + *sthenos*, strength] An exercise program that emphasizes development of gracefulness, suppleness, and range of motion and the strength required for such movement.

call center A communications center in an organization that manages incoming and outgoing telephone calls with cus-

tomers and clients. In health care the center may help to manage appointments and messages or may provide patients with information about illnesses, health care resources, services provided, wellness, or disease self-management.

Calliphora vomitoria (kă-lif'ēr-ă) The common blowfly, whose larvae sometimes infest human wounds, a condition known as myiasis.

callosal (kă-lō'sāl) [L. *callus*, hardened skin] Pert. to the corpus callosum.

callosity, callositas (kă-lōs'i-tē, -i-tās) [L. *callosus*, hard] Callus.

callosomarginal (kă-lō'sō-măr'jī-nāl) [L. *callus*, hardened skin, + *margo*, margin] Pert. to the corpus callosum and marginal gyrus; marking the sulcus between them.

callosum (kă-lō'sūm) [L. *callosus*, hard] Corpus callosum.

callous (kăl'ūs) Hard; like a callus.

callos-unemotional personality ABBR: CU. A group of personality traits including lack of empathy, manipulativeness, and remorselessness. These traits are considered to be indicators of conduct disorder in childhood and adolescence and are uniquely characteristic of antisocial personality disorder in adults.

call system Communications technology that allows patients to signal caregivers when they are urgently needed and allows caregivers to communicate with each other at a distance.

call to stool A feeling that one will soon need to defecate.

callus (kăl'ūs) [L., hardened skin] **1.** A circumscribed thickening and hypertrophy of the horny layer of the skin. It may be oval or elongated, gray or brown, slightly elevated, with a smooth burnished surface. It appears on the flexor surfaces of hands and feet and is caused by friction, pressure, or other irritation. SYN: *callosity*.

TREATMENT: Salicylic acid or careful shaving will remove the callosity temporarily. Removal is made permanent only by elimination of the cause.

2. The osseous material woven between the ends of a fractured bone that is ultimately replaced by true bone during healing. SEE: *porosis*.

definitive c. The exudate found between two ends of a fractured bone, that develops into true bone.

provisional c. A temporary deposit between the ends of a fractured bone that is reabsorbed when true bone develops.

calmative (kă'mă-tiv) **1.** Sedative; soothing. **2.** An agent that acts as a sedative.

calmodulins (kal'mōdj'i-linz) Intracellular proteins that combine with cal-

cium ions to activate the contraction of smooth muscle and other processes.

calor (kă'lor) [L., heat] **1.** Heat. **2.** The heat of fever. It is one of the five classic signs of inflammation, the others being redness (*rubor*), swelling (*tumor*), pain (*dolor*), and loss of function (*functio laesa*).

Calori's bursa (kăl-ō'rēz) [Luigi Calori, It. anatomist, 1807–1896] The bursa found between the arch of the aorta and the trachea.

caloric (kă-lor'ik) [L. *calor*, heat] Relating to heat or to a calorie.

caloric method A means of estimating the total fluid and electrolyte requirements of a hospitalized patient, based on the patient's body weight, body temperature, mobility, ventilation, and other factors.

caloric source A colloquial term for any artificial or natural food, e.g., amino acids, carbohydrates, fats, or proteins.

caloric test A procedure used to assess vestibular function in patients who complain of dizziness or exhibit standing balance disturbances or unexplained sensorineural hearing loss. With the patient supine, each ear canal is irrigated with warm (44°C) water for 30 sec, followed by irrigation with cold (30°C) water. Warm water elicits rotatory nystagmus to the side being irrigated; cold water produces the opposite reaction (i.e., nystagmus to the opposite side). SYN: *oculovestibular test*; *Bárány's caloric test*.

calorie (kăl'ō-rē) [L. *calor*, heat] A unit of heat. A calorie may be equated to work or to other units of heat measurement. Small calories are converted to joules by multiplying by 4.1855.

gram c. Small c.

kilogram c. Large calorie; one thousand calories.

large c. ABBR: C, Cal, or kcal. The amount of heat needed to change the temperature of 1 kg of water from 14.5°C to 15.5°C. It is commonly used in metabolic studies and in reference to human nutrition. It is always capitalized to distinguish it from a small calorie. SYN: *kilogram calorie*; *kilocalorie*.

small c. ABBR: c, cal. The amount of heat needed to change the temperature of 1 g of water 1°C. SYN: *gram calorie*.

calorie restriction, caloric restriction

Limiting the consumption of food to less than what an organism would eat if given free access to nutrients. In laboratory animals, especially mice and rodents, limiting the quantity of food ingested, while maintaining adequate levels of essential nutrients, prolongs life. Calorie restriction in humans decreases body mass index, improves serum lipid levels, and lowers blood pressure (along with other potentially

beneficial effects), but its effect on longevity is speculative. SEE: *calorie*; *Food Guide Pyramid*; *food requirements*.

calorifacient (kā-lor'ī-fā'shēnt) [L. *calor*, heat, + *faciens*, making] **1.** Producing heat. **2.** A food that is calorically rich.

calorific (kāl'ō-rīf'ik) Producing heat.

calorigenic (kā-lor'ī-jēn'ik) [" + Gr. *gennan*, to produce] Pert. to the production of heat or energy.

calorimeter (kāl'ō-rīm'ē-tēr) [" + Gr. *metron*, measure] An instrument for determining the amount of heat exchanged in a chemical reaction or by the animal body under specific conditions.

bomb c. An apparatus for determining potential food energy. Heat produced in combustion is measured by the amount of heat absorbed by a known quantity of water in which the calorimeter is immersed.

respiration c. An apparatus for measuring heat produced from exchange of respiratory gases.

calorimetry (kāl'ō-rīm'ē-trē) Measurement of quantities of heat.

calprotectin (kāl'prō-tēk'tin) A water-soluble, 36.5 kD protein found in the cytosol of neutrophils. Laboratory assays that detect fecal calprotectin (FC) are used as screening tests for colorectal cancer, diverticulitis, dysentery, and inflammatory bowel diseases. FC levels are not elevated in patients with functional or noninflammatory bowel disorders.

calsequestrin (kāl-sē-kwēs'trīn) A protein in the sarcoplasmic reticulum of muscle cells that regulates the concentration of calcium ions.

calvaria (kāl-vā'rē-ā) [L., skull] The domelike superior portion of the cranium, composed of the superior portions of the frontal, parietal, and occipital bones. SYN: *skullcap*.

calx (kālks) [L.] **1.** Lime. **2.** Heel.

calyces (kā'li-sēz") Pl. of calyx.

calyciform (kā-līs'ī-form) [Gr. *kalyx*, cup of a flower, + L. *forma*, shape] Cup-shaped.

Calymmatobacterium granulomatis (kā-līm'mā-tō-bāk-tē'rē-ūm) SEE: under *Klebsiella*.

calyx (kā'lix) *pl.* **calyces** [Gr. *kalyx*, cup of a flower] **1.** Any cuplike organ or cavity. **2.** A cuplike extension of the renal pelvis that encloses the papilla of a renal pyramid; urine from the papillary duct is emptied into it.

CAM (kām) *complementary and alternative medicine*.

camera (kām'er-ā) [Gr. *kamara*, vault] In anatomy, a chamber or cavity.

Cameron ulcer (kām'er-ōn) An ulcer or a linear erosion found in a hiatal hernia. It is found in about 5% of patients with hiatal hernia, and sometimes causes acute or chronic upper gastrointestinal bleeding.

camomile (kam'ō-mil") Chamomile.

cAMP *cyclic adenosine monophosphate*.

Camper's fascia The upper layer of the superficial fascia of the abdomen that overlies Scarpa's fascia and consists of a layer of fatty tissue.

camphor (kām'for) [Malay, *kapur*, chalk] A gum obtained from an evergreen tree native to China and Japan.

camphorated (kām'fō-rāt'ēd) Combined with or containing camphor.

campimeter (kāmp-īm'ē-tēr) [L. *campus*, field, + Gr. *metron*, measure] A device for measuring the field of vision.

campimetry (kāmp-īm'ē-trē) Perimetry (2).

campospasm (kām'pō-spāzm") Camp-tocormia.

camptocormia (kāmp'tō-kor'mē-ā) [Gr. *kamptos*, bent, + *kormos*, trunk] A deformity marked by habitual forward flexion of the trunk when the individual is erect. SYN: *camptospasm*.

camptodactylia (kāmp'tō-dāk-tīl'ē-ā) [" + *dactylos*, finger] Permanent flexion of the fingers or toes.

camptomelic dwarfism A form of dwarfism characterized by bowing of the bones of the lower extremities.

camptospasm (kāmp'tō-spāzm) [" + *spasmos*, spasm] Camptocormia.

camptothecin (kāmp'tō-thē'sin) ABBR: CPT. An inhibitor of the enzyme topoisomerase I. Medications derived from this agent (including irinotecan and topotecan) are used to treat a variety of cancers.

Campylobacter (kām'pī-lō-bāk'tēr) [Gr. *kampylos*, curved, + *bakterion*, little rod] A genus of gram-negative, spirally curved, rod-shaped bacteria of the family Spirillaceae that are motile and non-spore-forming. One or both ends of the cell have a single polar flagellum.

C. coli A species of *Campylobacter* that normally infects dogs but can cause intestinal infection and diarrhea in immunocompromised humans.

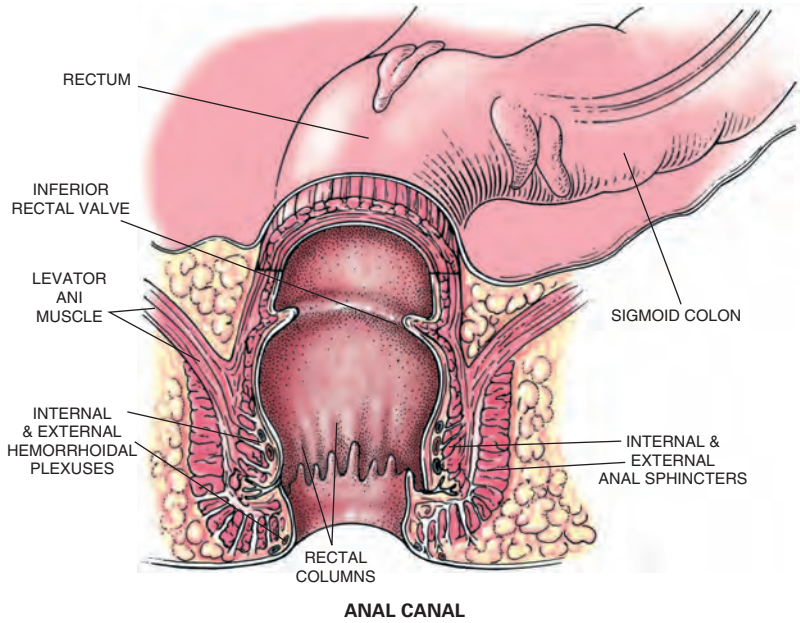
C. fetus A species with several subspecies that can cause disease in both humans and animals.

C. jejuni A subspecies of *C. fetus* formerly called *Vibrio fetus*. It is the most frequent bacterial cause of gastroenteritis in the U.S. The disease is usually self-limiting. Treatment consists of fluid and electrolyte replacement and administration of the antibiotic to which the organism is sensitive. Infection with *Campylobacter jejuni* is strongly associated with Guillain-Barré syndrome.

C. pylori The former name of the bacterium now called *Helicobacter pylori*.

campylobacteriosis (kāmp'pī-lō-bāk-tēr'ē-ō'sis) [" + "] Any infection caused by *Campylobacter* species, esp. one that causes gastrointestinal disease.

CAMRSA An abbreviation for community-acquired methicillin-resistant *Staphylococcus aureus*.



Canadian Institutes of Health Research

ABBR: CIHR. The Canadian government's federal agency that funds and oversees scientific research into diseases, health outcomes, and health technologies. Its website is <http://www.cihr-irsc.gc.ca>.

Canadian Nurses Association

ABBR: CNA. The official national organization for professional nurses from the 10 provinces of Canada and the Northwest Territories. All services provided by the organization are offered in English and French.

Canadian Nurses Association Testing Service

ABBR: CNATS. An organization affiliated with the Canadian Nurses Association that is responsible for administering the nursing licensure examination to graduates of approved nursing schools. Successful completion of the examination qualifies the candidate as a registered nurse. The examination is analogous to the National Council Licensure Examination (NCLEX) in the U.S.

Canadian Occupational Performance Measure

ABBR: COPM. An individualized and standardized outcome measure designed for use by occupational therapists to assess clients' perceptions of change in their ability to perform the activities and tasks of daily living. The patient identifies problems in daily function that are then measured on the basis of performance and client satisfaction.

Canadian Transport Emergency Centre

ABBR: CANUTEC. A Canadian telephone hotline, similar to CHEMTREC in the U.S., that provides information to teams handling hazardous materials at the site of toxic spills or mass casualties.

canal (kă-năl') [L. *canalis*, channel] A narrow tube, channel, or passageway. SEE: *duct*; *foramen*; *groove*; *space*.

adductor c. A triangular space lying beneath the sartorius muscle and between the adductor longus and vastus medialis muscles. It extends from the apex of the femoral triangle to the popliteal space and transmits the femoral vessels and the saphenous nerve. Also called *Hunter's canal*.

Alcock's c. Pudendal c.

alimentary c. The digestive tract from the mouth through the anus.

alveolar c. One of several canals in the maxilla that transmit the posterior superior alveolar blood vessels and nerves to the upper teeth.

anal c. The terminal portion of the large intestine, its external aperture being the anus. This includes the internal and external sphincter muscles of the anus. The canal remains closed except during defecation and passage of flatus. It is about 1½ in. (3.8 cm) long. SEE: *illus*.

Arnold's c. SEE: under *Arnold, Friedrich*.

auditory c. One of the two canals associated with the structures of each ear. They are the external auditory canal, leading from the external auditory meatus to the tympanic membrane, length

less than 1 in. (2.5 cm); and the internal auditory canal, leading from the structures of the inner ear to the internal auditory meatus and the cranial cavity. The internal auditory canal transmits the nerves of hearing and equilibrium. SEE: *external auditory c.*; *internal auditory c.*

birth c. The canal, comprising the cervix, vagina, and vulva, through which the products of conception, including the fetus, pass during labor and birth.

bony semicircular c. One of several canals located in the bony labyrinth of the internal ear and enclosing the three semicircular ducts (superior, posterior, and lateral) that open into the vestibule. They are enclosed within the petrous portion of the temporal bone.

carotid c. A canal in the petrous portion of the temporal bone that transmits the internal carotid artery and the inferior carotid plexus of sympathetic nerves.

central c. of bone The haversian canal of an osteon in bone.

central c. of spinal cord *Canalis centralis*; a small canal in the center of the spinal cord extending from the fourth ventricle to the conus medullaris. It contains cerebrospinal fluid.

cervical c. The anatomic portion of the uterus between the internal and the external os. SYN: *cervix uteri*.

c. of Corti SEE: under *Corti*.

craniopharyngeal c. A canal in the fetal sphenoid bone that contains the stalk of Rathke's pouch.

Dorello's c. SEE: *Dorello's canal*.

ethmoidal c. One of two grooves running transversely across the lateral mass of the ethmoid bone to the cribriform plate and lying between the ethmoid and frontal bones. The anterior ethmoidal canal transmits the anterior ethmoidal vessels and the nasociliary nerve; the posterior ethmoidal canal transmits the posterior ethmoidal vessels and nerve.

external auditory c. The external auditory meatus, which transmits sound waves to the tympanic membrane.

facial c. *Canalis facialis*; a canal in the internal acoustic meatus of the temporal bone that transmits the facial nerve.

femoral c. *Canalis femoralis*; the medial division of the femoral sheath. It is a short compartment about 1.5 cm long, lying behind the inguinal ligament. It contains some lymphatic vessels and a lymph node.

gastric c. A longitudinal groove on the inner surface of the stomach following the lesser curvature. It extends from the esophagus to the pylorus.

Guyon's c. SEE: *Guyon's canal*.

haversian c. 1. One of many minute canals found in compact bone that contain blood and lymph vessels, nerves, and sometimes marrow, each surrounded by lamellae of bone constituting a haversian system. SEE: *bone*.

2. A canal in osseous tissue that carries a neurovascular bundle to the teeth, seen most often in periapical radiographs of the mandible. SYN: *interdental canal*.

Huguier's c. SEE: *Huguier's canal*.

Hunter's c. SEE: *Hunter's canal*.

Huschke's c. SEE: under *Huschke, Emil*.

hyaloid c. *Canalis hyaloideus*; a canal in the vitreous body of the eye extending from the optic papilla to the central posterior surface of the lens. It serves as a lymph channel. In the fetus the canal contains the hyaloid artery. This normally disappears 6 weeks before birth.

hypoglossal c. A canal just inside the foramen magnum in the occipital bone that transmits the hypoglossal nerve and a branch of the posterior meningeal artery.

incisive c. A short canal in the maxillary bone leading from the incisive fossa in the roof of the mouth to the floor of the nasal cavity. It transmits the nasopalatine nerve and the branches of the greater palatine arteries to the nasal fossa.

inferior alveolar c. Mandibular canal.

infraorbital c. An anterior-posterior bony canal or groove in the floor of the orbit. The infraorbital artery and nerve run in this canal, which opens anteriorly as the infraorbital foramen.

inguinal c. SEE: under *inguinal*.

interdental c. Haversian c. (2).

internal auditory c. The canal in the petrous portion of the temporal bone that transmits the acoustic and facial nerves and the acoustic artery.

intestinal c. The alimentary canal from the stomach to the anus.

lacrimal c. The lacrimal duct.

mandibular c. *Canalis mandibulae*; a canal in the mandible that transmits the inferior alveolar blood vessels and nerve to the teeth. SYN: *inferior alveolar canal*.

medullary c. The marrow cavity of long bones.

membranous semicircular c. A semicircular duct. SEE: *duct, semicircular*.

nasolacrimal c. The canal lying between the lacrimal bone and the inferior nasal conchae. It contains the nasolacrimal duct.

neurenteric c. A temporary canal in the vertebrate embryo between the neural and intestinal tubes. In human de-

velopment, it is the temporary communication between cavities of the yolk sac and the amnion.

Nuck's c. SEE: *Nuck's canal*.

nutrient c. An opening on the surface of compact bone through which blood vessels gain access to the osteons (Haversian systems) and the marrow cavity of long bones.

obturator c. An opening in the obturator membrane of the hip bone that transmits the obturator vessels and nerve.

optic c. The foramen through which the optic nerve passes.

Petit's c. SEE: under *Petit*.

pharyngeal c. A canal between the sphenoid and palatine bones that transmits branches of the sphenopalatine vessels.

portal c. The connective tissue (a continuation of Glisson's capsule) and its contained vessels (interlobular branches of the hepatic artery, portal vein, and bile duct and lymphatic vessel) located between adjoining liver lobules.

pterygoid c. Canalis pterygoideus; a canal in the sphenoid bone that transmits the pterygoid vessels (e.g., the vidian artery) and pterygoid nerve.

pterygopalatine c. Canalis palatinus major, a canal between the maxillary and palatine bones that transmits the descending palatine nerves and artery.

pubdental c. A canal on the pelvic surface of the obturator internus muscle formed by the obturator fascia. It transmits the pudendal vessels and nerve. SYN: *Alcock's canal*.

pulp c. Root canal (1).

pyloric c. The narrow constricted region of the pyloric portion of the stomach that opens through the pylorus into the duodenum.

Rivinus' c. SEE: *Rivinus, August Quirinus*.

root c. 1. The part of the tooth that extends from the pulp chamber to the apical foramen. It contains arteries, veins, lymphatic vessels, and sensory nerve endings. SYN: *pulp canal*. 2. Colloquially, the procedure for preserving a tooth by removing its diseased pulp cavity.

sacral c. Canalis sacralis; a cavity within the sacrum. It is a continuation of the vertebral canal.

semicircular c. SEE: *bony semicircular c.*; *vestibular labyrinth*.

spinal c. Vertebral c.

uterine c. The cavity of the uterus.

utero-cervical c. The cavity of the cervix of the uterus.

vaginal c. The cavity of the vagina. The vaginal walls can expand but are normally in contact with each other; thus, the cavity is a potential space.

vertebral c. Canalis vertebralis, the

cavity formed by the foramina of the vertebral column. It contains the spinal cord and its meninges.

vidian c. A canal in the medial pterygoid plate of the sphenoid bone for transmission of pterygoid (vidian) vessels and nerve. SYN: *pterygoid canal*.

Volkmann's c. SEE: *Volkmann's canals*.

canaliculitis (kăn"ă-lik'ü-lī'tis) A relatively rare infection of the tear duct of the eye. It is usually found in one eye rather than both, and in people over age 50. It may be caused by chronic infection with *Actinomyces*, *Aspergillus*, *Candida*, or *Nocardia* species.

canaliculus (kăn"ă-lik'ü-lūs) *pl.* **canaliculi** [L. *canalicularis*] A small channel or canal. In bone or cementum, radiating out from lacunae and anastomosing with canaliculi of neighboring lacunae.

canalicular (-lik'ü-lär), *adj.*

canalis (kă-nă'tis) *pl.* **canales** [L., channel] Canal.

canalithiasis Benign paroxysmal positional vertigo.

canalith repositioning maneuver Use of the Hallpike maneuver to reposition a canalith in the semicircular canal(s) to relieve benign positional vertigo. SYN: *Epley maneuver*. SEE: *Hallpike maneuver*.

canalization (kăn"ă-lī-ză'shūn) Formation of channels in tissue.

canalplasty (kăn'ăl-plăs'tē) [" + "] Surgery to reopen a narrow, closed, or clogged external auditory canal. It is used, for example, in patients with external otitis that has not responded to medical therapy.

Canavan's disease (kăn'ă-vănz") An autosomal recessive disorder of infants, marked by spongy white matter with Alzheimer's type II cells. Also called *Canavan-van Bogaert-Bertrand disease*.

canavanine (kă-năv'ă-nīn) An amino acid produced by some leguminous plants, such as the jack bean. It is used primarily for feeding stock. It is structurally related to L-arginine. It prevents the growth of some bacteria.

Cancel/Entelev Distilled water containing chemicals such as catechol, inositol, nitric acid, potassium hydroxide, sodium sulfite, and sulfuric acid. It has been promoted as an alternative treatment for cancer and HIV/AIDS. The mixture has not been proven to work, and is not approved for use in the U.S. by the Food and Drug Administration.

cancellated (kăn'sē-lăt'ēd) [L. *cancellus*, lattice] Reticulated; said of a lattice-like structure.

cancellous (kăn'sēl'ūs) Having a reticular or latticework structure, as the spongy tissue of bone.

cellullus (kăn-sēl'ūs) *pl.* **cellulli** [L.] An osseous plate composing cancellous

Estimated New Cancer Cases and Deaths by Sex, U.S., 2008*

| | Estimated New Cases | | Estimated Deaths | |
|--------------------------------|---------------------|---------|------------------|---------|
| | Male | Female | Male | Female |
| All sites | 745,180 | 692,000 | 294,120 | 271,530 |
| Oral cavity & pharynx | 25,310 | 10,000 | 5,210 | 2,380 |
| Esophagus | 12,970 | 3,500 | 11,250 | 3,030 |
| Stomach | 13,190 | 8,310 | 6,450 | 4,430 |
| Colon & rectum | 77,250 | 71,560 | 24,260 | 25,700 |
| Liver & intrahepatic bile duct | 15,190 | 6,180 | 12,570 | 5,840 |
| Pancreas | 18,770 | 18,910 | 17,500 | 16,790 |
| Lung & bronchus | 114,690 | 100,330 | 90,810 | 71,030 |
| Melanoma-skin | 34,950 | 27,530 | 5,400 | 3,020 |
| Breast | 1,990 | 182,460 | 450 | 40,480 |
| Uterine corpus | | 40,100 | | 7,470 |
| Ovary | | 21,650 | | 15,520 |
| Prostate | 186,320 | | 28,660 | |
| Urinary bladder | 21,230 | 17,580 | 9,950 | 4,150 |
| Kidney & renal pelvis | 33,130 | 21,260 | 8,100 | 4,910 |
| Brain & other nervous system | 11,780 | 10,030 | 7,420 | 5,650 |
| Thyroid | 8,930 | 28,410 | 680 | 910 |
| Non-Hodgkin lymphoma | 35,450 | 30,670 | 9,790 | 9,370 |
| Leukemia | 25,180 | 19,090 | 12,460 | 9,250 |

*Excludes basal and squamous cell skin cancers and in situ carcinomas except urinary bladder. Carcinoma in situ of the breast accounts for about 67,770 new cases annually, and melanoma in situ accounts for about 54,020 new cases annually. Estimates of new cases are based on incidence rates from the NCI SEER program, 1995 to 2004.

SOURCE: ©2008, American Cancer Society, Inc., Surveillance Research

bone; any structure arranged as a lattice.

cancer (kăn'sēr) [G. *karkinos*, crab] Malignant neoplasia marked by the uncontrolled growth of cells, often with invasion of healthy tissues locally or throughout the body. Cancer is the second leading cause of death in the U.S., after the cardiovascular diseases. In 2006 the American Cancer Society reported that 564,830 Americans died of cancer, and twice that number were newly diagnosed with one form or another of the disease. The most common cancers in the U.S. are lung, breast, colon, prostate, and skin. Because most cancers occur in patients who are 65 or older, the incidence of cancer is expected to increase as the population ages. More than 200 kinds of cancer have been identified. Cancers that arise from epithelial tissues are called *carcinomas*; from mesenchymal tissues, *sarcomas*; from glial cells, *gliomas*; from lymphatic cells, *lymphomas*; from blood-forming cells, *leukemias*; from pigmented skin cells, *melanomas*; from plasma cells, *myelomas*. SYN: *malignancy* (2). SEE: *carcinoma*; *leukemia*; *lymphoma*; *oncogene*; *sarcoma*.

Cancer cells have several reproductive advantages over normal cells. They can make proteins that stimulate their own growth or that stimulate new blood vessels to bring them nourishment. They can produce enzymes that prevent their chromosomes from aging. They

can invade the lymphatic system and bloodstream and find places to grow in new tissues (metastasis).

Usually, as cancer cells proliferate, they become increasingly abnormal and require more of the body's metabolic output for their growth and development. Damage caused by their invasion of healthy tissues results in organ malfunction, pain, and, often, death. SEE: table (Estimated New Cancer Cases and Deaths by Sex, U.S., 2008).

ETIOLOGY: Ionizing radiation, ultraviolet light, some viruses, and drugs that damage nucleic acids may initiate the genetic lesions that result in cancers. The best-known and most widespread type of carcinogen exposure, however, results from the consumption of tobacco. The American Cancer Society estimates that one-third of the cancer deaths that occur annually in the U.S. are related to nutrition and other lifestyle factors. Some cancers are familial (i.e., caused by genetic injuries transmitted from parents to offspring); others result from occupational exposures to cancer-causing agents. Ironically, chemotherapeutic drugs used to treat some cancers may damage chromosomes and occasionally cause secondary malignancies.

SYMPTOMS: Symptoms of widespread cancer include pain, malnutrition, weakness, fatigue, bone fractures, and stroke-like syndromes. Early warning signs of cancer may be remembered

by the mnemonic CAUTION: Change in bowel or bladder habit; A sore that does not heal; Unusual bleeding or discharge; Thickening or mass in the breast or other body parts; Indigestion or difficulty in swallowing; Obvious change in a wart or a mole; Nagging cough or hoarseness. People should seek prompt medical attention if they observe any of these signs.

DIAGNOSIS: The location of a suspected lesion often dictates the modality used for cancer diagnosis. Men with urinary symptoms, e.g., may be screened for prostate cancer with a prostate specific antigen (PSA) test; an alpha-feto-protein (AFP) test may be used to screen for liver cancer. Several other tumor markers (e.g., the CA 125 test for ovarian cancer) are used only in follow-up after a diagnosis has already been made by other means. Endoscopy and radiography (e.g., x-ray studies, computed tomography [CT] scanning, magnetic resonance imaging [MRI], bone scanning, positron emission tomography [PET] scanning, combined CT and PET scanning, ultrasonography, and mammography and digital mammography) are typically used to locate and assess the extent of the disease, but definitive diagnosis still rests on the examination of cytological specimens (e.g., Papanicolaou [Pap] test) or the pathological review of biopsy specimens. **SEE: illus. (Cancer);** table (Controversies in Cancer Screening in the General Population).

Screening for cancers can identify some malignancies before they have invaded neighboring tissues or become widespread. The most widely used screening tests include the Pap test for cervical cancer, mammography for breast cancer, prostate specific antigen tests for prostate carcinoma, and occult blood tests and colonoscopy for intestinal cancers.

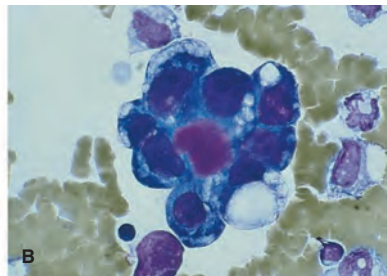
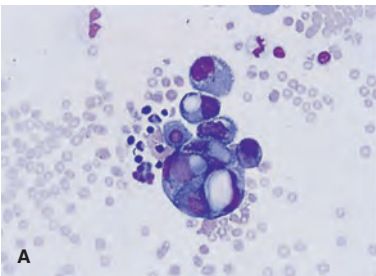
TREATMENT: Surgery, chemotherapy, immunotherapy, hormone therapy, radiation therapy, and combined-modality therapies often are effective

methods for treating patients with cancer. The specific treatment used depends on the type, stage, and location of the cancer cells and the patient's general health.

The pain associated with cancer often is severe. Cancer patients may also suffer depression and anxiety and have nutritional deficits. Guidelines for addressing these issues have been published widely (e.g., by the U.S. Department of Health and Human Services' Agency for Health Care Policy and Research). Publications may be obtained by calling 1-800-4-CANCER or by accessing websites such as that of the American Cancer Society (www.cancer.org).

PATIENT CARE: Collaborative efforts of the entire health care team must be coordinated, and participation of the patient and family in care must be encouraged. The patient's knowledge of the disease is determined, misinformation corrected, and oral and written information supplied about the disease, its progression, its treatment, and expected outcome. Such information should be updated on a regular basis. The patient's and family's positive coping mechanisms are identified and supported, and verbalization of feelings and fears, particularly with regard to changes in body image, pain and suffering, and dying and death, is encouraged. Participation in local support groups is encouraged for both patients and families.

Assistance is provided with personal hygiene and physical care as needed. Physical care is directed at the maintenance of fluid and electrolyte balance and proper nutrition. Nutrition is a special concern because tumors compete with normal tissues for nutrients and grow at their expense and because the disease or treatments can cause anorexia, altered taste sensations, mouth ulcerations, vomiting, diarrhea, and draining fistulas. Nutritional support includes assessing the patient's status and problems, experimenting to find



CANCER

Colon (A) and ovarian (B) cancer cells in peritoneal fluid (orig. mag. $\times 500$)

Controversies in Cancer Screening in the General Population*

| Test | To Detect | Discussion |
|---|--|---|
| Breast self-examination | Breast cancer | Monthly self-examination by women is a noninvasive way to screen for changes in the breast. This method detects many benign and cancerous lumps, but its ability to prolong life is still debated. |
| Mammography | Breast cancer | Mammography is clearly effective screening in women over the age of 50. Most mammograms are obtained by women in their 40s. The incidence of cancer is higher in later life, when mammography use tends to decline. |
| Digital rectal examination (DRE) | Colorectal cancer, prostate cancer | DRE is easy to perform and inexpensive but its cancer screening value is unproven, and when it detects cancers, there is no proof that the test results in better patient outcomes. In addition, DRE detects a very small number of cancers, only those within the reach of the examiner. |
| Fecal occult blood test | Colorectal cancer | In people over age 50, testing stool specimens for hidden bleeding detects many cancers, and this detection results in earlier treatment and prolongation of life. The accuracy and value of the test relative to sigmoidoscopy and colonoscopy are uncertain. |
| Chest x-ray, sputum cytology, CT of the chest | Lung cancer | Prospective studies have yielded conflicting results for any method of screening for lung cancer in smokers, and the costs of screening (e.g., with computed tomography of the chest) may be prohibitive. The tests are of no value to nonsmokers. |
| Prostate specific antigen (PSA) | Prostate cancer | PSA testing detects many previously undetected prostate cancers, but may result in increased death and disease due to complications from subsequent surgery. Refinements in its application may improve its usefulness as a screening tool. |
| Genetic testing | For predisposition to a variety of cancers | The predictive value of genetic testing for cancer is very small. Experts are debating the emotional and ethical consequences of genetic cancer screening tests. |

*Note: Cancer screening tests are most likely to be useful when: (1) the cancer is common and deadly; (2) the test reliably distinguishes between healthy and diseased people; (3) early detection of the disease leads to improved treatments; (4) treatments are safe and well-tolerated; (5) the psychological effects of test results are addressed sensitively and carefully; (6) the tests are applied to people who will truly benefit from them.

foods that the patient can tolerate, avoiding highly aromatic foods, and offering frequent small meals of high-calorie, high-nutrient soft foods along with fluids to limit fatigue and to encourage overall intake. Intake of noncaffeinated liquids should be encouraged: 2 quarts per day of juices or other caloric beverages in frequent, small amounts rather than water alone. Elimination is maintained by administering stool softeners

as necessary if analgesic drugs result in constipation.

Using careful, gentle handling techniques, the health care professional assists with range-of-motion exercises, encourages ambulation and mobility as possible, and turns and repositions the immobile patient frequently to decrease the deleterious multisystemic effects of immobilization. Comfort is achieved through correct body alignment, nonin-

vative measures (e.g., guided imagery and cutaneous stimulation), and prescribed pharmacological measures, preferably administered on a regular schedule to prevent pain, with additional dosing to relieve breakthrough pain. Emotional assistance includes decreasing the patient's fears of helplessness and loss of control; providing hope for remission or long-term survival but avoiding giving false hope; and providing the patient with realistic reassurance about pain control, comfort, and rest. Psychological counseling and antidepressant therapies may be helpful.

Hospice care (at home or in a dedicated center) if needed is discussed with the patient and family. The goal is to provide good quality of life with minimal discomfort, pain, and restrictions rather than to continue specific disease therapy. Family members are encouraged to assume an active role in caring for the patient. Communication is fostered between patient and family and other health care providers, and the patient is helped to maintain control and to carry out realistic decisions about issues of life and death.

To provide effective emotional support to the patient and family, health care professionals must understand and cope with their own feelings about terminal illness and death and seek assistance with grieving and in developing a personal philosophy about dying and death. They will then be better able to listen sensitively to patients' concerns, to offer genuine understanding and comfort, and to help patients and family work through their grief. SEE: *Nursing Diagnoses Appendix*.

bone c. Any malignancy of bone tissue. Primary bone tumors (e.g., osteosarcomas) are rare in adults; they are seen more often in children and adolescents. Secondary or metastatic bone tumors are far more common. Tumors arising in other areas of the body that metastasize to the bones most often spread from organs such as prostate or breast.

breast c. SEE: *breast cancer*.

cervical c. A malignant neoplasm of the cervix of the uterus (cervix uteri). With an incidence of 15:100,000, it is the third most common cancer of the female reproductive tract and causes 5% of all cancer deaths among women. Although it may occur in younger women, the average age at diagnosis is 54. The disease is insidious, asymptomatic in the early stages, and best treated when recognized at an early stage.

ETIOLOGY: Some strains of the human papillomavirus (HPV) are carcinogenic to cervical epithelium. While there are other risk factors (e.g., tobacco smoking, early age at first intercourse,

and having multiple sex partners), HPV is the major factor responsible for the development of this cancer.

DIAGNOSIS: Periodic Pap tests are recommended for all sexually active women. The tests identify cellular changes with 95% accuracy. Dilatation and curettage, punch biopsy, and colposcopy may be done if Pap test findings raise the suspicion of cancer. SEE: *Bethesda System, The; cervical intraepithelial neoplasia; colposcopy; cryosurgery; loop electrode excision procedure; Papanicolaou test*.

TREATMENT: Management varies from cryotherapy or laser therapy for low-grade squamous intraepithelial lesions, conization for carcinoma in situ, to hysterectomy for preinvasive cervical cancer in women who are not planning to have children. Stage-related management of invasive cervical carcinoma includes radiation and/or hysterectomy.

PREVENTION: Vaccination against human papillomavirus virus (HPV). SEE: *HPV vaccine*.

chimney sweeps' c. Cancer of the skin of the scrotum due to chronic irritation by coal soot.

colorectal c. A malignancy of the colon or rectum. At some time during their lives 6% of Americans will be diagnosed with the disease. In 2008 the American Cancer Society estimated that 154,000 Americans would be newly diagnosed with colorectal cancer, and that it would cause 50,500 deaths. (It is the second leading cause of cancer deaths in the U.S.)

ETIOLOGY: The cancer occurs more often in people with a family history of the disease, those with familial adenomatous polyposis, and in those with inflammatory bowel diseases such as ulcerative colitis. It also occurs more often in people who are obese than in those who are not, and in people who consume a high fat, low-fiber diet.

SYMPTOMS: Symptoms may be absent or may include change in the usual pattern of bowel habits, esp. in patients over 40; recent onset of constipation, diarrhea, or tenesmus in an older patient; bright red or dark blood in the stool. Laboratory findings may include iron-deficiency anemia or positive fecal occult blood tests.

DIAGNOSIS: Diagnosis may be suggested by findings on digital rectal examination, anoscopy, flexible or rigid sigmoidoscopy, colonoscopy, virtual colonoscopy, or barium enema examination. It is confirmed by biopsy of suspicious lesions. Prevention includes screening of asymptomatic men and women of average risk starting at age 50, annual home fecal occult blood testing (over a three-day period), and colonoscopy every 10 years. During colonos-

copy, removal of benign polyps prevents progression to malignant tumors. If polyps are found, colonoscopy should be repeated in 3 to 5 years (depending on the presence of other risk factors). Detection of colorectal cancer at an early stage via colonoscopy offers patients a very high likelihood of cure rate at 5 years. Neither digital rectal examination nor testing of a single stool specimen from the digital exam provides adequate screening. Patients at increased risk for colorectal cancer (i.e., those who have had previous colorectal adenomas or resected cancers or a history of ulcerative colitis or of colon cancer in a first-degree relative younger than age 60) should undergo screening more frequently and at an earlier age. When colorectal carcinoma is diagnosed, additional tests are done to determine the stage of the disease (chest radiographs, CT, MRI, and blood studies, including carcinoembryonic antigen levels, and liver function studies).

TREATMENT: Surgical resection performed by laparotomy, minimally invasive surgery, microsurgery, or laparoscopy can cure localized colorectal cancer. Whatever the procedure used, the type of surgery depends on the tumor's location, and the goal is to remove the malignant tumor and adjacent tissue and any lymph nodes that may contain cancer cells. Adjuvant therapies may include chemoembolization of blood vessels that feed the primary tumor or metastases; radiation therapy; brachytherapy; chemotherapy; or monoclonal antibody therapy. Carcinoembryonic antigen is helpful in monitoring patients during and following treatment to determine effectiveness and detect recurrence or metastasis.

PATIENT CARE: Health care providers should teach patients the importance of colorectal screening and indicate applicable lifestyle modifications (e.g., eating a low-fat diet, maintaining a normal body mass index). Patients with familial colon cancer syndromes, such as familial adenomatous polyposis, should be carefully counseled about their need for close surveillance by professional gastroenterologists.

Aspirin and other nonsteroidal anti-inflammatory drugs appear to reduce the number of colon polyps, thus decreasing the risk of developing colorectal cancer. Patients interested in such therapy should discuss its potential risks and benefits with their health care providers.

Patients diagnosed with colorectal cancer who undergo surgery need counseling about the operation, the duration of recovery, and, in many cases, the use of a colostomy postoperatively for defecation. Before surgery, a stomal thera-

pist consults with the surgeon regarding appropriate stoma location, and the abdomen is marked. The therapist answers patient and family questions and begins to develop a trusting relationship that will support the patient through postoperative care and teaching. Patient and family are encouraged to access the American Cancer Society (800-ACS-2345 or www.cancer.org) for additional information. SYN: *colorectal carcinoma*.

gastric c. Adenocarcinoma of the stomach. About 50% to 60% of all carcinomas of the stomach occur in the pyloric region. About 20% occur along the lesser curvature; the rest are located in the fundus, particularly along the greater curvature. Although this form of cancer is common throughout the world in people of all races, the incidence of gastric cancer exhibits unexplained geographic, cultural, and gender differences, with the highest incidence in men over age 40 and higher mortality in China, Korea, Japan, Taiwan, Iceland, Chile, and Austria.

From 1930 to the 1990s, the incidence of gastric cancer declined from about 38 cases per 100,000 to about 6 cases per 100,000. In 2008, the American Cancer Society estimated there would be 21,500 new cases of gastric cancer and 10,800 deaths from this disease. The prognosis for a particular patient depends on the stage of the disease at the time of diagnosis, but overall the 5-year survival rate is about 19%.

PREDISPOSING CAUSES: Although the cause of gastric cancer is unknown, predisposing factors include a diet rich in pickled or smoked foods, a history of gastric surgery, and a history of *Helicobacter pylori* infection. The disease runs in some families, and thus there may be a genetic component, as well.

COMPLICATIONS: Malnutrition occurs as a result of impaired eating, the metabolic demands of the growing tumor, or obstruction of the GI tract. Iron deficiency anemia results as the tumor causes ulceration and bleeding. The tumor can interfere with the production of the intrinsic factor needed for vitamin B₁₂ absorption, resulting in pernicious anemia. As the cancer spreads to regional lymph nodes and nearby structures, and metastasizes to other structures, related complications occur.

SIGNS AND SYMPTOMS: In the early stages, the patient may occasionally experience pain in the back or in the epigastric or retrosternal areas that is relieved with nonprescription analgesics. As the tumor grows, the patient may notice a vague feeling of fullness, heaviness, and abdominal distention after meals. Depending on the cancer's progression, the patient may report weight

loss, resulting from appetite disturbance; nausea; and vomiting. Dysphagia and coffee-ground vomitus may be reported if the tumor is located in the cardia and slowly bleeds. Weakness and fatigue are common complaints. Because early symptoms include chronic dyspepsia and epigastric discomfort, patients may self-treat with OTC antacids or histamine blockers, delaying prescribed therapies and allowing the cancer to progress.

Palpation of the abdomen may disclose a mass. A skilled examiner may be able to palpate enlarged lymph nodes, esp. in the supraclavicular and axillary regions.

DIAGNOSTIC STUDIES: Gastric cancer is diagnosed by fiberoptic endoscopy with biopsy. Studies to rule out specific organ metastases include endoscopic ultrasonography, computed tomography scans, chest radiographs, liver and bone scans, and liver biopsy.

TREATMENT: Radical surgery to remove the tumor is possible in more than one third of patients. Even in the patient whose disease is not considered surgically curable, resection may temporarily ease symptoms and improve the patient's response to chemotherapy and radiation therapy. The nature and extent of the lesion determine the type of surgery. Surgical procedures include gastroduodenostomy, gastrojejunostomy, partial gastric resection, and total gastrectomy. If metastasis has occurred, the omentum and spleen may have to be removed.

Chemotherapy for GI tumors may help to control signs and symptoms and to prolong survival. Gastric adenocarcinomas respond to several agents, including fluorouracil, carmustine, doxorubicin, and mitomycin. Antispasmodics, antacids, and proton pump inhibitors may help relieve GI acidity and distress. Antiemetics can control nausea, which intensifies as the tumor grows. As a gastric cancer grows, the patient may need analgesics, sedatives, and tranquilizers to control pain and anxiety.

PATIENT CARE: Nutritional intake is monitored, and the patient is weighed periodically. If not already done, the health care provider initiates comprehensive clinical and laboratory investigations including serial studies as indicated. The patient is prepared physically and emotionally for surgery or other treatment (chemotherapy, radiotherapy) as necessary. During hospitalization, all general patient care concerns apply.

Throughout the course of the illness, a high-protein, high-calorie diet with vitamin supplementation is provided to help the patient avoid or recover from

weight loss, malnutrition, and anemia, and promote wound healing. Frequent small meals are offered.

To stimulate a poor appetite, antidiarrheal or steroid drugs may be administered. The patient is instructed in use of all drugs and the expected adverse effects of treatment, as well as in management strategies for these effects.

Radiation therapy, e.g., may cause nausea, vomiting, local skin damage, malaise, diarrhea, and fatigue. Complications of chemotherapy may include bone marrow suppression, infection, nausea, vomiting, mouth ulcers, and hair loss. During radiation or chemotherapy, oral intake is encouraged or remove toxic metabolites. Bland fruit juices, ginger ale, or other fluids and prescribed antiemetics are provided to minimize nausea and vomiting; and comfort measures and reassurance are offered as needed. The patient is advised to report persistent adverse reactions.

The patient is encouraged to follow a normal routine as much as possible after recovery from surgery and during radiation therapy and chemotherapy. He or she should stop activities that cause excessive fatigue (at least temporarily) and incorporate rest periods. The patient should avoid crowds and people with known infections. Home-health care is provided as necessary. If curative treatment fails, palliative care and psychological support continues, with questions answered honestly but tactfully. Home or in-patient hospice care referrals are suggested as available.

SYN: *stomach cancer.*

hard c. A cylindrical cancer composed of fibrous tissue. **SYN:** *scirrhous cancer.*

head and neck c. Squamous cell carcinoma usually arising in the pharynx, oral cavity, or larynx. Research has shown links between human papillomavirus infection, tobacco smoking, and excessive alcohol use and head and neck cancers.

lip c. A squamous cell carcinoma of the lower lip usually seen in men or smokers.

lung c. The deadliest form of cancer in the U.S., responsible for about 162,000 deaths a year, according to statistics published by the American Cancer Society in 2008. The term includes four cell types: squamous cell (epidermoid) carcinoma, adenocarcinoma, large cell (anaplastic) cancer, and small cell (oat cell) cancer. The vast majority are caused by carcinogens in tobacco smoke including second-hand smoke. Other risks include exposure to carcinogenic industrial and air pollutants (asbestos, uranium, arsenic, nickel, chromium, iron oxides, coal dust and

radioactive dusts), radon gas concentrations, and familial susceptibility. Survival after diagnosis is poor—only one of seven affected persons lives for 5 years. However if detected early (before spreading from the lungs) survival rates rise for most persons. Radiofrequency ablation (RFA), a minimally invasive procedure in which radiofrequency waves are used to heat tumor tissue so that it dies from the high temperatures, is a promising therapy for patients with small lung tumors. SYN: *bronchogenic carcinoma*. SEE: *illus.*



LUNG CANCER

Lung cancer seen endoscopically. The tumor is bleeding after being biopsied.

TREATMENT: Treatment includes lung surgery, radiation therapy, and chemotherapy usually in combination.

PATIENT CARE: Staging determines the extent of the disease and aids in planning treatment and predicting the prognosis. Lung cancer is relatively difficult to cure but much easier to prevent. Children and adolescents should be discouraged from smoking tobacco products, and current smokers should be assisted in their efforts to quit, e.g., through referrals to local branches of the American Cancer Society, smoking-cessation programs, individual counseling, or group therapy.

SCREENING AND PUBLIC HEALTH: While chest x-rays do not show small, early cancers, CT scanning can be used to screen people who have a long history of smoking and who are 50 to 60 years old. In this high-risk group screening detects the disease in its early stages when it is most likely to be curable. However, since screening is very expensive, and there are millions of smokers, the public health costs of mass screening are high compared with the cost of encouraging smokers to quit or of teaching teenagers not to start smoking.

oral cavity c. Squamous cell carcinoma of the mouth or tongue. Oral cavity cancers are only rarely caused by salivary gland tumors or sarcomas.

ovarian c. Any malignant growth in an ovary. About 85% to 90% of ovarian cancers arise from the surface epithelium of the ovary. In the U.S. in 2008, the American Cancer Society estimated there would be about 21,600 new patients diagnosed with ovarian cancer, and about 15,200 deaths from the disease. Most cases (70%) are diagnosed when the disease is already at an advanced stage because early detection methods are still unsatisfactory. The early symptoms of the disease are often nonspecific, and often mimic irritable bowel: constipation, vague abdominal pain, bloating, among others. Initial laboratory studies (routine blood tests and x-rays) are often unremarkable.

Currently, more women die of epithelial ovarian cancer than of all other gynecological cancers combined. A small percentage of patients with ovarian cancer may have a hereditary predisposition, e.g., they have BRCA-1 or BRCA-2 genes. High-risk women include those with multiple first-degree relatives (mother, sister, daughter) or second-degree relatives (aunt, grandmother, cousin) with histories of breast or ovarian cancer. Preventive surgery to remove the ovaries and fallopian tubes is the only way such individuals can significantly reduce their risk.

PATIENT CARE: Ovarian cancer patients may feel threatened or vulnerable. They benefit from pretreatment support and education. The nurse and other health care professionals help to address their psychosocial needs while preparing her for treatment, and helping her to manage the potential adverse reactions, to treatment and changes related to advancing disease.

The first step in care is typically surgical debulking of the tumor. In this phase of care, the surgical oncologist attempts to remove not only the primary tumor, but also as many small tumorlets found within the peritoneum. The patient and family should be taught about the extensive surgical procedure and what to expect postoperatively. After surgery, the patient is monitored for infection, circulatory complications, fluid and electrolyte imbalances, and pain. The patient who is to receive chemotherapy should be taught about major adverse reactions to the usual medications employed, taxanes and platinum-based drugs, such as fatigue, nausea and vomiting, hair loss, diarrhea, constipation, mucositis, neuropathy, arthralgia and myalgia, difficulty concentrating ("chemobrain"), and myelosuppression (a decrease in the number

Cancer Antigens Used as Tumor Markers

| Antigen name or designation | Abbreviation | The tumor it detects |
|----------------------------------|--------------|---|
| Alpha-fetoprotein | AFP | Nonseminomatous germ cell tumor |
| CA 15-3 | | Breast cancer |
| CA 19-9 | | Pancreatic cancer |
| CA 50 | | Gastrointestinal tract tumors |
| CA 125 | | Ovarian/peritoneal cancer |
| Carcinoembryonic antigen | CEA | Gastrointestinal tract tumors and tumors of solid internal organs |
| Human chorionic gonadotropin | HCG | Nonseminomatous germ cell tumors; choriocarcinoma |
| Microglobulin-beta 2 subunit | b2-M | Multiple myeloma |
| Neuron-specific enolase | NSE | Broad variety of cancers, including small cell carcinoma of lung |
| NY-BR-40 and others | | Breast cancer |
| Prostate specific antigen | PSA | Prostate cancer |
| Urinary tumor associated antigen | UTAA | Melanoma |

Note: several antigens on this list also detect benign diseases and conditions.

of blood cells produced by the bone marrow), as well as about measures that will be taken to prevent and manage these problems. Chemotherapy may be given directly into the peritoneum, or intravenously. Depression, anger, frustration, and anxiety are common defense mechanisms.

After the acute phase of treatment, premature menopause; loss of fertility; altered body image, sexual function, and family relationships; impaired functional capacity; financial difficulties; and loss of spiritual well-being may be experienced. The patient should be assessed for mood changes, inability to concentrate, fatigue, insomnia, and other symptoms of depression. Her medical history, current medications and treatments, nutritional status, pain rating, elimination pattern, and sexual history should be reviewed for factors that contribute to depression. Participating in a support group, meeting with mental health professionals, and taking an antidepressant or anti-anxiety medication can help alleviate depression and anxiety.

Advancing or relapsing ovarian cancer may cause complications. These may include development of ascites, intestinal obstruction, deep vein thrombosis, malnutrition and cachexia, lymphedema, and pleural effusion. Current five-year survival rates for ovarian cancer are about 30% to 40%. If ovarian cancer recurs after treatment, or fails to regress with treatment, palliative and end-of-life care may aid both patients and their families.

primary c. The original cell or tissue type from which a metastatic cancer arises.

scirrhous c. Hard c.

stomach c. Gastric cancer.

c. of unknown primary site Disseminated cancer in which the original tissue type is uncertain. Cancer of unknown primary site generally has a poor prognosis.

ETIOLOGY: Patients with cancer of unknown cell type are usually evaluated for tumors that might respond well to therapy, such as a lymphoma, a thyroid cancer, a germ cell tumor, or neoplasms of the breast or prostate.

vulvar c. Any malignant neoplasm of the vulva. Of these, 90% are squamous cell carcinomas and the remainder are caused by adenocarcinomas, sarcomas, or Paget's disease.

Vulvar cancer accounts for 4% of all gynecological malignancies. More than 50% of cases occur in postmenopausal women between 65 and 70 years of age. Generally, vulvar cancers are localized, slow-growing, and marked by late metastasis to the regional lymph nodes. Treatment may include surgery and/or radiation therapy. SEE: *vulvectomy*.

cancer antigen ABBR: CA. A protein or carbohydrate that is expressed either by cancerous cells or by cancerous cells in much greater concentrations than healthy cells. Cancer antigens are used in clinical medicine to screen body fluids for tumors or to follow the response of tumors to treatment. Since they stimulate the immune response, they are also used in the manufacture of antitumor vaccines. SEE: table.

cancer cell SEE: under *cell*.

cancer cluster The occurrence of many cancers in a small geographical area (or a defined population) in much greater

numbers than would be expected through chance alone.

cancer grading and staging The standardized procedure for expressing cancer cell differentiation, called grading, and the extent of dissemination of the cancer, called staging. This procedure is very helpful in comparing the results of various forms of therapy. Cancer is graded on the differentiation of the tumor cells and the number of mitoses present. These are thought to be correlated with the ability of the tumor to grow and spread. Some cancers are graded I to IV, the latter being the most anaplastic and having the least resemblance to normal tissue.

Cancers are staged according to size, amount of local spread (metastases), and whether blood-borne metastasis has occurred. There are two major staging systems. The TNM judges the size of primary tumor (T), evidence of regional extension or nodes (N), and evidence of metastases (M). Another system classifies cancers as Stage 0 to IV according to the size of the tumor and its spread.

It is not possible to determine the site of the primary malignancy for some metastatic cancers. The most frequent cell types are adenocarcinoma, melanoma, lymphoma, sarcoma, and squamous cell carcinoma. Even though the prognosis is poor for affected patients, their response may be improved if the cell type is specifically identified.

cancericidal (kǎn'sēr-ī-sī'dǎl) [L. *cancer*, crab, + *cidus*, killing] Lethal to malignant cells.

cancerigenic (kǎn'sēr-ĭ-jĕn'ĭk) [ʹ + Gr. *gennan*, to produce] Carcinogenic.

Cancer Information Service A program sponsored by the National Cancer Institute that provides cancer information to patients and their families, health professionals, and the general public. Information may be obtained by calling the toll-free number 1-800-4-CANCER.

cancerogenic (kǎn'sēr-ō-jĕn'ĭk) [ʹ + Gr. *gennan*, to produce] Carcinogenic.

cancerophobia (kǎn'sēr-ō-fō'bĕ-ǎ) [ʹ + Gr. *phobos*, fear] Unreasonable fear of cancer.

cancerous (kǎn'sēr-ūs) Pert. to malignant growth.

cancer screening SEE: under *screening*.

cancer worry A person's psychological perception of the risk of succumbing to cancer. It is considered a means of motivating health-protective behavior in some people in that it may drive them to undergo appropriate screening tests and to follow health promotional guidelines. But it may also reflect a form of unwarranted anxiety in others, esp. when it does not motivate actions that promote better health, or when it results in unwarranted fear or pessimism.

cancra (kǎng'krǎ) Pl. of *cancrum*.

cancroid (kǎng'krōyd) [ʹ + Gr. *eidōs*, form, shape] 1. Like a cancer. 2. A type of keloid. 3. Epithelioma.

cancrum (kǎng'krūm) *pl.* **cancra** [L. *cancer*, crab, creeping ulcer] A rapidly spreading ulcer.

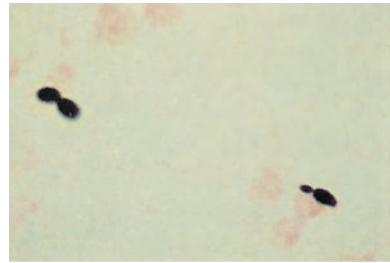
c. nasi A gangrenous inflammation of the nasal membranes.

c. oris Gangrenous destruction of oral and facial tissues occurring as a consequence of an infection of the gums (necrotizing ulcerative gingivitis), usually with anaerobic bacteria or herpesviruses. The disease is most commonly found in children who live in extremely impoverished circumstances, are severely malnourished, have poor oral hygiene, or a recent measles infection. It is usually found in children from underdeveloped nations. SYN: *noma*.

c. pudendi Ulceration of the vulva.

candela (kǎn-dĕl'ǎ) [L. *candela*, candle] SYMB: cd. The SI base unit of the intensity of light.

Candida (kǎn'dī-dǎ) [L. *candidus*, glowing white] A genus of yeasts that develop a pseudomycelium and reproduce by budding. *Candida* (formerly *Monilia*) species are part of the normal flora of the mouth, skin, intestinal tract, and vagina. SEE: *illus.*

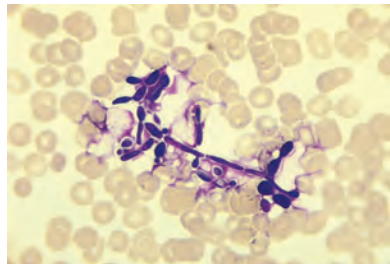


CANDIDA

Gram's stain of *Candida* vaginitis



C. albicans A yeast species that is the principal cause of candidiasis (moniliasis). SEE: *illus.*



CANDIDA ALBICANS

C. albicans (purple) in blood (×640)

C. glabrata A yeast of the family Cryptococaceae. It is usually nonpathogenic in humans but may cause serious illness in immunocompromised patients. It was formerly called *Torulopsis glabrata*.

candidate gene (kǎn'dī-dāt") A gene that is suspected of being responsible for a particular trait or illness.

candidemia (kǎn'dī-dē'mē-ā) The presence of yeast from the genus *Candida* in the blood.

candidiasis (kǎn'dī-dī'ā-sīs) Fungal infection of the skin or mucous membrane with any species of *Candida*, but chiefly *Candida albicans*. *Candida* species are part of the body's normal flora. *Candida* grows in warm, moist areas, causing superficial infections of the mouth, vagina, nails, and skinfolds in healthy people. In patients with immunodeficiencies, central venous lines, and burns, or those receiving peritoneal dialysis, it can invade the bloodstream, causing disseminated infections. **SEE:** *ill.*; *normal flora*; *thrush*.



CANDIDIASIS

ETIOLOGY: *Candida* infections are due to a disruption in the composition of normal flora or a change in host defenses. Antibiotic therapy, which destroys the bacteria in normal flora, and inhaled or systemic corticosteroid therapy, which decreases white blood cell activity, are common treatments that may cause candidiasis. Vulvovaginal candidiasis is common during pregnancy, possibly as the result of increased estrogen levels. Infections of the nail beds (paronychia) can occur in those whose hands are frequently in water or who wear occlusive gloves or who are receiving chemotherapy. Elevated glucose levels can be the predisposing factor in patients with diabetes mellitus. Chronic mucocutaneous candidiasis is common in patients with AIDS or other immunosuppressant illnesses. Systemic fungal infections may be present in any organ, including the brain, heart, kidneys, and eyes.

SYMPTOMS: Oral lesions (thrush) are raised, white patches on the mucosa and tongue that can be easily scraped off, revealing an underlying red, irritated sur-

face. Skin lesions are red and macerated, and are usually located in skinfolds of the groin or abdomen and under pendulous breasts. Vaginal infections are characterized by itching and a thick, cheesy discharge. Blurred vision is the first symptom noticed in ocular candidiasis. The symptoms produced in systemic infections depend on the extent of the infection and the organs affected (i.e., whether *Candida* invades the heart, esophagus, meninges, kidneys, or lungs). *Candida* septicemia can cause chills, fever, and shock with oliguria leading to renal failure.

TREATMENT: Oral candidiasis is treated with a single dose of fluconazole or with clotrimazole lozenges or nystatin oral solution (which must be held in the mouth for several minutes before swallowing) for 14 days. Topical forms of amphotericin B, clotrimazole, econazole, nystatin, or miconazole are effective for skin infections. Fluconazole is used for oral or vaginal infections in patients with AIDS. Amphotericin B, fluconazole, flucytosine, ketoconazole, and newer antifungal agents are used to treat patients with systemic infections. For patients with kidney disease, ketoconazole has the advantage of liver metabolism and fecal excretion. Some strains of *C. albicans* are resistant to fluconazole. Pregnant women should consult their health care providers before taking or applying these drugs.

PATIENT CARE: Patients with thrush need explanations about the need to swish nystatin solution in their mouths for several minutes before swallowing to obtain maximum benefit. A nonirritating mouthwash and a soft toothbrush are provided to loosen tenacious secretions without causing irritation. A topical anesthetic helps relieve mouth discomfort, and a soft diet may be helpful. The patient's intake is monitored: mouth pain may interfere with nutritional intake, esp. in those recovering from surgery, trauma, or severe infection. The patient is weighed twice a week to assess nutritional status.

Patients who are obese or incontinent of urine are at special risk for *Candida* infection, esp. if they are receiving antibiotics. Skin folds should be carefully washed and dried, and antifungal cream or powder applied, usually 3 to 4 times a day. When possible, the affected area should be exposed to the air.

Patients with vulvovaginal candidiasis should be reminded not to wear constricting clothing such as panty hose. If there is pain after intercourse (dyspareunia), the patient is counseled that sexual impairment should resolve as the infection subsides, and to complete the full course of medication as prescribed. Although the sexual partners of

infected patients usually will not need treatment, partners of patients with recurrent vaginal infections should be examined and treated if indicated to prevent ongoing reinfections.

Patients with systemic candidiasis require in-patient care for intravenous or intrathecal drug administration, monitoring of laboratory findings, and assessment to identify and manage adverse drug effects and to treat infection extension to other sites and complications. Vital signs are monitored because of the risk of septic shock. Supportive care includes premedication with antipyretics, antihistamines, or corticosteroids to minimize hypersensitivity reactions if the patient is receiving intravenous amphotericin B. Multiple factors affect whether or not immunocompromised patients will develop or die from candidiasis. These include the severity of their underlying illness, nutritional status, history of alcohol abuse, diabetes mellitus, renal or liver failure, illicit drug use, or other comorbid conditions. Immunosuppressed individuals should be encouraged to or reduce risk factors for infection. The patient should be encouraged to eat a nutritious diet, balance activity with rest, reduce stressors, and manage time realistically. All high-risk hospitalized patients (esp. those receiving antibiotic therapies) should be assessed for indications of candidiasis superinfection.

candiru (kän-dër-oo', -dër'oo) *Vandellia cirrhosa*.

cane (kän) An assistive device prescribed to provide support during ambulation and transfers for individuals with weakness, instability, pain, or balance loss. It also may be used to unload a lower extremity joint or to partially eliminate weight-bearing. Standard (conventional) canes are made from wood or aluminum and have a variety of hand grip styles. Other styles include tripod canes, quadruped (quad) canes, and walk ("hemi") canes. Canes should be used on the unaffected (stronger) side of the body.

canine (kã'nîn) [L. *caninus*, dog]

1. Pert. to a dog. 2. A canine tooth; any of the four teeth, also known as the eye-teeth (upper and lower), between the incisors and premolars. SEE: *dentition* for illus.

Canis familiaris (kã'nîs fã-mîl'ë-ãr'îs)

[L., family dog] The scientific name for the domestic dog. Dogs are often used as guides for people with sensory impairments and as companions for older or institutionalized people. Dog allergens, abbreviated *Can* by the World Health Organization, are a common source of indoor allergies.

canities (kän-îsh'ë-ëz) [L., gray hair] Congenital (rare) or acquired whiteness

of the hair. The acquired form may develop rapidly or slowly and be partial or complete.

c. unguium Gray or white streaks in the nails. SYN: *leukonychia*.

cannabinoid (kü-nãb'în-oid, kãn'ü-bîn) [Gr. *kannabis*, hemp + "n"] A compound that is either extracted from or synthesized to resemble *Cannabis sativa* (marijuana).

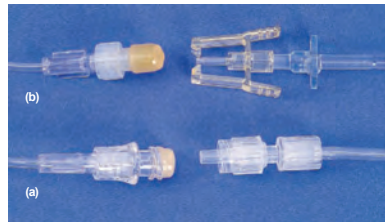
cannabis sativa (kãn'ã-bîs) [Gr. *kannabis*, hemp] Marijuana.

cannibalism (kãn'î-bãl-îzm") The human consumption of human flesh. SEE: *kuru*.

cannula (kãn'ü-lã) [L., a small reed] A tube or sheath enclosing a trocar; the tube allowing the escape of fluid after withdrawal of the trocar from the body.

Bellocq's c. SEE: *Bellocq's cannula*.

nasal c. Tubing used to deliver oxygen at levels from 1 to 6 L/min. The nasal prongs of the cannula extend approx. 1 cm into each naris and are connected to a common tube, which is then connected to the oxygen source. It is used to treat conditions in which a slightly enriched oxygen content is needed, such as emphysema. The exact percentage of oxygen delivered to the patient varies with respiratory rate and other factors. SEE: *illus.*



NEEDLELESS CANNULAE USED TO CONNECT AN ADDITIVE TO PRIMARY INTRAVENOUS INFUSIONS

A. THREADED-LOCK CANNULA; B. LEVER-LOCK CANNULA.

cannulate (kãn'ü-lãt) To introduce a cannula through a passageway.

cannulation of large veins, venous cannulation (kãn'ü-lã'shün) Gaining access to venous circulation by placing a flexible catheter into one of the large veins, usually the femoral, subclavian, or jugular vein. The cannula may be used to provide hyperalimentation; to administer drugs; or to replace fluids, among other uses.



Potential complications of venous cannulation include bleeding, infection, pneumothorax, arterial puncture, and injury to internal organs, among others.

canonical Standard; generally accepted.

cantharides (kän-thär'î-dēz) *sing.*, **cantharis** [Gr. *kantharis*, beetle, + *eidōs*, form, shape] Dried insects of the species *Cantharis vesicatoria*; poisonous if taken internally in large doses. It was formerly used externally as a counterirritant and vesicant, and internally for its supposed aphrodisiac effect. It is no longer used. SYN: *Spanish fly*. **cantharidal** (-thär'î-däl), *adj.*

Cantharis (kän'thā-ris) A genus of beetles, *C. vesicatoria*, known as Spanish fly. SEE: *cantharides*.

canthectomy (kän-thēk'tō-mē) [Gr. *kanthos*, angle, + *ektomē*, excision] Excision of a canthus.

canthi (kän'thî) Pl. of canthus.

canthitis (kän-thî'tis) [" + *itis*, inflammation] Inflammation of a canthus.

cantholysis (kän-thōl'î-sîs) [" + *lysis*, dissolution] Incision of an optic canthus of an eye to widen the palpebral slit.

canthoplasty (kän'thō-plās'tē) [" + *plassein*, to form] **1.** Plastic surgery of an optic canthus. **2.** Enlargement of the palpebral fissure by division of the external canthus.

canthorrhaphy (kän-thor'ā-fē) [" + *rhaphe*, seam, ridge] Suturing of a canthus.

canthotomy (kän-thōt'ō-mē) [" + *tome*, incision] Surgical division of a canthus.

canthus (kän'thūs) *pl.* **canthi** [Gr. *kanthos*, angle] The angle at either end of the slit between the eyelids; the lateral canthus (commissura palpebrarum lateralis) and the medial canthus (commissura palpebrarum medialis). **canthal** (-thāl), *adj.*

Cantor tube (kän'tēr toob, tūb) Intestinal tube.

Cantrell's pentalogy (kän'trēlz) A rare congenital condition developing during embryogeny in which defects occur in the formation of the upper abdomen and lower chest, resulting in omphalocele, ectopic location of the heart, sternal malformation, and other anomalies. The defects are sometimes amenable to surgical repair.

CANUTEC *Canadian Transport Emergency Centre.*

CaO Calcium oxide.

CaO₂ The content of oxygen in arterial blood.

cao gio (kow' jē'ō) [Vietnamese] Coining.

Ca(OH)₂ Calcium hydroxide.

CAOT *Canadian Association of Occupational Therapists.*

CAP *College of American Pathologists.*

cap [L.] *capiat*, let (the patient) take.

cap (kăp) [LL. *cappa*, hood] **1.** A covering. SYN: *tegumentum*. **2.** The first part of the duodenum. SYN: *pyloric cap*. **3.** The protective covering of a develop-

ing tooth. **4.** The artificial covering of a tooth, used for cosmetic reasons. SEE: *enamel organ*.

cervical c. A contraceptive barrier that is inserted into the vagina and placed over the uterine cervix prior to intercourse. It prevents conception by keeping sperm from entering the womb.

cradle c. Seborrheic dermatitis of the newborn, usually appearing on the scalp, face, and head. Thick, yellowish, crusted lesions develop on the scalp, and scaling, papules, or fissuring appears behind the ears and on the face. SEE: *seborrhea*.

TREATMENT: The head is cleansed with a mild shampoo daily. Corticosteroid cream is applied to the affected area twice daily.

knee c. Patella.

capacitance (kă-păs'î-tāns) [L. *capacitas*, holding] **1.** The ability to store an electrical charge. **2.** The ratio of the charge transferred between a pair of conductors to the potential difference between the conductors.

capacitation (kă-păs'î-tā'shūn) A natural process that helps sperm cells to fertilize ova. As they travel through the female reproductive tract, the plasma membranes of sperm cells break down, exposing the acrosomes to the acidic environment surrounding the corona radiata of the ovum. This attracts the sperm to the ovum and releases spermatic enzymes responsible for penetration. The process requires about 7 hr.

capacitor (kă-păs'î-tor) An electronic device for storing electric charges.

capacity (kă-păs'î-tē) **1.** The potential ability to contain; the potential power to do something. **2.** Cubic content. **3.** The ability to perform mentally. **4.** The measure of the electrical output of a generator.

forced vital c. ABBR: FVC. The volume of gas exhaled from the completely inflated lungs during a maximal expiratory effort.

PATIENT CARE: Patients with a significantly reduced vital capacity are prone to respiratory failure, esp. during the immediate postoperative period.

maximum aerobic c. ABBR: VO_{2max}. The maximum amount of physiological work that an individual can do, as measured by oxygen consumption. VO_{2max} is determined by the combination of aging and cardiovascular conditioning and is associated with the efficiency of oxygen extraction in the tissues.

timed vital c. A test of vital capacity of the lungs expressed with respect to the volume of air that can be quickly and forcibly breathed out in a certain amount of time. SEE: FEV₁.

total lung c. ABBR: TLC. The volume of air in the lungs after a maximal

inspiration. This amount is important in evaluating the ability of the lung to exchange oxygen and carbon dioxide. SEE: *pulmonary function test*; *vital c.*; *volume, residual*.

vital c. The volume of air that can be exhaled from the lungs after a maximal inspiration. This amount is important in evaluating the ability of the lung to exchange oxygen and carbon dioxide. SEE: *pulmonary function test*; *total lung c.*; *volume, residual*.

CAPD *continuous ambulatory peritoneal dialysis*.

capeline (kăp'ĕ-lĭn) [Fr., a hat] A bandage used for the head or for the stump of an amputated limb.

Capgras' syndrome [Jean Marie Joseph Capgras, Fr. psychiatrist, 1873–1950] The patient's delusion that a close relative or friend has been replaced by an impostor.

capillarectasia (kăp'ĭ-lăr'ĕk-tă'sĕ-ă) [L. *capillaris*, hairlike, + Gr. *ektasis*, dilatation] Distention of capillary vessels.

Capillaria (kăp'ĭ-lăr'ĕ-ă) A genus of parasitic nematodes.

C. philippinensis A species of roundworm discovered in the Philippines. It causes severe diarrhea, malabsorption, and enteric protein loss in humans; mortality is high.

capillariasis (kăp'ĭ-lăr'ĭ-ă-sĭs) [*Capillaria* + Gr. *-iasis*, condition] Infestation of the large intestine with the roundworm *Capillaria*. Treatment is with thiabendazole or albendazole.

capillaritis (kăp'ĭ-lăr'ĭ-tĭs) [l' + Gr. *itis*, inflammation] Telangiitis.

capillarity (kăp'ĭ-lăr'ĭ-tĕ) Capillary action.

capillaropathy (kăp'ĭ-lăr'ŏp'ă-thĕ) [l' + Gr. *pathos*, disease] A capillary disorder or disease.

capillaroscopy (kăp'ĭ-lăr'ŏs'kŏ-pĕ) [l' + Gr. *skopein*, to examine] Examination of capillaries for diagnostic purposes.

capillary (kăp'ĭ-lăr'ĕ) *pl. capillaries* [L. *capillaris*, hairlike] **1.** Any of the minute blood vessels, averaging 0.008 mm in diameter, that connect the ends of the smallest arteries (arterioles) with the beginnings of the smallest veins (venules). **2.** Pert. to a hair; hairlike.

arterial c. One of the very small vessels that are the terminal branches of the arterioles or metarterioles.

blood c. One of the minute blood vessels that convey blood from the arterioles to the venules and form an anastomosing network that brings the blood into intimate relationship with the tissue cells. Its wall consists of a single layer of squamous cells (endothelium) through which oxygen diffuses to the tissue and products of metabolic activity enter the bloodstream. Blood capillaries average about 8 μ m in diameter.

secretory c. Any of the very small

canaliculi that are part of the secretory outflow path receiving secretion discharged from gland cells.

venous c. One of the minute vessels that convey blood from a capillary network into the small veins (venules).

capillary attraction Capillary action.

capillary nail refill test Blanch test.

capillus (kă-pĭl'ŭs) *pl. capilli* [L., a hair]

1. A hair, esp. of the head. **2.** A filament.

3. A hair's breadth.

capital (căp'ĭ-tăl) [L. *capitalis*] Pert. to the head.

capital punishment Sentencing a criminal to death and carrying out the sentence via a legal method such as hanging, electrocution, or lethal injection.

capitate (kăp'ĭ-tăt) [L. *caput*, head] Head-shaped; having a rounded extremity.

capitation (kăp'ĭ-tă'shŭn) A form of reimbursement for health care services in which the health insurer assigns a finite number of patients to the care of a subcontracting provider. The health care provider is paid a predetermined amount for each patient enrolled in his or her care. This arrangement provides incentives to the provider to limit health care costs, by placing the provider at financial risk if the cost of care provided exceeds the payment received.

capitation fee (kăp'ĭ-tă'shŭn) The amount paid a health care provider annually from each patient in a medical group plan.

capitellum (kăp'ĭ-tĕl'ŭm) [L., small head] The round eminence at the lower end of the humerus articulating with the radius; the radial head of the humerus. SYN: *capitulum humeri*.

capitular (kă-pĭch'ă-lăr) Pert. to a capitulum.

capitulum (kă-pĭch'ă-lŭm) *pl. capitula* [L., small head] A small, rounded articular end of a bone.

c. fibulae The proximal extremity or head of the fibula. It articulates with the tibia.

c. humeri Capitellum.

c. of the malleus In the middle ear, the head (the large rounded extremity) of the malleus. It carries the facet for the incus.

Caplan's syndrome (kăp'lănz) [Anthony Caplan, Brit. physician, 1907–1976] Rheumatoid arthritis and pneumoconiosis with progressive massive fibrosis of the lung in coal workers. SYN: *pneumoconiosis*.

Capnocytophaga (kăp'nŏ-sĭ-tŏf'ă-gă) [NL] A genus of gram-negative, facultatively anaerobic bacilli that may be isolated from the oral cavity of humans and canines and are associated with serious systemic infections, esp. in asplenic patients.

C. canimorsus A species associated with infections from dog bites. The re-

sulting illness may be mild or life threatening. Alcoholics, splenectomized individuals, and those taking corticosteroids are esp. susceptible, but the illness can be fatal even in previously healthy people. Treatment consists of penicillin; it may be given prophylactically to asplenic patients following a dog bite.

capnography (kăp'nŏg'ră-fē) Continuous recording of the concentration of carbon dioxide in inhaled and exhaled air. Measurements of the level of carbon dioxide are used to ensure that airway adjuncts, such as endotracheal tubes, are correctly placed in the trachea (and not the esophagus) of a mechanically ventilated patient.

capnometry (kăp'nŏm'ĕ-trē) The measurement of the concentration of carbon dioxide in the exhaled breath of a critically ill person, typically a victim of cardiac or respiratory arrest or a patient receiving mechanical ventilation.

capnophilic (kăp-nŏ-fil'ik) [Gr. *kapnos*, smoke, + *philein*, to love] Pert. to bacteria that grow best in an atmosphere containing carbon dioxide.

capotement (kă-pŏt-mŏn') [Fr.] A splashing sound that may be heard when the dilated stomach contains air and fluid.

capping (kăp'ing) **1.** Pulp capping. **2.** Placing an artificial crown on a tooth for cosmetic purposes. **3.** In immunology, the aggregation of living B lymphocytes that have reacted with fluorescein-labeled anti-immune globulin cells to form a polar cap.

capsaicin (kăp-să'ĭ-sĭn) [Fr. caps(icum)] The chemical ingredient in chili peppers that provides their pungency, also used as a topical analgesic.

capsicum (kăp'si-kŭm) The genus of pepper plants, of which there are more than 200 varieties, including jalapeno and tabasco.

capsid (kăp'sid) The protein covering around the central core of a virus. The capsid, which develops from protein units called protomers, protects the nucleic acid in the core of the virus from the destructive enzymes in biological fluids and promotes attachment of the virus to susceptible cells.

capsomer, capsomere (kăp'să-mēr, kăp'să-mēr') [r + Gr. *meros*, part] Short ribbons of protein that make up a portion of the capsid of a virus.

capsula (kăp'sŭ-lă) *pl. capsulae* [L., little box] A sheath or continuous enclosure around an organ or structure.

capsular (kăp'sŭ-lar) Pert. to a capsule.

capsular pattern In a joint, the proportional loss or limitation of passive range of motion that suggests inflammation in that joint (e.g., the capsular pattern of the glenohumeral joint, in order of most restriction, is lateral rotation, abduction, and medial rotation).

capsulation (kăp'sŭ-lă'shŭn) Enclosure in a capsule.

capsule (kăp'sŭl) [L. *capsula*, little box]

1. A sheath or continuous enclosure around an organ or structure; a capsula.
2. A special container made of gelatin, sized for a single dose of a drug. The enclosure prevents the patient from tasting the drug.

articular c. Joint c.

auditory c. The embryonic cartilaginous capsule that encloses the developing ear.

bacterial c. The polysaccharide or polypeptide layer that surrounds the cell wall of some bacteria; it provides resistance to phagocytosis. Capsules are antigenic. Their antigens are used to manufacture several common vaccines.

Bowman's c. SEE: *Bowman's capsule*.

brood c. A cystlike body that develops within a hydatid cyst of *Echinococcus granulosus*.

cartilage c. The layer of matrix that forms the innermost portion of the wall of a lacuna enclosing a single cell or a group of cartilage cells. It is basophilic.

Crosby c. SEE: *Crosby capsule*.

Glisson's c. SEE: under *Glisson, Francis*.

glomerular c. Bowman's capsule.

internal c. A large bidirectional fiber tract connecting the cerebral cortex with the ipsilateral thalamus and sending axons from the cerebral cortex to the brainstem and spinal cord.

joint c. The sleeve-like membrane that encloses the ends of bones in a diarthrodial joint. It consists of an outer fibrous layer and an inner synovial layer and contains synovial fluid. SYN: *articular capsule*.

c. of the kidney Renal c.

lens c. A transparent, elastic, connective tissue membrane that surrounds and encloses the lens of the eye.

M2A c. A plastic container, measuring about 1 x ½ in, that holds a video camera, batteries, antennas, and flash. It is swallowed and allowed to pass through the intestinal tract, where it is used to obtain images of the small intestine.

PATIENT CARE: The device is typically used to find the cause of gastrointestinal blood loss in patients who have no evidence of bleeding in the esophagus, stomach, duodenum, and colon.

nasal c. The cartilaginous capsule that develops in the embryonic skull to enclose the nasal cavity.

optic c. The cartilaginous capsule that develops in the embryonic skull to enclose the eye.

otic c. The cartilaginous capsule that develops in the embryonic skull to enclose the ear.

renal c. The fibrous membrane on

the outer surface of a kidney, which is in turn enclosed by adipose tissue that cushions the kidney. SYN: *capsule of the kidney*.

suprarenal c. A tough connective tissue capsule that encloses the adrenal gland.

temporomandibular joint c. The fibrous covering of the synovial joint between the skull and mandible on each side of the head.

c. of Tenon The thin fibrous sac enveloping the eyeball, forming a socket in which it rotates.

capsulectomy (kăp'sū-lĕk'tō-mĕ) [L. *capsula*, little box, + Gr. *ektome*, excision] Surgical removal of a capsule.

capsule endoscopy Visualization of the small intestine with an M2A video capsule, a device designed to identify otherwise occult sources of gastrointestinal bleeding.

capsulitis (kăp'sū-lĭ'tis) [l' + Gr. *itis*, inflammation] Inflammation of a capsule.

adhesive c. Fibrosis surrounding a joint that severely limits movement. It can result from arthritis, inflammation, or trauma.

capsulolenticular (kăp'sū-lĕn-lĕn'tĭk'ū-lăr) [l' + *lenticularis*, pert. to a lens] Pert. to the capsule of the eye and the lens.

capsuloplasty (kăp'sū-lĕ-plăs'tē) [l' + Gr. *plassein*, to mold] Plastic surgery of a capsule, esp. a joint capsule.

capsulorhexis (kăp'sū-lor-ĕk'sis) A common method of cataract extraction in which a circular incision is made in the anterior capsule to permit lens extraction.

capsulorrhaphy (kăp'sū-lor'ă-fĕ) [l' + Gr. *rhaphe*, seam, ridge] Suture of a joint capsule or of a tear in a capsule.

capsulotome (kăp'sū-lĕ-tōm") [l' + Gr. *tome*, incision] An instrument for incising the capsule of the crystalline lens.

capsulotomy (kăp'sū-lĕt'ō-mĕ) Cutting of a capsule of the lens or a joint.

laser c. The use of a laser to make a hole in the capsule surrounding the lens of the eye to let light pass. Extracapsular removal of a cataract allows the capsule surrounding the lens to remain in the eye; however, if the capsule becomes cloudy, laser capsulotomy is used to restore vision.

Captain of the Ship Doctrine A legal doctrine that holds that the legal responsibility for errors in a medical setting falls on the most highly trained or senior health care provider present at the time. This doctrine has been used to hold attending physicians or surgeons responsible for the negligent acts of the surgical or anesthesia team. The doctrine is a form of vicarious liability.

captation Capture or uptake by cells or

tissues; said especially of chemicals or radioactive isotopes.

captioning The display of spoken words as text on a television or a movie screen, to improve the comprehension of dialogue by hearing-impaired individuals.

captopril (kăp'tō-prĭl) A drug that blocks the conversion of angiotensin I to angiotensin II. It is used primarily to treat high blood pressure and congestive heart failure. It also can be used in the diagnosis of renovascular hypertension and in the management of the renal crises that occur in systemic sclerosis (scleroderma). Important side effects of the medication are cough, angioedema, and hypotension.

capture 1. In atomic physics, the joining of an elementary particle such as an electron or neutron with the atomic nucleus. **2.** In electrophysiology, the mechanical beating of the heart in response to an electrical stimulus.

ventricular c. The normal contraction of the myocardium after electrical depolarization.

caput (kă'püt, kăp'üt) *pl. capita* [L.] **1.** The head. **2.** The chief extremity of an organ.

c. medusae A plexus of dilated veins around the umbilicus, seen in patients with portal hypertension (usually as a result of cirrhosis of the liver). It may be seen in newborns.

c. succedaneum Diffuse edema of the fetal scalp that crosses the suture lines. Head compression against the cervix impedes venous return, forcing serum into the interstitial tissues. The swelling reabsorbs within 1 to 3 days.

carbacephem (kăr-bă-sĕph'ĕm) A class of broad-spectrum antibiotic drugs, derived from cephalosporins, that resist degradation by bacterial beta-lactamases. One drug in this class is loracarbef.

carbamazepine (kăr-bă-măz'ĕ-pĕn) A drug used to treat trigeminal neuralgia, temporal lobe epilepsy, bipolar disorder, and chronic pain.

carbamide (kăr'bă-mĭd, kăr-băm'ĭd) CO(NH)₂; urea in an anhydrous powder.

carbaminohemoglobin (kăr-băm'ĭ-nō-hĕ'mō-glō'bĭn) A chemical combination of carbon dioxide and hemoglobin.

carbanion (kăr-băn'ĭ-ŏn) A carbon ion with a negative electrical charge.

carbapenem A class of antibiotics with a broad spectrum of action against gram-positive, gram-negative, and anaerobic germs. The carbapenems include imipenem and meropenem.

carbidopa (kăr'bĭ-dō'pă) A drug used with levodopa to treat parkinsonism.

carbinolamine dehydratase (kăr'bĭn-ŏl'ă-mĭn dĕ-hĭ'drĭ-tās") An enzyme that hydroxylates phenylalanine. Deficient concentrations of the enzyme are a potential cause of phenylketonuria.

Classification of Important Carbohydrates

| Classification | Formula | Examples | Some Properties |
|-----------------|---|--|---|
| Monosaccharides | $C_6H_{12}O_6$ | Glucose | Crystalline, sweet, very soluble, readily absorbed |
| Pentoses | $C_5H_{10}O_5$ or $C_5H_{10}O_4$ | Ribose | Part of nucleic acid, RNA |
| | | Deoxyribose | Part of nucleic acid, DNA |
| Disaccharides | $(C_6H_{10}O_5)_2 \cdot H_2O$ or $C_{12}H_{22}O_{11}$ hydrolyzed to simple sugars | Sucrose Lactose Maltose | Crystalline, sweet, soluble, digestible Present in milk |
| Polysaccharides | $(C_6H_{10}O_5)_n$ composed of many molecules of simple sugars. (Since polysaccharides can be composed of various numbers of monosaccharides and disaccharides, n refers to an unknown number of these groups.) | Starch Dextrin Cellulose Glycogen | Amorphous, little or no flavor, less soluble. Vary in solubility and digestibility. |

carbohydrase (kär"bō-hī'drās) One of a group of enzymes (such as amylase and lactase) that hydrolyze carbohydrates.

carbohydrate (kär"bō-hī'drät) [L. *carbo*, carbon, + Gr. *hydor*, water] One of a group of organic chemicals, including sugars, glycogen, starches, dextrans, and celluloses, that contain only carbon, oxygen, and hydrogen. Usually the ratio of hydrogen to oxygen is 2 to 1. Glucose and its polymers (including starch and cellulose) are estimated to be the most abundant organic chemical compounds on earth, surpassing in quantity even the great stores of fuel hydrocarbons beneath the earth's crust. Carbohydrates are one of the six classes of nutrients needed by the body (the others are proteins, fats, minerals, vitamins, and water).

Green plants use the sun's energy to combine carbon dioxide and water to form carbohydrates. Most plant carbohydrates (celluloses) are unavailable for direct metabolism by vertebrates. However, the bacteria present in the intestinal tracts of some vertebrates break down cellulose to molecules that can be absorbed. The human intestinal tract lacks the enzyme that splits cellulose into sugar molecules, but humans do split starch into maltose by means of their salivary and pancreatic amylases.

CLASSIFICATION: Carbohydrates are grouped according to the number of carbon atoms they contain and how many of the basic types are combined into larger molecules. The most common simple sugars, monosaccharides, contain five or six carbon atoms and are called pentoses and hexoses, respectively. Two monosaccharides linked together are called a disaccharide. A se-

ries (chain) of monosaccharides or disaccharides is called a polysaccharide. Ribose and deoxyribose are the most important pentoses; glucose, fructose, and galactose are the most important hexoses in human metabolism. The disaccharide sugars in the diet are maltose (2 D-glucose molecules), sucrose or cane sugar (glucose and fructose), and lactose or milk sugar (D-glucose and D-galactose). These sugars are split and eventually converted to glucose by enzyme action. The two important polysaccharides are starch and glycogen; the latter is called animal starch. The basic monosaccharide building block for both of these large polymers is glucose. Dietary starch and glycogen are metabolized first to glucose and then to carbon dioxide and water in humans. SEE: table (Classification of Important Carbohydrates).

FUNCTION: Carbohydrates are a basic source of energy. They are stored in the body as glycogen in virtually all tissues, but principally in the liver and muscles. Glucose, an important source of reserve energy, can be mobilized from these sites.

DIGESTION AND ABSORPTION: Cooked but not raw starch is broken down to disaccharide by salivary amylase. Both cooked and raw starches are split in the small intestine by pancreatic amylase. Disaccharides cannot be absorbed until they have been split into monosaccharides by the enzymes present in the brush border of cells lining the intestinal tract. Glucose and galactose are the actively absorbed sugars. Fructose is absorbed by diffusion. SEE: table (Digestion of Carbohydrates).

METABOLISM: Although very com-

Digestion of Carbohydrates

| Enzyme | Produced in | Carbohydrates Digested | End Product |
|---------------------|--|---------------------------------------|---------------------------|
| Sucrase (invertase) | Small intestine | Sucrose | Glucose and fructose |
| Maltases | Small intestine and mucosal cells of small intestine | Maltose | Two D-glucose |
| Lactase | Small intestine | Lactose | D-glucose and D-galactose |
| Salivary amylase | Saliva (mouth) | Cooked starch, glycogen, and dextrins | Maltose |
| Pancreatic amylase | Pancreas | Raw and cooked starch and glycogen | Maltose |

plex at the molecular level, carbohydrate metabolism can be explained as follows. Carbohydrates are absorbed as glucose, galactose, or fructose. Fructose and galactose are converted to glucose by the liver and are then available for energy production, or they may be stored after conversion to glycogen. The glycogen is available for metabolism to glucose whenever reserve energy is needed. SEE: *muscle metabolism*.

SOURCES: Carbohydrates are present in food in digestible and indigestible forms. The digestible type are an important source of energy. Those that cannot be used, usually some form of cellulose, are beneficial in adding bulk to the diet. Whole grains, vegetables, legumes (peas and beans), tubers (potatoes), fruits, honey, and refined sugar are excellent sources of carbohydrate. Calories derived from sugar and candy have been termed "empty" calories because these foods lack essential amino acids, vitamins, and minerals. SEE: *fiber, dietary*.

NUTRITION: Carbohydrates contain 4.1 kcal/g and are esp. useful as a quick source of energy as they are readily digested.

complex c. 1. A starch. **2.** A molecule made of several linked saccharides; a polysaccharide.

carbohydrate-deficient transferrin ABBR: CDT. A serum protein used as a clinical marker of occult alcohol abuse. Frequent heavy use of alcohol depletes transferrin of carbohydrate moieties that are normally attached to it.

carbohydrate loading Dietary manipulation to enhance the amount of glycogen stored in muscle tissue. This technique is used by athletes before high-intensity endurance events such as a marathon foot race. Phase I is begun 7 days before competition. It depletes glycogen from specific muscles used in the event by exercise to exhaustion in the sport for which the athlete is preparing. The glycogen exhaustion is maintained by a high-fat, high-protein

diet for 3 days. It is important to include 100 g of carbohydrate to prevent ketosis. Phase II consists of a high-carbohydrate diet of at least 1000 to 2000 kcal for 3 days. This is called the supersaturation phase because the goal is to enhance glycogen storage. Glycogen synthesis is facilitated by the extended period of depletion in phase I. Carbohydrates used should be complex ones (as in grain-derived foods such as bread and pasta) rather than simple carbohydrates (as in candy and soft drinks). Phase III begins on the day of the event. Any type of food may be eaten up to 4 to 6 hr before competition. Food eaten from that time up to the time of competition is a matter of individual preference.

carbolfuchsin A solution composed of basic fuchsin and phenol that is used in microscopy primarily as a stain for bacteria and mycobacteria.

carbon (kahr'bin) [L. *carbo*, carbon] SYMB: C. The nonmetallic element that is the characteristic constituent of organic compounds; average atomic mass 12.0111, atomic number 6.

Carbon occurs in two pure forms, diamond and graphite, and in impure form in charcoal, coke, and soot. Its compounds are constituents of all living tissue. Carbon combines with hydrogen, nitrogen, and oxygen to form the basis of all organic matter. Organic carbon compounds provide energy in foods.

impregnated c. An electrode having a carbon shell with a core of various metals or salts of metals for use in a carbon arc lamp.

carbon-14 SYMB: ¹⁴C. A radioactive isotope of carbon with a half-life of 5600 years. It is used as a tracer in metabolic studies and in archaeology to date materials containing carbon.

carbonate (kär'bön-ät) [L. *carbo*, carbon] Any salt of carbonic acid.

c. of soda Sodium carbonate used commercially in crude form, such as washing soda. The free alkali present is

irritating and in strong concentrations has the effect of sodium hydroxide.

carbon dioxide SYMB: CO₂. A colorless gas that is heavier than air and is produced in the combustion or decomposition of carbon or its compounds. It is the final metabolic product of carbon compounds present in food. The body eliminates CO₂ through the lungs; if CO₂ accumulates in body fluids, the pH will decrease. It is also given off by decomposition of vegetable and animal matter and is formed by alcoholic fermentation as in rising bread. Green plants absorb it directly from the air and use it in photosynthesis. Approx. 1 sq m of leaf surface can absorb the CO₂ from 2500 L of air in 1 hr. An acre of trees uses an estimated 4½ tons (4082 kg) of CO₂ a year. Commercially, CO₂ gas is used in carbonated drinks and the solid form is used to make dry ice.

c.d. combining power The amount of carbon dioxide that the blood can hold in chemical combination. CO₂ in aqueous solution forms carbonic acid; the amount of this acid that the serum can take up is a measure of its reserve power to prevent acidosis. The normal amount is 50 to 70 ml/dl of blood (usually expressed as 50 to 70 vol%). Values below 50 indicate acidosis; above 70, alkalosis.

c.d. inhalation Providing the patient with a mixture of oxygen and carbon dioxide. It can be used as an accessory to artificial respiration when resuscitation equipment, such as a bag-valve-mask, is not available. In the past, it also was used to stimulate breathing and to treat persistent hiccups.

c.d. poisoning SEE: under *poisoning*.

c.d. solid therapy Solid carbon dioxide (CO₂ snow) used for therapeutic refrigeration. Solid CO₂ has a temperature of 80°C below zero. Its application to the skin for 1 to 2 sec causes superficial frostbite; 4 to 5 sec, a blister; 10 to 15 sec, superficial necrosis; and 15 to 45 sec, ulceration. It is used mostly for removal of certain nevi and warts, occasionally for telangiectasia.

carbon disulfide (dī-sūl'fid) A colorless liquid, CS₂, that is toxic when it touches the skin or is inhaled or consumed. It may cause an alcohol-like intoxication, burns, stupor, coma, or death. It is used principally in the manufacture of products such as cellophane or rayon and sometimes causes occupational health-related illnesses in workers who produce these substances.

carbonemia (kār'bō-nē'mē-ā) [L. *carbo*, carbon, + Gr. *haima*, blood] An excess accumulation of carbonic acid in the blood.

carbonic (kār-bōn'ik) Pert. to carbon.

c. anhydrase An enzyme that cata-

lyzes union of water and carbon dioxide to form carbonic acid, or performs the reverse action. It is present in red blood cells.

carbonize (kār'bōn-iz) To char or convert into charcoal.

carbon monoxide SYMB: CO. A poisonous gas resulting from the inefficient and incomplete combustion of organic fuels. CO is colorless, tasteless, and odorless and cannot be detected by the senses. Carbon monoxide is distributed widely; it is found in the exhaust gas from the internal combustion engines in most motor-powered vehicles, and in sewers, cellars, and mines.

carbon tetrachloride (tēt'rā-klō'rīd) SYMB: CCl₄. A clear, colorless liquid, not flammable, with an odor like that of chloroform. Although having narcotic and anesthetic properties resembling chloroform, it is too toxic to be suitable as an anesthetic or for any medical use. Inhalation of a small quantity can produce death due to the toxic damage to the liver and kidney.

c.t. poisoning SEE: under *poisoning*.

carbonyl (kār'bōn-īl) [ʹ + Gr. *hyle*, matter] The divalent radical carbon monoxide, characteristic of aldehydes and ketones.

carboxyhemoglobin (kār-bōk'sē-hē'mō-glō'bīn) [ʹ + Gr. *oxys*, acid, + *haima*, blood, + L. *globus*, sphere] A compound formed by carbon monoxide and hemoglobin in carbon monoxide poisoning. SEE: table.

carboxyhemoglobinemia (kār-bōk'sē-hē'mō-glō-bīn-ē'mē-ā) The presence of carboxyhemoglobin in the blood. SEE: *carbon monoxide poisoning*.

carboxyhemoglobin fraction The percentage of total hemoglobin in a blood sample that is covalently bonded to carbon monoxide.

carboxyl (kār-bōk'sīl) The characteristic group (—COOH) of organic carboxylic acids such as acetic acid (CH₃COOH) and all of the amino acids.

carboxylase (kār-bōk'sī-lās) An enzyme that catalyzes the addition of a carboxyl group to a molecule. Found in brewer's yeast, it catalyzes the decarboxylation of pyruvic acid by producing acetaldehyde and carbon dioxide. In the body, this process requires the presence of vitamin B₁ (thiamine), which acts as a coenzyme.

carboxylation (kār-bōk'sē-lā'shūn) In chemistry, the replacement of hydrogen by a carboxyl (—COOH) group.

carbuncle, carbunculus (kār'būng'k'l, kār-būng'kū-lūs) [L. *carbunculus*, small glowing ember] A painful, deep abscess of the skin involving multiple hair follicles, formed by the merger of two or more boils (furuncles) and draining through multiple follicular open-

Effects of Carboxyhemoglobin

| Carboxyhemoglobin levels* | Comments (Symptoms/Signs) |
|---------------------------|---|
| <1% | Healthy nonsmokers (None) |
| 2% | Level found in urban exercisers |
| 2–4% | May cause subtle effects in some persons with coronary disease |
| 3–15% | Typical levels found in light to heavy smokers |
| 5% | Typical levels found in people who smoke one pack of cigarettes a day |

*Carboxyhemoglobin levels above 10–25% are typically considered potentially significant, that is, capable of causing long-lasting neurological consequences. However, brain injury may occur at higher or lower levels. The significance of carboxyhemoglobin levels in the blood can only be determined by the clinical setting/exposure and physical examination.

ings. **carbuncular** (-būng'kū-lār, *adj.*
SEE: *boil*.

ETIOLOGY: Staphylococci, including methicillin-resistant staph, are the usual cause. They may be introduced into the skin by chafing, pressure, shaving, or by pits or cracks that result from dermatitis and commonly occur on the neck, face, axillae or buttocks.

SYMPTOMS: The lesions are often tender, red, warm, and swollen, enlarge over a period of days, then may rupture, exuding pus and necrotic material.

TREATMENT: Warm compresses, incision and drainage, and topical, and/or systemic antibiotics (sulfa drugs, cephalosporins, or clindamycin are usually effective). Recurrence is an indication that the patient should be assessed for some underlying disease or immunodeficiency.

PATIENT CARE: Patients and caregivers are taught proper hand and skin hygiene and to change the dressings at least twice a day to remove infected material, and to prevent the spread of infection in the home by avoiding contact with wound drainage, disposing of dressings in sealed bags, and washing contaminated linens separately in very hot water. SEE: *Standard Precautions Appendix*.

carbuncle (kār-būng'kū-lō'sis) [" + Gr. *osis*, condition] The appearance of several carbuncles in succession or simultaneously.

carcass (kār'kās) A dead body; the term is usually used to describe nonhuman bodies such as the remains of a steer or a sheep.

carcin- SEE: *carcino-*.

carcino-, carcin- [Gr. *karkinos*, cancer] Combining forms meaning *cancer*.

carcinogen (kār'sīn-, kār-sīn'ō-jěn) Any substance or agent that produces cancer or increases the risk of developing cancer in humans or animals.

chemical c. Any chemical substance capable of causing cancer.

carcinogenesis (kār'sī-nō-jěn'ē-sīs) [Gr. *karkinos*, crab, + *genesis*, generation,

birth] The transformation of normal cells into cancer cells, often as a result of chemical, viral, or radioactive damage to genes.

field carcinogenesis The transformation of healthy cells into cancer cells within an entire region of the body rather than just within a single locale or tissue. Tobacco smoke, which diffusely pervades the oral and respiratory tract, may cause cancer not just in the mouth, but also in the entire field into which smoke is inhaled: e.g., the nose, throat, larynx, trachea, bronchi, lungs, and esophagus.

carcinogenic (kār'sī-nō-jěn'ik) Producing cancer.

carcinoid (kār'sī-noid) [" + *eidōs*, form, shape] A tumor derived from the neuroendocrine cells in the intestinal tract, bile ducts, pancreas, bronchus, or ovary. It secretes serotonin (5-hydroxytryptamine) and other vasoactive substances.

carcinoid syndrome A group of symptoms produced by carcinoid tumors that secrete excessive amounts of serotonin, bradykinin, and other powerful vasoactive chemicals.

SYMPTOMS: One or more of the following may occur: brief episodes of flushing, esp. of the face and neck, tachycardia, facial and periorbital edema, hypotension, intermittent abdominal pain with diarrhea, valvular heart lesions, weight loss, hypoproteinemia, and ascites. When carcinoid tumors are found in the bronchi, intermittent bronchospasm may be the presenting symptom. Endocardial fibrosis and symptoms of pellagra may occasionally occur.

DIAGNOSIS: The diagnosis is based on clinical presentation, greatly increased excretion of 5-HIAA in urine, and uptake by tumors of specific radioisotopes, such as MIBG or pentetotide.

TREATMENT: Isolated tumors can be surgically removed. Multiple metastatic tumors can be treated with arterial embolization and with variable success with chemotherapy.

carcinolysis (kär"si-nöl'î-sis) [Gr. *karkinos*, crab, + *lysis*, dissolution] Destruction of carcinoma cells. **carcinolytic** (-nô-lit'ik), *adj.*

carcinoma (kär"si-nô'mă) [r + *oma*, tumor] A new growth or malignant tumor that occurs in epithelial tissue and may infiltrate local tissues or produce metastases. It may affect almost any organ or part of the body and spread by direct extension, through lymphatics, or through the bloodstream. The causes vary with tumor type.

alveolar cell c. A type of lung carcinoma.

basal cell c. ABBR: BCC. The most common human cancer, a malignancy typically found on skin exposed to sun or other forms of ultraviolet light. Although it is sometimes locally invasive, it rarely metastasizes to other organs. Typically it begins as a small, shiny papule. The lesion enlarges to form a whitish border around a central depression or ulcer that may bleed. When the lesion reaches this stage, it is often called a rodent ulcer. After biopsy, the removal method used is determined by the size, location, and appearance of the lesion. SYN: *basal cell epithelioma*.

SEE: *illus.*



BASAL CELL CARCINOMA

bronchogenic c. Lung cancer.

chorionic c. Choriocarcinoma.

c. of the colon Colorectal cancer.

colorectal c. Colorectal cancer.

embryonal c. A malignant, aggressive germ cell tumor that may metastasize widely. It can occur in young adults of either sex.

epidermoid c. Squamous cell carcinoma.

giant cell c. Carcinoma marked by the presence of unusually large cells.

glandular c. Adenocarcinoma.

c. in situ ABBR: CIS. Malignant cell changes in the epithelial tissue that do not extend beyond the basement membrane.

medullary c. Carcinoma in which there is a predominance of cells and little fibrous tissue.

melanotic c. Carcinoma containing melanin.

mucinous c. Carcinoma in which the glandular tissue secretes mucin.

neuroendocrine c. A diverse group of

tumors, such as carcinoid, islet cell tumors, neuroblastoma, and small-cell carcinomas of the lung. All have dense core granules and produce polypeptides that can be identified by immunochemical methods.

oat cell c. A poorly differentiated tumor of the bronchus that contains small oat-shaped cells. SYN: *small cell carcinoma*.

c. of pancreas Pancreatic cancer. The American Cancer Society estimated there would be 37,700 new cases of the disease in the U.S. in 2008, with 34,300 deaths caused by the illness that year. Although the causes of pancreatic cancer are unknown, it has been found in more men than women, more blacks than whites, more smokers than non-smokers, and more patients with a history of chronic pancreatitis and diabetes mellitus than without. When cancer occurs in the head of the pancreas, where it may obstruct the biliary ducts and cause jaundice, the disease is most likely to be diagnosed at an early stage, when it may be most responsive to therapy. Surgical excision of the tumor and treatment with chemotherapy or radiotherapy may prolong survival in some patients. Only 4% of victims of pancreatic cancer survive 5 years.

renal cell c. A malignant tumor that arises from the proximal tubular cells of the kidney. In 2008 the American Cancer Society estimated there would be about 56,700 new patients diagnosed with renal cell carcinoma and about 13,700 deaths from it.

SYMPTOMS: Because of its location in the retroperitoneum, renal cell carcinoma may grow to a relatively large size before it manifests obvious symptoms. The most common findings are blood in the urine (hematuria), flank pain, or a flank mass. Some patients develop fevers, weight loss, or symptoms caused by hormones excreted by the tumor. These hormones (parathyroid-like hormone or erythropoietin) occasionally cause hypercalcemia or abnormal increases in the red blood cell count (erythrocytosis).

TREATMENT: Surgical removal of the affected kidney may be curative for those patients whose tumor has not spread outside the perirenal fascia. Treatment options are less successful for patients with metastatic disease because renal cell carcinomas are relatively resistant to chemotherapy.

scirrhous c. Hard cancer.

small cell c. Oat cell c.

squamous cell c. Carcinoma that develops primarily from squamous cells, e.g., of the skin or in the mouth, lungs, bronchi, esophagus, or cervix. SEE: *illus.*



SQUAMOUS CELL CARCINOMA

thymic c. A malignancy found in the anterior mediastinum, usually a squamous cell carcinoma, spindle cell carcinoma, or lymphoepithelioma. Many of these tumors release chemically active substances that cause paraneoplastic syndromes.

carcinoma cuniculatum (kū-nīk'ū-lāt'ūm) [L. *cuniculatus*, tubular] Any slowly growing squamous cell carcinoma of the skin, typically presenting as a gradually enlarging warty tumor.

carcinoma erysipelatoides Metastatic spreading of cancer, usually from an internal organ to the skin, to which the spreading tumor gives a red, inflammatory appearance.

carcinomatosis (kār'sī-nō'mā-tō'sīs) [" + " + *osis*, condition] Widespread dissemination of carcinoma in the body. SYN: *carcinosis*.

carcinosarcoma (kār'sī-nō-sār-kō'mā) [" + *sarx*, flesh, + *oma*, tumor] A malignant tumor containing the elements of both carcinoma and sarcoma.

embryonal c. A malignant germ-cell tumor derived from embryonic cells.

carcinosis (kār'sī-nō'sīs) [" + *osis*, condition] Carcinomatosis.

cardamom, cardamon (kār'dā-mūm) [Gr. *kardamomon*] The dried ripe fruit of an herb, *Elettaria repens* or *E. cardamomum*. It is used as an aromatic and carminative.

Cardarelli's sign (kār'dā-rē'l'lez) [Antonio Cardarelli, It. physician, 1831–1926] Pulsating movement of the trachea to one side. It may be present with thoracic aortic aneurysm.

cardi- SEE: *cardio-*.

cardia (kār'dē-ā) [Gr. *kardia*, heart] The upper orifice of the stomach connecting with the esophagus. **cardial, adj.**

cardiac (kār'dē-āk) [L. *cardiacus*] **1.** Pert. to the heart. **2.** Pert. to the cardia.

cardiac arrest Sudden cessation of functional circulation. In the U.S., about 1000 people die daily as a result of cardiac arrest. SYN: *cardiopulmonary arrest*. SEE: *arrhythmia*; *myocardial infarction*.

ETIOLOGY: Coronary artery disease

is present in most victims, and cardiac arrest is usually caused by myocardial infarction or ventricular arrhythmias. Other contributors include cardiomyopathies, valvular heart disease, diseases of the electrical conducting system of the heart (e.g., the long QT syndrome or the Wolff-Parkinson-White syndrome), myocarditis, chest trauma, severe electrolyte disturbances, and intoxications with drugs of abuse or prescribed agents (e.g., digitalis). Physical exertion or extreme emotional stress sometimes precipitates cardiac arrest.

SYMPTOMS: Abrupt loss of consciousness, followed by death occurring within an hour of the onset of the illness (i.e., sudden death) is the typical presentation of cardiac arrest.

TREATMENT: Opening the airway, establishing effective respiration, and restoring circulation (with chest compression and defibrillation) are the keys to treating cardiac arrest. The effectiveness of treatment depends on the speed with which resuscitation begins and the patient's underlying condition. Because most episodes of sudden cardiac arrest are unwitnessed, most patients die without treatment (spontaneous recovery from cardiac arrest in the absence of advanced cardiac life support is very rare). For resuscitated patients, therapies may include implantable defibrillators, beta blockers, antiarrhythmic drugs, and, in patients with coronary artery disease, modification of risk factors (i.e., treatment of hypertension, smoking cessation, and lipid-lowering diets and drugs). SEE: table, *advanced cardiac life support*.

sudden c.a. ABBR: SCA. Cardiac arrest.

cardiac calcium score A measurement of the amount of calcium present on CT scanning of the coronary arteries. It is a radiological marker of coronary artery atherosclerosis. A high score (>400) predicts a high coronary artery atherosclerotic burden. Patients with scores in this range should promptly undergo some form of stress testing. A score between 100 and 399 predicts moderately high risk of coronary events. People with scores in this range should actively modify cardiac risk factors. Scores between 11 and 99 indicate some atherosclerosis; patients in this range should have regular follow up and management of cardiac risk factors. Scores between 1 and 10 suggest less than 10% probability of coronary artery disease. A score of 0 implies that there is no calcified plaque within the coronary arteries.

cardiac compensation The ability of the heart to make up for impairments in functioning through muscular hypertrophy or other means.

Routes of Drug Administration During Cardiac Arrest

| Route | Pros | Cons |
|---------------|---|---|
| Peripheral IV | Easiest to insert during chest compressions; least traumatic to the patient. | Drugs infused into a peripheral vein take several minutes to reach the heart. |
| Central IV | Drugs and fluids infused into central veins reach the heart in seconds. | Insertion may be difficult during chest compressions, intubation, and defibrillation. Arterial injury, pneumothorax, hemothorax, and other complications are common in emergency insertions. |
| Intraosseous | Drugs and fluids infused into marrow reach the central circulation rapidly. | Clinical experience with IO* insertion is limited relative to IV† insertion. |
| Endotracheal | May be used for drug administration when an airway is present, but other forms of access have not been established. | Double or triple the IV† dose is needed to achieve similar drug effect. Drugs given ET‡ should be diluted in 5–10 ml of sterile water. Correct placement of the ET tube must be confirmed before use. Unlike the other modes of access, this route cannot be used to infuse high volumes of fluids. |

* IO=intraosseous

† IV=intravenous cannula

‡ ET=endotracheal

cardiac failure SEE: under *failure*.

cardiac hypertrophy Hypertrophy of the heart.

cardiac output The amount of blood discharged from the left or right ventricle per minute. For an average adult at rest, cardiac output is approx. 3.0 L per sq m of body surface area each minute. Cardiac output is determined by multiplying the stroke volume by the heart rate. SYN: *minute volume*.

decreased c. o. A state in which the blood pumped by the heart is inadequate to meet the metabolic demands of the body. (NOTE: In a hypermetabolic state, although cardiac output may be within normal range, it may still be inadequate to meet the needs of the body's tissues. Cardiac output and tissue perfusion are interrelated. When cardiac output is decreased, tissue perfusion problems will develop. Tissue perfusion also can be impaired when there is normal or high cardiac output, for example, in septic shock.) SEE: *Nursing Diagnoses Appendix*.

cardiac reflex SEE: under *reflex*.

cardiac silhouette The shadow on the chest radiograph created by the heart. A large cardiac silhouette is consistent with cardiac hypertrophy. A narrow silhouette is often seen in patients with emphysema.

cardiac surgery SEE: under *surgery*.

cardialgia (kär'dē-äl'jē-ä) [Gr. *kardia*, heart, + *algos*, pain] Pain at the pit

of the stomach or region of the heart, usually occurring in paroxysms.

cardiectasia, cardiectasis (kär'dē-ëk-tä'sē-ä, -ëk'tä-sis) [" + *ektasis*, dilatation] Dilatation of the heart.

cardiectomy (kär'dē-ëk'tō-mē) [" + *ektome*, excision] 1. Excision of the gastric cardia. 2. Harvesting of the heart and adjacent great vessels for transplantation.

Cardiff Count-to-Ten chart A way to assess intrauterine well-being in which the expectant woman records fetal movement during her usual activities. There should be at least 10 movements within a 12-hour period; if fewer than 10 movements are perceived, further medical evaluation is needed.

cardinal (kär'dī-näl) [LL. *cardinalis*, important] Of primary importance, as in the cardinal signs: temperature, pulse, respiration, and blood pressure.

cardio-, cardi- [Gr. *kardia*, heart] Combining form meaning *heart*.

cardioaccelerator (kär'dē-ō-äk-sel'ēr-ä-tor) [" + L. *accelerare*, to hasten] Something that increases the rate of the heartbeat.

cardioactive (kär'dē-ō-äk'tiv) [" + L. *activus*, acting] Acting on the heart.

cardioangiography (kär'dē-ō-än'jē-ög'rä-fē) [" + *angeion*, vessel, + *graphein*, to write] Angiocardiology.

cardioangiology (kär'dē-ō-än'jē-öl'ō-jē) [" + " + *logos*, word, reason] The science of the heart and blood vessels.

cardioaortic (kär'dē-ō-ā-or'tīk) [*"* + *aorta*, *aorta*] Pert. to the heart and the aorta.

Cardiobacterium hominis (kär'dē-ō-bāk-tēr'ī-ūm hōm'ī-nīs) [NL] A gram-negative, rod-shaped bacterium. It is a member of the HACEK group of bacteria and is part of the normal flora of the oral cavity and upper airway. It is an occasional cause of culture-negative endocarditis.

cardiocele (kär'dē-ō-sēl) [*"* + *kele*, tumor, swelling] A herniation or protrusion of the heart through an opening in the diaphragm or through a wound.

cardiocentesis (kär'dē-ō-sēn-tē'sīs) Cardiopuncture.

cardiochalisia (kär'dē-ō-kā-lā'zē-ā) [*"* + *chalisia*, relaxation] Relaxation of the muscles of the cardiac sphincter of the stomach.

cardiodiaphragmatic (kär'dē-ō-dī'ā-frāg-māt'īk) Concerning the heart and the diaphragm.

cardiodilator (kär'dē-ō-dī'lā-tor) [*"* + *L. dilatare*, to enlarge] A device for dilating the cardia of the gastroesophageal junction.

cardiodynamics (kär'dē-ō-dī-nām'īks) The science of the forces involved in propulsion of blood from the heart to the tissues and back to the heart.

cardiodynia (kär'dē-ō-dīn'ē-ā) [Gr. *kardia*, heart, + *odyne*, pain] Pain in the region of the heart.

cardioesophageal (kär'dē-ō-ē-sōf'ā-jē'āl) Pert. to the junction of the esophagus and the stomach.

cardioesophageal reflux SEE: *gastroesophageal reflux disease*.

cardiogenesis (kär'dē-ō-jēn'ē-sīs) [*"* + *genesis*, generation, birth] Formation and growth of the embryonic heart.

cardiogenic (kär'dē-ō-jēn'īk) [*"* + *gennan*, to produce] Originating in the heart.

cardiograph (kär'dē-ō-grāf") [*"* + *graphein*, to write] A device for registering the electrical activity of the heart muscle. **cardiographic** (-ō-grāf'īk), *adj.*

cardiography (kär'dē-ōg'rā-fē) The recording and study of the electrical activity of the heart.

impedance c. ABBR: ICG. A noninvasive means of determining cardiac output in which the stroke volume of each cardiac contraction is determined by measuring beat-to-beat changes in the electrical impedance of the chest and neck.

cardiohepatic (kär'dē-ō-hē-pāt'īk) [*"* + *hepatos*, liver] Pert. to the heart and liver.

cardiohepatomegaly (kär'dē-ō-hēp'ā-tō-mēg'ā-lē) [*"* + " + *megas*, large] Enlargement of the heart and liver.

cardioinhibitory (kär'dē-ō-īn-hīb'ī-tō-rē) [*"* + *L. inhibere*, to check] Inhibiting the action of the heart.

cardiokinetic (kär'dē-ō-kī-nēt'īk) [*"* + *kinesis*, movement] Pert. to the action of the heart.

cardiolipin (kär'dē-ō-līp'in) [*"* + *lipos*, fat] Previously used term for diphosphatidylglycerol.

cardiolith (kär'dē-ō-līth") [*"* + *lithos*, stone] A concretion or calculus in the heart.

cardiologist (kär-dē-ōl'ō-jīst) [*"* + *logos*, word, reason] A physician specializing in treatment of heart disease.

cardiology (kär-dē-ōl'ō-jē) The study of the physiology and pathology of the heart.

nuclear c. A noninvasive method for studying cardiovascular disease by use of nuclear imaging techniques. These examinations are usually done while the individual is exercising. Coronary artery disease can be investigated as can damage to the myocardium following coronary infarction. The size and function of the ventricles can be evaluated using these techniques.

cardiolysin (kär'dē-ōl'ī-sīn) [*"* + *lysis*, dissolution] An antibody acting destructively on the heart muscle.

cardiolysis (kär-dē-ōl'ī-sīs) An operation that separates adhesions constricting the heart in adhesive mediastinopericarditis.

cardiomalacia (kär'dē-ō-mā-lā'shē-ā) [Gr. *kardia*, heart, + *malakia*, softening] Softening of the heart muscle.

cardiomegaly (kär'dē-ō-mēg'ā-lē) [*"* + *megas*, large] Enlargement of the heart.

cardiomotility (kär'dē-ō-mō-tīl'ī-tē) [*"* + *L. motilis*, moving] The ability of the heart to move.

cardiomyoliposis (kär'dē-ō-mī'ō-līp-ō'sīs) [*"* + *mys*, muscle, + *lipos*, fat, + *osis*, condition] Fatty degeneration of the heart.

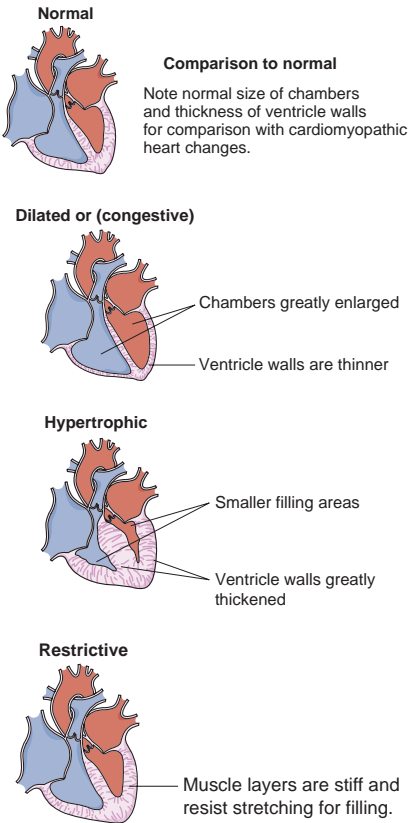
cardiomyopathy (kär'dē-ō-mī-ōp'ā-thē) [*"* + " + *pathos*, disease, suffering] ABBR: CMP. Any disease that affects the heart muscle, diminishing cardiac performance. SEE: *myocarditis*.

alcoholic c. Heart muscle damage caused by years of heavy alcohol usage. Affected patients have enlarged (dilated) hearts and left ventricular failure. Abstinence from alcohol may halt or reverse the course of the illness in some individuals.

congestive c. Myocardial disease associated with enlargement of the left ventricle of the heart and congestive heart failure.

constrictive c. Restrictive c.
hypertrophic c. ABBR: HCM. A heart muscle disease of uncertain cause, marked by excessive and disorganized growth of myofibrils, impaired filling of the heart (diastolic dysfunction), a reduction in the size of ventricular cavities, and often, ventricular arrhythmias

and sudden death. Examination of the heart by echocardiography or other modalities may show the heart's enlargement to be most pronounced in the interventricular septum. Hypertrophy in that location may limit the flow of blood (and increase pressure gradients) from the left ventricle to the aorta. Abnormal anterior motion of the mitral valve during systole also may be found. These two findings are often designated on echocardiographic reports of patients with HCM by the following abbreviation: ASH-SAM ("asymmetric septal hypertrophy—systolic anterior motion" of the mitral valve). **SEE: illus.**



CARDIOMYOPATHIES

SYMPTOMS: Although they may be asymptomatic for many years, patients commonly report shortness of breath (especially on exertion), fatigue, atypical chest pain (at rest and after meals), orthopnea, dizziness, and other symptoms of congestive heart failure after the heart muscle markedly enlarges. An S4 and a harsh crescendo-decrescendo systolic murmur, best heard at the left lower sternal border, may be present.

Ventricular arrhythmias are common; they may result in palpitations, syncope, or sudden death.

TREATMENT: Drug therapies include beta blocking and calcium channel blocking drugs (such as verapamil) to slow heart rate, control arrhythmias, and reduce myocardial oxygen demand. Anticoagulants and antiarrhythmic agents are used occasionally as well. For patients with marked enlargement of the ventricular septum and high out-flow tract pressure gradients (>50 mm Hg), surgical removal of the enlarged muscle or ablation often produces favorable improvements in exercise tolerance and breathing.

PATIENT CARE: Strenuous physical exercise should be discouraged because it may produce breathlessness, presyncope, or frank loss of consciousness. As appropriate, the patient should be encouraged to lose weight, stop smoking, and limit alcohol intake. An implanted cardioverter/defibrillator (ICD) may be required. The patient should be advised to report symptoms of chest pain, prolonged dyspnea, or syncope promptly. Because HCM may be familial in about 25% of patients, first-degree relatives of affected persons should be referred for evaluation.

idiopathic dilated c. ABBR: IDC. Heart muscle weakness of occult or uncertain cause, possibly due to viral infections, unrecognized toxic exposures, or a genetic predisposition, but not to ischemia, hypothyroidism, hypertension, valvular disease, or alcohol abuse.

TREATMENT: General supportive therapy includes rest, weight control, abstinence from tobacco, and moderate exercise at a level that does not cause symptoms. A salt-restricted diet is recommended. Therapy includes the use of vasodilators, such as ACE inhibitors, and diuretics like furosemide. Anticoagulants are important to prevent thrombus formation. IDC is a principal indication for cardiac transplant.

c. of overload Enlargement of heart muscle, as a result of long-standing or severe hypertension or aortic stenosis. Like all other forms of cardiomyopathy, the end result is heart failure.

peripartum c. Dilated cardiomyopathy occurring either in the last month of pregnancy or in the six months after delivery. Although its cause is unknown, it occurs more often both in older and multiparous women.

primary c. Cardiomyopathy in which the origin (i.e., cause) is unknown.

restrictive c. A disease of the heart muscle associated with lack of flexibility of the ventricular walls. Common causes include hemochromatosis, amyloidosis, and other diseases in which the

heart is infiltrated by foreign material, or scarred.

secondary c. Any cardiomyopathy in which the cause is either known or associated with a well-defined systemic disease. Included are cardiomyopathies associated with inflammation, toxic chemicals, metabolic abnormalities, and inherited muscle disorders.

takotsubo c. Reversible dysfunction of the left ventricle. It may be the cause of transient heart failure that occurs after stressful events. The heart in such instances takes on a rounded shape with a narrow neck, resembling a traditional Japanese lobster trap (a "takotsubo.")

cardiomyopathy (kär'dē-ō-mī'ō-pék'sē) [" + " + *pexis*, fixation] Surgical fixation of a vascular tissue such as pectoral muscle to the cardiac muscle and pericardium to improve blood supply to the myocardium.

cardiomyoplasty (kär'dē-ō-mī'ō-pläs'tē) Surgical implantation of skeletal muscle to either supplement or replace myocardial muscle.

cardiomyotomy (kär'dē-ō-mī'ō-tō-mē) Surgical therapy for achalasia. The muscles surrounding the cardioesophageal junction are cut, while the underlying mucous membrane is left intact.

cardionecrosis (kär'dē-ō-nē-krō'sis) [" + *nekros*, dead, + *osis*, condition] Death of heart tissue.

cardionephric (kär'dē-ō-nēf'rik) [" + *nephros*, kidney] Pert. to the heart and kidney.

cardioneural (kär'dē-ō-nū'räl) [" + *neuron*, nerve] Pert. to nervous control of the heart.

cardioneurosis (kär'dē-ō-nū-rō'sis) [" + " + *osis*, condition] Functional neurosis with cardiac symptoms.

cardiopathy (kär'dē-ōp'ä-thē) [" + *pathos*, disease, suffering] Any disease of the heart.

cardiopericarditis (kär'dē-ō-pēr'i-kär-dī'tis) [" + *peri*, around, + *kardia*, heart, + *itis*, inflammation] Inflammation of the myocardium and pericardium.

cardiophobia (kär'dē-ō-fō'bē-ä) [" + *phobos*, fear] An abnormal preoccupation with or fear of heart disease.

cardioplasty (kär'dē-ō-pläs'tē) [" + *plassein*, to form] An operation on the cardiac sphincter of the stomach to relieve cardiospasm.

cardioplegia (kär'dē-ō-plē'jē-ä) [" + *plege*, stroke] Intentional, temporary arrest of cardiac function by means of hypothermia, medication, or electrical stimuli to reduce the need of the myocardium for oxygen. This is done during surgery requiring cardiopulmonary bypass.

cardiopneumograph (kär'dē-ō-nū'mō-gräf) [" + " + *graphein*, to write] A

device for recording the motion of the heart and lungs.

cardioprotective (kär'dē-ō-prō-tēk'tiv) [Gr. *kardia*, heart, + L. *protectus*, shielding] Capable of shielding the heart from damage caused by, e.g., electrolyte disturbances, infections, ischemia, or toxins.

cardiopsis (kär'dē-ō-pō'sis) [" + *ptosis*, a dropping] Prolapse of the heart.

cardiopulmonary (kär'dē-ō-pül'mō-nēr-ē) [" + L. *pulmo*, lung] Pert. to the heart and lungs.

cardiopulmonary arrest Cardiac arrest.

cardiopuncture (kär'dē-ō-pünk'chūr) [" + L. *punctura*, piercing] Surgical incision or puncture of the heart. SYN: *cardiocentesis*.

cardiopyloric (kär'dē-ō-pī-lor'ik) [" + *pyloros*, gatekeeper] Pert. to the cardiac and pyloric ends of the stomach.

cardiorenal (kär'dē-ō-rē'näl) [Gr. *kardia*, heart, + L. *renalis*, pert. to kidney] Pert. to both the heart and the kidneys.

cardiorrhaphy (kär'dē-ō-rä-fē) [" + *rhaphe*, seam, ridge] Suturing of the heart muscle.

cardiorrhesis (kär'dē-ō-rēk'sis) [" + *rhexis*, rupture] Rupture of the heart.

cardiosclerosis (kär'dē-ō-sklē-rō'sis) [" + *sklerosis*, hardening] Hardening of the cardiac tissues and arteries.

cardioselectivity (kär'dē-ō-sē'lēk-ti'vī-tē) [Gr. *kardia*, heart, + L. *seligere*, to separate, select] A stronger action on receptors in the heart than on those in the lungs; said of beta-adrenergic blocking agents that selectively block beta-1 receptors and thus do not cause bronchospasm.

PATIENT CARE: Nonselective beta-adrenergic drugs (beta blockers) should be avoided by patients with asthma or COPD because they can cause wheezing and shortness of breath. Cardioselective beta blockers can be safely used by patients with mild or moderate obstructive lung disease. SEE: *beta-adrenergic blocking agent*. **cardioselective** (-sē-lēk'tiv), *adj.*

cardiospasm (kär'dē-ō-späzm) [" + *spasmos*, a convulsion] Achalasia of the esophagus. SYN: *achalasia of the cardia*.

cardiotachometer (kär'dē-ō-täk-ōm'ētēr) [Gr. *kardia*, heart, + *tachos*, speed, + *metron*, measure] An instrument for measuring the heart rate over a long period.

cardiotherapy (kär'dē-ō-thēr'ä-pē) [" + *therapeia*, treatment] The treatment of cardiac diseases.

cardiothoracic ratio (kär'dē-ō-thō-räs'ik) [" + "] The relation of the overall diameter of the heart to the widest part of the inside of the thoracic cavity. Usually

the heart's diameter is half or less than half that of the thoracic cavity.

cardiothyrotoxicosis (kār'dē-ō-thī'rō-tōk'si-kō'sis) [*l* + *thyreas*, shield, + *toxikon*, poison, + *osis*, condition] Heart disease due to hyperthyroidism.

cardiotomy (kār'dē-ōt'ō-mē) [*l* + *tome*, incision] Incision of the heart.

cardiotonic (kār'dē-ō-tōn'ik) [*l* + *tonos*, tone] Increasing the tonicity of the heart. Various drugs, including digitalis, are cardiotonic. SEE: *inotropic*.

cardiotoxic (kār'dē-ō-tōk'sik) [*l* + *toxikon*, poisoning] Poisonous to the heart.

cardiovalvulitis (kār'dē-ō-vāl'vū-lī'tis) [*l* + *L. valvula*, valve, + *Gr. itis*, inflammation] Inflammation of the heart valves.

cardiovalvulotome (kār'dē-ō-vāl'vū-lō-tōm") [*l* + " + *Gr. tome*, incision] An instrument for excising part of a valve, esp. the mitral valve.

cardiovascular (kār'dē-ō-vās'kū-lār) [*l* + *L. vasculum*, small vessel] Pert. to the heart and blood vessels.

cardiovascular collapse Sudden loss of blood flow to the brain and other organs, causing altered mental status and hypotension. This may be caused by conditions such as anaphylaxis, cardiogenic shock, vasovagal syncope, or postural hypotension.

cardiovascular disease ABBR: CVD. Any disease of the heart or blood vessels, including atherosclerosis, cardiomyopathy, coronary artery disease, peripheral vascular disease, and others.

cardiovascular reflex SEE: under *reflex*.

cardiovascular system The heart and blood vessels (aorta, arteries, arterioles, capillaries, venules, veins, venae cavae).

cardiovascular technologist A technologist with specialized training in both invasive and noninvasive cardiac techniques. These include physical examination of the patient with heart disease, history taking, drug therapy, and some or all of the following tests or procedures (under professional supervision): blood gas analysis, Doppler ultrasonography, electrocardiography, exercise stress testing, echocardiography, and cardiac catheterization.

cardioversion (kār'dē-ō-vēr'zhūn) [*l* + *L. versio*, a turning] The restoration of normal sinus rhythm by chemical or electrical means. When performed medically, the procedure relies on the oral or intravenous administration of antiarrhythmic drugs. Electrical cardioversion relies instead on the delivery of synchronized shock of direct electrical current across the chest wall. It is used to terminate arrhythmias such as atrial fibrillation, atrial flutter, supraventricular tachycardia, and well-tolerated ventricular tachycardia. Unlike defibrillation, which is an unsynchronized shock applied during dire emergencies,

electrical cardioversion is timed to avoid the T wave of cardiac repolarization to avoid triggering malignant arrhythmias. A patient will almost always require sedation and analgesia before the procedure.



Electrical cardioversion should not be used in patients who have recently eaten (because of the risk of regurgitation of stomach contents), in patients with severe electrolyte abnormalities, in patients with some drug overdoses, or in patients unable or unwilling to give informed consent. Patients need to be advised of the risks of cardioversion, including the rare precipitation of ventricular fibrillation and ventricular tachycardia, the development of bradyarrhythmias or heart blocks, and the possibility of embolic stroke.

PATIENT CARE: The procedure, expected sensations, complications, and risks are explained to and clarified for the patient. Emotional support is provided throughout the procedure and at its conclusion. The patient's medication history is reviewed, and cardiac glycoside use is reported to the health care provider, along with the patient's electrolyte levels. Emergency equipment (including ACLS drugs, a bag-valve-mask resuscitator, supplemental oxygen, suction, laryngoscope and appropriate size ET tube, defibrillator, and supplies for intravenous injection) are assembled at the bedside. In the hospital setting, emergency personnel (respiratory technicians, anesthesiologists, nurses, and paramedics) may assist the attending physician. The patient's vital signs are checked, an intravenous infusion is started, and the patient is connected to a continuous ECG monitor. Dentures are removed from the mouth, and necklaces or pendants, as well as nitroglycerin patches, are removed from the chest and neck. Chest electrodes are placed to facilitate recording of tall R waves without interfering with paddle placement. A 12-lead ECG is obtained and the patient is given enriched oxygen to breathe. The patient is placed in a supine position, and adequate ventilation and oxygenation are ensured by observation and oximetry. A sedative, such as diazepam, is provided as prescribed unless the patient is profoundly hypotensive. The defibrillator leads are attached to the patient. The cardioverter/defibrillator is set to synchronize with the patient's QRS complex, and the recording is checked to ensure that each R wave is marked. The control is set to the energy level prescribed by the health care provider or by protocol. The defibrillation pads for hands-free oper-

ation (or manual paddles) are placed in prescribed positions on the chest wall. All personnel in attendance are cleared from direct contact with the patient or his or her bed. After this is carefully verified, the electrical current is discharged. The monitor is immediately analyzed to ensure that the dysrhythmia has resolved. If it has not, the procedure is repeated, usually with a higher energy setting. After successful cardioversion, health care personnel monitor the posttreatment rhythm and vital signs until the patient's stability is assured. The patient's skin is inspected for burns. SEE: *defibrillation*.

cardioverter (kär'dē-ō-vēr'tēr) A device used to administer electrical shocks to the heart through electrodes placed on the chest wall or on the surface of the heart itself. It is used in the emergency management of cardiac dysrhythmias such as ventricular or supraventricular tachycardias. Changing the dysrhythmia to normal sinus rhythm is called cardioversion. SEE: *defibrillator*.

automatic implantable c. An implantable device for detecting and terminating ventricular tachycardia or fibrillation.

carditis (kär-dī'tīs) [*r* + *itis*, inflammation] Inflammation of the layers of the heart. It usually involves two of the following: pericardium, myocardium, or endocardium.

Coxsackie c. Carditis or pericarditis that may occur in infections with enteroviruses of the Coxsackie groups, and also with echovirus groups.

rheumatic c. Inflammation of cardiac tissue as a result of acute rheumatic fever. Mitral insufficiency is a prominent feature, and aortic insufficiency is sometimes present as well.

Cardizem SEE: *diltiazem*.

Cardura (kahr-door'ä) Doxazosin.

care In health care, application of knowledge—often supplemented by love, support, concern, empathy, and humanity—in order to provide health benefits to an individual or a community.

care, cluster A system of home care for older adults that allows the needs of many clients who live in proximity to be met by a team of workers.

care, culturally competent The provision of health care with professional tolerance and respect for individuals of all ages, nationalities, races, genders, beliefs, and behaviors.

care, day The supervision of dependents during working hours. The goals of day care are to provide adequate, affordable care for young children or dependent adults, esp. while employed caregivers are at work.

c., adult day ABBR: ADC. A licensed agency where chronically ill, disabled, or cognitively impaired persons

can stay during the day under health care supervision. Most people who attend adult day care are older and need some assistance with care. They are able to participate in structured activities programs and to ambulate with or without an assistive device. Most day care centers operate 5 days a week for 8 to 12 hr a day.

care, developmentally appropriate Care that suits the stage of life of the patient by meeting his or her cognitive, emotional, and social needs.

care, end-of-life Supportive care for dying patients. Such care can include invasive interventions like advanced cardiac life support, or supportive interventions, like educational, emotional, or social assistance to patients with terminal illnesses.

care, family-centered The integration and collaboration of family members in the patient care team, esp. in the care of dependent infants, children, or adults with complex or ongoing health care needs.

PATIENT CARE: Family and friends are increasingly needed to provide patient care. Although researchers have identified the "typical caregiver" as a 46-year-old female with some college education, in actuality anyone in the infirm individual's circle may be called upon to provide care. The care provided may vary from simply helping with driving or shopping, to managing treatment and medications, to providing assistance with activities of daily living, such as bathing, feeding, toileting, and transferring the patient, or helping the patient make health care decisions and choices. The health care professional should identify the primary caregiver(s), recognize the level of strain occurring, and develop a partnership to reduce the burden of care and prevent caregiver exhaustion and burnout. In addition to psychosocial support, the family caregiver may benefit from practical instruction about how to perform caregiving activities, never assuming that the caregiver knows what to do or how to do it. Health care professionals should be available to step in when situational demands exceed the family caregiver's capabilities, and to step back when the family's support is what is needed most. Caregivers need to seek their own support from family, friends, community agencies or their faith community.

care, home health The provision of equipment and services to patients in their homes to restore and maintain the individual's maximal levels of comfort, function, and health.

care, intensive Care of critically ill patients.

care, long-term ABBR: LTC. A range of

continuous health care or social services for individuals with chronic physical or mental impairments, or both. LTC provides for basic needs and promotes optimal functioning. It includes care received in assisted living facilities, the home, hospice, and nursing homes. SEE: *Nursing Diagnoses Appendix*. SEE: *nursing home*.

care, medical The use of medical skill to benefit a patient.

care, mouth Personal and bedside care of the oral cavity including the gingivae, teeth, lips, epithelial covering of the mucosa, pharynx, and tongue. When ill, persons who would normally be able to provide their own oral hygiene may require assistance in maintaining a healthy oral environment. The intensity and frequency of care is dictated by patient comfort; the severity of the illness; potential or existing irritation or inflammation secondary to trauma or therapy; and the patient's state of consciousness, level of cooperation, and ability to provide self-care. SEE: *stomatitis*.

care, nurse-led Health care that is managed by and provided primarily by advanced practitioner nurses. Many community health centers are nurse-led.

care, personal Self-care (2).

care, primary Integrated, accessible health care, provided where the patient first seeks medical assistance, by clinicians who are responsible for most of a patient's personal health care, including health maintenance, therapy during illnesses, and consultation with specialists.

care, respiratory The evaluation, treatment, and rehabilitation of patients with cardiopulmonary disease by respiratory therapy professionals working under a physician's supervision.

care, respite Provision of short-term care to older, chronically ill, or disabled persons in the community to allow caregivers a temporary relief from their responsibilities. The care may be provided either in the patient's home, church, community center, nursing home, or caregiver's home.

care, restorative Rehabilitation.

care, secondary medical Medical care of a patient by a physician acting as a consultant. The provider of primary medical care usually refers the patient for expert or specialty consultation, or a second opinion.

care, skilled Medical care provided by licensed professionals working under the direction of a physician.

care, tertiary medical Medical care of a patient in a facility staffed and equipped to administer comprehensive care. In the usual situation, this level of care is provided in a large hospital to

which the patient has been referred or transferred.

care, transitional Health care services provided to patients after hospitalization in an acute care facility, before they are ready to return to their homes. Transitional care shortens acute hospital stays, decreases health care costs, and provides a period for recuperation for patients who are still unable to thrive independently. Facilities used in transitional care include rehabilitation units, long-term care hospitals, sub-acute care facilities, hospice services, and some home care services.

caregiver One who provides care to a dependent or partially dependent patient. In an acute care setting, the caregiver is most often a professional; however, in the home care situation, this person is often a family member. Care of caregivers is a focus of nurses, social workers, and other health care providers who manage chronically ill patients. Generally, caregivers need emotional support and comfort owing to the extreme stress of their lives. SEE: *caregiver burden*.

caregiver burden The perception of stress and fatigue caused by the sustained effort required in caring for persons with chronic illness or other conditions with special needs for care.

caregiver role strain A caregiver's felt or exhibited difficulty in performing the family caregiver role. SEE: *Nursing Diagnoses Appendix*.

caregiver role strain, risk for The vulnerability of the caregiver for difficulties felt in performing the role of family caregiver. SEE: *Nursing Diagnoses Appendix*.

Caregiver Stress Inventory ABBR: CSI. A 50-item scale specific to professionals caring for dependent patients. It is divided into three subscales measuring stress related to the patient's verbal and physical behavior, the patient's mental, emotional, and social behavior, and the resources, knowledge, and abilities of the staff.

CARF *Commission on Accreditation of Rehabilitation Facilities*.

caries (kār'ēz, kār'ī-ēz) [L., rottenness] Gradual decay and disintegration of soft or bony tissue or of a tooth. If the decay progresses, the surrounding tissue becomes inflamed and an abscess forms (e.g., chronic abscess, tuberculosis, and bacterial invasion of teeth). In caries, the bone disintegrates by pieces, whereas in necrosis, large masses of bone are involved. SYN: *dental cavity*.

carious (-rē-ūs), *adj.*

arrested c. Apparent lack of progress in a carious lesion between dental examinations.

bottle mouth c. Baby bottle syndrome.

cervical c. Caries involving the neck

of the tooth, slightly above or below the junction between the root cementum and the enamel crown.

classification of c. G. V. Black's classification of dental caries according to the part of the tooth involved: class I, occlusal; class II, interproximal, commonly at the dentinoenamel junction of bicuspid and molars; class III, interproximal surfaces not involving incisal surfaces; class IV, interproximal but involving an incisal surface; class V, the faciocervical area.

dental c. Tooth decay; progressive decalcification of the enamel and dentin of a tooth. The condition is caused by dental infection, and the erosion of teeth by the acid byproducts of bacterial metabolism on their surfaces.

PREVENTION: Minimizing the dietary intake of refined sugars and careful toothbrushing twice a day with a fluoride-containing toothpaste reduces the incidence of dental caries. Use of dental floss or tape removes plaque from between adjacent tooth surfaces; deep pits and fissures may be sealed by the application of resins. The sealant may need to be replaced periodically. Early detection and dental restorations offer the best form of control once caries has formed. Topical application of fluoride promotes resistance to dental caries. Dental caries is less likely to develop if appropriate amounts of fluoride are ingested while the teeth are developing. It is important that excess fluoride not be ingested because greater amounts than required (about 1 mg/day) cause mottling of the teeth. Fluoride in the diet does not obviate the need for topical application of fluoride to the teeth. SYN: *dental cavity*. SEE: *illus.*; *dental plaque*.

incipient c. One of the two distinct stages in the development of a carious dental lesion. The first stage is the incipient lesion, marked by the appearance of a white spot. Microscopic pores course through the enamel to the sub-surface demineralization, where the main body of the lesion is located.

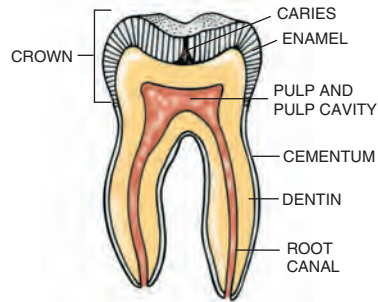
pit and fissure c. Caries in the pits and fissures of tooth enamel.

radiation c. Dental caries that develops as a side effect of treatment of malignancies of the oral cavity with ionizing radiation. The etiology is, in part, due to the dysfunction of the salivary glands.

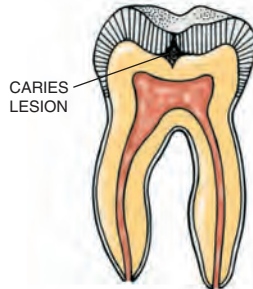
rampant c. A sudden onset of widespread caries that affects most of the teeth and penetrates quickly to the dental pulp.

recurrent c. Dental caries that develops at the small imperfections between the tooth surface and a restoration, caused by plaque at the imperfections. SYN: *secondary caries*.

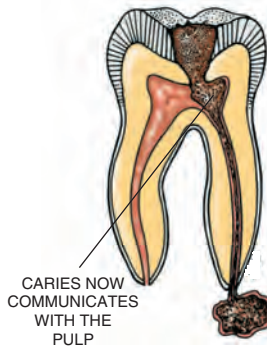
root c. Caries on the root of a tooth.



ACID BREAKS DOWN THE ENAMEL THAT COVERS THE CROWN OF THE TOOTH



DECAY PENETRATES THE DENTIN, THE LAYER UNDER THE ENAMEL



THE CAVITY, IF NOT REPAIRED, SPREADS INTO THE PULP OF THE TOOTH. THIS MAY CAUSE INFLAMMATION AND AN ABSCESS. THEN THE TOOTH MAY HAVE TO BE EXTRACTED.

DENTAL CARIES

The root is more susceptible to decay than the rest of the tooth due to the lack of an enamel covering, difficulty in maintaining a clean root surface, and the lack of effective preventive therapies.

secondary c. Recurrent c.

c. sicca Bony destruction such as that caused by infection with syphilis.

spinal c. Pott's disease. SEE: under *Pott, John Percivall*.

caries activity test Any laboratory test that measures the degree of caries activity in a dental patient. The tests may identify the number of cariogenic bacteria or the acid production from saliva samples.

caries-detecting dyes Any stain or fluorescent solution used to reveal demineralized dentin. When applied to teeth, they highlight areas that may need excavation. A clinical examination of the tooth for hardness may be needed to confirm suspicious regions illuminated by dyes. Some studies suggest they are overly sensitive but not specific.

carina (kā-rī'nā) *pl.* **carinae** [L., keel of a boat] A structure with a projecting central ridge.

nasal c. Olfactory nasal sulcus.

carina of the trachea The ridge at the lower end of the trachea separating the openings of the two primary bronchi. SEE: *illus.*



CARINA OF THE TRACHEA

seen bronchoscopically

c. of the urethra The ridge extending posteriorly from the urethral orifice and continuous with the anterior column of the vagina.

caring behaviors SEE: under *behavior*.

carioca test A side-shuffling, sport-specific functional test of agility and kinesthetic awareness that is used toward the end of a rehabilitation program to reintegrate athletes back into competition following lower extremity injuries. Derived from a Latin dance step, the carioca test involves the alternate stepping of one foot in front and then behind the other.

cariogenesis (kā'rē-ō-jěn'ē-sis) [L. *caries*, rotteness, + Gr. *genesis*, generation, birth] The formation of caries. SEE: *dental caries*.

cariogenic (kā'rē-ō-jěn'ik) ["+Gr. *gen-*

nan, to produce] Conducive to caries formation.

carriostatic (kā'rē-ō-stāt'ik) Able to prevent the formation of dental caries. Common cariostatic agents include fluoride and chlorhexidine.

carious (kā'rē-ūs) **1.** Affected with or pert. to caries. **2.** Having pits or perforations.

carminative (kā-rmīn'ā-tiv) [L. *carminativus*, cleanse] An agent that helps to prevent gas formation in the gastrointestinal tract.

carnal (kā'r'nāl) [L. *carnalis*, flesh] Pert. to the desires and appetites of the flesh; sensual.

carneous (kā'r'nē-ūs) [L. *carneus*, fleshy] Fleshy.

Carnett's sign (kā'r'nētz) [J. B. Carnett, American physician] In evaluating a surgical abdomen, decreased abdominal tenderness to palpation after the supine patient elevates his or her head from the bed. The sign indicates that acute abdominal pain originates in the rectus muscle sheath rather than the peritoneum.

carnitine (kā'r'nī-tin) A chemical, γ -trimethylamine- β -hydroxybutyrate, important in metabolizing palmitic and stearic acids. It has been used therapeutically in treating myopathy due to carnitine deficiency.

carnivore (kā'r'nī-vor) An animal that eats primarily meat, particularly an animal of the order Carnivora, which includes cats, dogs, and bears.

carnivorous (kā'r'nīv'ō-rūs) [L. *carnivorus*] Flesh-eating.

carnophobia (kā'r'nō-fō'bē-ā) ["+ Gr. *phobos*, fear] An abnormal aversion to meat.

carnose (kā'r'nōs) Having the consistency of or resembling flesh.

carosine (kā'r'nō-sin) $C_9H_{14}N_4O_3$; a chemical, β -alanylhistidine, present in brain and muscle. It has been promoted as an "anti-aging" agent.

carnosity (kā'r-nōs'ī-tē) [L. *carnositas*, fleshiness] An excrescence resembling flesh; a fleshy growth.

carotenase (kā-rōt'ē-nās) [Gr. *karoton*, carrot] An enzyme that catalyzes the conversion of beta-carotene to retinaldehyde.

carotene (kā'r'ā-tēn) [Gr. *karoton*] One of several yellow, red, orange, or green antioxidant compounds that are biochemical precursors of Vitamin A. Many fresh fruits and vegetables (including apricots, carrots, corn, kale, oranges, spinach, squash, sweet potatoes, and tomatoes) are rich in these chemicals. They may play a part in preventing atherosclerosis, neurodegenerative diseases, cancers, and retinal degeneration.

Retinol is the form of vitamin A found in mammals. One retinol equivalent is

equal to 6 μg of beta-carotene. Beta-carotene is a safer food supplement than vitamin A because the latter has much greater toxic potential in large doses.



Smokers who supplement their diet with beta carotene increase their risk of lung cancer.

carotenemia (kär"ō-tě-nē'mē-ă) [*"* + *haima*, blood] Carotene in the blood, marked by yellowing of the skin (pseudojauundice). It can be distinguished from true jaundice by the lack of yellow discoloration of the conjunctivae in carotenemia.

carotenoid (kă-rôt'ě-noyd) [*"* + *eidōs*, form, shape] **1.** One of a group of more than 500 yellow, orange, green, or red fat-soluble pigments found naturally in fruits and vegetables and acting as antioxidants in the body. About 50 carotenoids are precursors of vitamin A. Carotenoids that have health benefits are alpha carotene, lycopene, cryptoxanthin, zeaxanthin, and lutein. **2.** Resembling carotene.

carotic (kă-rôt'ik) [Gr. *karos*, deep sleep] **1.** Carotid. **2.** Resembling stupor; stupefying.

carotid (kă-rôt'id) [Gr. *karos*, deep sleep] **1.** Pert. to the right and left common carotid arteries, which form the principal blood supply to the head and neck. The left arises directly from the aortic arch and the right from the brachiocephalic artery. Each of these two arteries divides to form external and internal carotid arteries. **2.** Pert. to any carotid part, such as the carotid sinus.

carotid body The chemoreceptors at the bifurcation of each common carotid artery, which detect changes in blood gases (esp. oxygen) and pH. They stimulate reflex changes in heart rate, respiration, and blood pressure that restore normal blood oxygen levels. They are innervated by the glossopharyngeal nerves.

carotidynia, carotodynia (kăr-ōt'ī-dīn'ē-ă) [*"* + *odyne*, pain] Pain in the face, neck, or jaw. It may be produced in persons with atypical facial neuralgia by pressure on the common carotid artery. The pain is dull and referred to the same side to which pressure was applied. Treatment is with analgesics.

carpal (kăr'pāl, kăr'pāl) [Gr. *karpalis*] Pert. to the carpus or wrist.

carpal tunnel syndrome Pain or numbness and tingling that affect some part of the median nerve distribution of the hand (the palmar side of the thumb, the index finger, the radial half of the ring finger, and the radial half of the palm) and may radiate into the arm. Patients may have a history of cumulative trauma to the wrist, e.g., as a result of

overuse in carpentry, rowing, typing, computing, or the operation of vibrating tools or machinery. In addition, the condition may occur after wrist fracture, in pregnancy, or as a consequence of systemic or metabolic disorders such as diabetes mellitus, hypothyroidism, acromegaly, and amyloidosis. SEE: *repetitive motion injury*.

TREATMENT: The patient should rest the extremity, avoiding anything that aggravates the symptoms. This may require splinting of the wrist for several weeks to relieve tension on the median nerve. The patient's job requirements should be analyzed and recommendations provided for modified tools or a change in job assignment. The patient is taught how to avoid tension on the median nerve. Other treatments may include yoga, corticosteroid injections, or surgery.

PATIENT CARE: The patient is evaluated for loss of sensation on the palmar surface of the fingertips and for atrophy of the thenar muscles—both of which indicate advanced median nerve injury. If they are present, a referral to a specialist is indicated. Physical assessments of the carpal tunnel (Phalen's and Tinel's signs) have poor accuracy but are generally performed.

Most patients with pain that is thought to come from the carpal tunnel are treated with modification of work, a wrist splint to hold the affected hand(s) in a neutral position, and an anti-inflammatory drug, such as ibuprofen. Occupational counseling is suggested if the syndrome necessitates a temporary or permanent job change.

The need for diagnostic studies, such as nerve conduction tests or electromyography, and expected sensations are explained. If surgery (carpal tunnel release) is required, the patient is prepared by explaining the procedure and expected sensations. Postoperatively, neurovascular status in the affected extremity is carefully assessed (patient and significant others should be taught this assessment), and the patient is encouraged to keep the hand elevated to reduce swelling and discomfort. The patient should perform prescribed wrist and finger exercises daily to improve circulation and to enhance muscle tone; he or she can perform these exercises in warm water if they are painful (wearing a surgical glove if dressings are still in place). He or she should avoid lifting anything weighing more than a few ounces. The patient should report severe, persistent pain or tenderness, which may point to tenosynovitis or hematoma formation. The incision should be kept clean and dry, and dressings changed daily until the incision has healed completely. Dressings should



also be checked for bleeding; any unusual bleeding or drainage should be reported. The patient is encouraged to express any concerns, and support is offered. SEE: *Nursing Diagnoses Appendix*.

carpectomy (kär-pèk'tō-mē) [*ʹ* + *ektome*, excision] Excision of the carpus or a portion of it.

carpetlayer's knee SEE: under *knee*.

carphologia, carphology (kär-fō-lō'jē-ä, -fōl'ō-jē) [Gr. *karphos*, dry twig, + *legein*, to pluck] Involuntary picking at bedclothes, seen esp. in febrile delirium. SYN: *flocillation*.

carpo- [Gr. *karpos*] Combining form for carpus.

carpometacarpal (kär"pō-mēt'ä-kär"päl) [*ʹ* + *meta*, beyond, + *karpos*, wrist] Pert. to both the carpus and the metacarpus.

carpopedal (kär"pō-pèd'äl) [*ʹ* + L. *ped*, foot] Pert. to both the wrist and the foot.

carpopothesis (kär"pöp-tō'sis) [*ʹ* + *ptosis*, a falling] Wrist drop.

carpus (kär'pūs) [L.] The eight bones of the wrist joint. SEE: *skeleton*; *wrist drop*.

carrageen, carrageen (kär'ä-gēn) Irish moss; dried red alga, *Chondrus crispus*, from which the substance carrageenan, or carrageenan, is obtained. It is used as a demulcent and thickening agent in medicines and foods. SYN: *Irish moss*.

carriage (kär'ij) [Old North Fr. *carier*, to transport by vehicle] The harboring, holding, or transporting of a chemical, gene, infection, or other material.

carrier (kär'e-ër) [O. Fr. *carier*, to bear]

1. A person who harbors a specific pathogenic organism, has no discernible symptoms or signs of the disease, and is potentially capable of spreading the organism to others. 2. An animal, insect, or substance (e.g., food, water, feces) that can transmit infectious organisms. SYN: *vector*. SEE: *fomes*; *isolation*; *microorganism*; *Standard Precautions Appendix*; *communicable disease* for table. 3. A molecule that when combined with another substance can pass through a cell membrane, as occurs in facilitated diffusion or some active transport mechanisms. 4. One who carries a recessive gene together with its normal allele; a heterozygote. 5. An instrument or apparatus for transporting something (e.g., in dentistry, an amalgam carrier).

active c. One who harbors a pathogenic organism for a clinically significant time and is able to pass the infection to others.

convalescent c. One who harbors an infective organism during recovery from the disease caused by the organism.

genetic c. One whose chromosomes contain a pathological gene that may be transmitted to offspring. In some cases

(e.g., Tay-Sachs disease) this condition can be detected prenatally by a laboratory test done on amniotic fluid.

incubatory c. One who harbors and spreads an infectious organism during the incubation period of a disease before it becomes clinically evident.

intermittent c. One who harbors an infectious organism (e.g., methicillin-resistant *Staphylococcus aureus* in the nasal passages) from time to time, but not continuously.

carrier-free (kär'e-ër-frē) Not attached to a carrier; said of radioactive isotopes.

carrier screening, carrier identification Performing genetic tests on a person to see if he or she may carry a recessive trait that might be expressed after mating with another carrier of the trait. It is used in high-risk families or populations to screen for illnesses such as cystic fibrosis, Gaucher's disease, and Tay-Sachs disease.

Carrion's disease (kär-ë-önz') [Daniel A. Carrion, 1850–1885, a Peruvian student who died after voluntarily injecting himself with a disease] Bartonellosis.

carry-over The portion of analyte brought from one reaction segment to the next. The accuracy of laboratory test results may be altered by contaminants that are transferred from one reaction to the following one.

Cartia XT SEE: *diltiazem*.

cartilage (kär'ti-lij) [L. *cartilago*, gristle] A specialized type of dense connective tissue consisting of cells embedded in a ground substance or matrix. The matrix is firm and compact and can withstand considerable pressure or tension. Cartilage is bluish-white or gray and is semiopaque; it has no nerve or blood supply of its own. The cells lie in cavities called lacunae. They may be single or in groups of two, three, or four.

Cartilage forms parts of joints in the adult skeleton, such as between vertebral bodies and on the articular surfaces of bones. It also occurs in the costal cartilages of the ribs, in the nasal septum, in the external ear and lining of the eustachian tube, in the wall of the larynx, and in the trachea and bronchi. It forms the major portion of the embryonic skeleton, providing a model in which most bones develop.

alar c. Cartilage forming the broad lateral wall of each nostril.

articular c. The thin layer of smooth, hyaline cartilage located on the joint surfaces of a bone, as in a synovial joint.

costal c. A cartilage that connects the end of a true rib with the sternum or the end of a false rib with the costal cartilage above.

cricoid c. The lowermost cartilage of the larynx; shaped like a signet ring, the broad portion or lamina being posterior,

the anterior portion forming the arch. SEE: *larynx* for illus.

cuneiform c. One of two small pieces of elastic cartilage that lie in the aryepiglottic fold of the larynx immediately anterior to the arytenoid cartilage.

elastic c. Cartilage that contains elastin fibers in the matrix. Found in the epiglottis, external ear, and auditory tube, it strengthens these and maintains their shape.

fibrous c. Fibrocartilage.

hyaline c. A bluish-white, glassy, translucent cartilage. The matrix appears homogeneous although it contains collagenous fibers forming a fine network. The walls of the lacunae stain intensely with basic dyes. Hyaline cartilage is flexible and slightly elastic. Its surface is covered by the perichondrium except on articular surfaces. It is found in articular cartilage, costal cartilages, the nasal septum, the larynx, and the trachea.

Meckel's c. SEE: under *Meckel, Johann Friedrich (the younger)*.

nasal c. Any of the cartilages forming the principal portion of the subcutaneous framework of the nose.

palpebral c. One of the thin plates of connective tissue resembling cartilage that form the framework of the eyelid.

parachordal c. One of a pair of cartilages in the cephalic portion of the notochord of the embryo that unites in humans to form a single basal plate that is the forerunner of the occipital bone.

Reichert's c. SEE: *Reichert's cartilage*.

repair of c. defects The experimental treatment of full-thickness knee cartilage defects by culturing primitive cartilage stem cells from the patient and then implanting them in cartilage tears. The cells are covered with a thin patch of bone tissue.

semilunar c. One of two crescentic cartilages (medial and lateral) of the knee joint between the femur and tibia.

sesamoid c. One or more small cartilage plates present in fibrous tissue between the lateral nasal and greater alar cartilages of the nose.

shark c. An alternative remedy promoted for the treatment of arthritis and cancer.

thyroid c. The largest and most anterior cartilage of the larynx, consisting of two broad laminae united anteriorly to form a V-shaped structure. It forms a subcutaneous projection called the laryngeal prominence or Adam's apple. SEE: *thyroid gland* for illus.

vomer nasal c. One of two narrow strips of cartilage lying along the anterior portion of the inferior border of the septal cartilage of the nose.

Y c. The cartilage that connects the

pubis, ilium, and ischium and extends into the acetabulum.

cartilagification (kăr"tī-lā-jīn"ī-fī-kā'shūn) [*l'* + *facere*, to make] Cartilage formation or chondrification; the development of cartilage from undifferentiated tissue.

cartilaginous (kăr"tī-lāj'ī-noyd) [*l'* + Gr. *eidōs*, form, shape] Resembling cartilage.

cartilaginous (kăr"tī-lāj'ī-nūs) Pert. to or consisting of cartilage.

caruncle (kăr'üng-kl) [L. *caruncula*, small flesh] A small fleshy growth.

lacrimal c. A small reddish elevation found on the conjunctiva near the inner canthus, at the medial angle of the eye.

sublingual c. A protuberance on each side of the frenulum of the tongue, containing the openings of the ducts from the submandibular and sublingual salivary glands.

urethral c. A small, red, papillary growth that is highly vascular and is sometimes found in the urinary meatus in females. It is characterized by pain on urination and is very sensitive to friction.

caruncula (kăr-üng'kü-lä) *pl.* **carunculæ** [L.] Caruncle.

c. hymenales Small irregular nodules representing remains of the hymen.

Carvalho's sign (kăr-vahl'öz, -vah'yöz) [J. M. Rivero-Carvalho, contemporary Mexican physician] An increase in intensity of the presystolic murmur heard in patients with tricuspid stenosis during inspiration, and its decrease during expiration. This is best demonstrated with the patient in an erect position.

carvedilol (kăr-vē'dī-löl) A beta- and alpha-blocking drug that can be used to treat high blood pressure and congestive heart failure.

carve-out In managed care, a service or benefit for a specific disease, condition, or population that is contracted for separately from the rest of a health insurance plan. Carve-outs typically are used in managed care contracts to identify the costs associated with esp. expensive forms of care, such as mental health or substance abuse services.

carver (kăr'vēr) A knife or other instrument used to fashion or shape an object. In dentistry, it is used with artificial teeth or dental restorations.

amalgam c. A small, sharp instrument of varying shape used to carve or contour amalgam for interdental occlusion.

wax c. A blunt instrument of varying shape to heat and carve or shape wax patterns.

cary-, caryo- [Gr. *karyon*, nucleus] Combining form meaning *nucleus*.

CAS *Coronary artery scan; Chemical Abstract Service.*

Casal necklace [Gaspar Casal, Sp. physician, 1691–1759] Bilaterally symmetrical lesions of the neck that represent a portion of the skin's involvement in pellagra. The lesions begin as erythemas and progress to vesiculation and crusting.

cascade (kās-kād') The continuation of a process through a series of steps, each step initiating the next, until the final step is reached. The action may or may not become amplified as each step progresses.

perineal c. Cleansing douche.

casara sagrada (kās-kār'ā sā-grā'dā) The dried bark of *Rhamnus purshiana*, a small tree grown on the western U.S. coast and in parts of South America. It is the main ingredient in aromatic casara sagrada fluid extract, a cathartic.

case [L. *casus*, happening] **1.** An occurrence of disease; incorrectly used to refer to a patient. **2.** An enclosing structure.

caseate (kā'sē-āt) [L. *caseus*, cheese] To undergo cheesy degeneration, as in certain necroses.

caseation (kā'sē-ā'shūn) **1.** The process in which necrotic tissue is converted into a granular amorphous mass resembling cheese. **2.** The precipitation of casein during coagulation of milk.

case control A form of research in which patients with a disease are compared with closely matched individuals who do not have the disease. It is used to uncover risk factors or exposures that may produce illness.

casefinding (kās'fīnd'īng) An active attempt to identify persons who have a certain disease. SEE: *epidemiology*.

case history SEE: *under history*.

casein (kā'sē-īn) [L. *caseus*, cheese] The principal protein in milk, which forms curds at acid pH. When coagulated by rennin or acid, it becomes one of the principal ingredients of cheese.

case law SEE: *under law*.

caseload The total number of patients managed by a particular health care professional or agency.

case management An individualized approach to coordinating patient care services, esp. when clients with complex needs or chronic medical problems require multifaceted or interdisciplinary care. Case management is a particularly valuable approach to meeting the service needs of impaired older persons and others with chronic medical disabilities.

hospital c.m. A system of patient care delivery in which a case manager, typically a registered nurse, coordinates interdisciplinary care for a group of patients. The advantages of hospital case management are improved quality, continuity of care, and decreased hospital costs.

case mix The unique characteristics of any patient population, e.g., its history of behavioral or medical illnesses, or its socioeconomic status. The unique characteristics of different groups of patients alter many variables relating to the care they receive. A group of healthy twenty-year-old men serving in the military overseas has different needs than a rural community primarily composed of retired people. Differences in case mix affect health care costs, the need for specialist care, nursing home care, hospice care, prenatal care, and specific medications.

case-mix bias (kās'mīks") [" + "] Spectrum bias.

caseous (kā'sē-ūs) **1.** Resembling cheese. **2.** Pert. to transformation of tissues into a cheesy mass.

case report A formal summary of a unique patient and his or her illness, including the presenting signs and symptoms, diagnostic studies, treatment course, and outcome. SYN: *case study*.

case study Case report.

CaSO₄ Calcium sulfate.

caspase A protein that regulates programmed cellular death (apoptosis).

CASS *Continuous aspiration of subglottic secretions*.

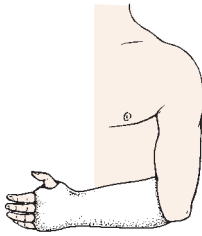
cassava (kā-sah'vā) [Sp. *cazabe*] A group of perennial herbs of the genus *Manihot*. The plant is one of the most efficient converters of solar energy to carbohydrate. The root of *M. esculenta* provides an excellent source of starch and can thrive in poor, dry, acid soils. To be suitable for eating, the root is processed by one of several methods to remove or control the amount of cyanide present. Tapioca is made from cassava.

cassette (kā-sēt') [Fr., little box] **1.** A flat, lightproof box with an intensifying screen, for holding x-ray film. **2.** A case used for film or magnetic tape.

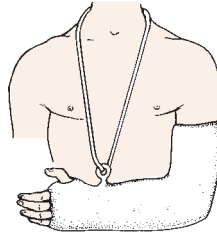
screen-type c. A light-tight film holder.

cast (kást) [ME. *casten*, to carry] **1.** In dentistry, a positive copy of jaw tissues over which denture bases may be made.

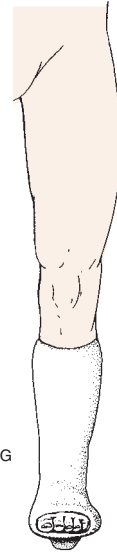
2. To make an accurate metallic reproduction of a wax pattern of a dental appliance, tooth crown, or inlay cavity preparation. **3.** Pliable or fibrous material shed in various pathological conditions; the product of effusion. It is molded to the shape of the part in which it has been accumulated. Casts are classified as bronchial, intestinal, nasal, esophageal, renal, tracheal, urethral, and vaginal; constituents are classified as bloody, fatty, fibrinous, granular, hyaline, mucous, and waxy. **4.** A solid mold of a part, usually applied in situ for immobilization of fractures, dislocations, and other severe injuries. It is carefully applied to the immobilized part and allowed to dry and harden (over 24 to 48



SHORT ARM CAST
FOR IMMOBILIZING
THE WRIST



ARM CAST WITH
SUSPENSION



WALKING
CAST

CASTS

hr). Care is taken not to apply any pressure to the cast until after the cast is dried and hardened. Synthetic materials, such as fiberglass, are also used, esp. for non-weight-bearing parts of the body. **SEE: illus.**

PATIENT CARE: Neurovascular status distal to the cast is monitored; and any deterioration in circulation and in sensory or motor abilities, such as paresthesias, paralysis, diminished pulses, pallor, coldness, or pain, is documented and reported. Pain or burning under the cast other than a transient sense of warmth (which is expected), is also documented and reported. The cast may be bivalved or removed to relieve pressure on the swollen tissues beneath it. To limit swelling the casted extremity should be supported above heart level for the first 24 hours. All casts must be kept dry to avoid maceration of the skin. Objects should not be placed inside a cast to relieve itching, but relief often can be obtained by applying cold (a well-sealed ice bag) to the cast over the area that itches, or by scratching the opposite extremity in the same area. Joints above and below the cast should be exercised to prevent stiffness and contractures. The patient is instructed in symptoms to be reported, cast care and ways to protect the cast from damage; prescribed exercises or activity limitations; and use of any assistive devices such as slings, crutches, or walker. **SEE: Nursing Diagnoses Appendix.**

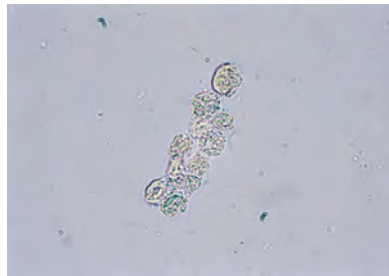
blood cell c. Red blood cell c.

body c. A cast used to immobilize the spine. It may extend from the thorax to the pelvis.

bronchial c. Mucus formed into the shape of the bronchi in which it was previously lodged.

broomstick c. A type of cast used following skin traction for Legg's disease (Legg-Calvé-Perthes disease). A bar is used between upper femoral casts to maintain abduction. **SEE: Legg's disease.**

epithelial c. Tubular epithelial cells in the urine, a finding in some cases of glomerulonephritis. **SEE: illus.**



EPITHELIAL CAST

(Orig. mag. $\times 400$)

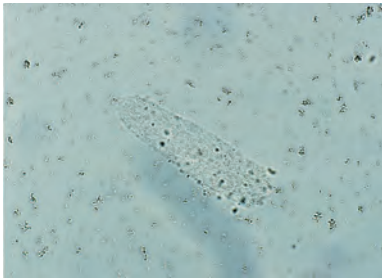
fatty c. A urinary cast, consisting of a mass of fatty globules, seen in the examination of patients with nephrosis. **SEE: illus.**

**FATTY CAST**(Orig. mag. $\times 400$)

fibrinous c. A yellow-brown cast sometimes seen in glomerulonephritis.

granular c. A coarse or fine granule, short and plump, sometimes yellowish, similar to a hyaline cast, and soluble in acetic acid. It is seen in inflammatory and degenerative nephropathies. SEE: *cast*.

hyaline c. The most common form of cast found in the urine, transparent, pale, and having homogeneous rounded ends. It may be a benign finding, or may be present in fevers, stress, kidney disease, or unchecked hypertension. SEE: *illus.*

**HYALINE CAST**(Orig. mag. $\times 400$)

light c. A cast used in orthopedics, made of a lightweight material that is usually applied and then hardened by treating with the heat from a light.

Minerva c. A body cast that extends from the top of the head to the iliac crests, leaving the facial features exposed, but supporting the chin and neck. It is used to treat odontoid fractures in children.

plaster c. Rigid dressing made of gauze impregnated with plaster of Paris, used to immobilize an injured part, esp. in bone fractures.

red blood cell c. A urinary cast composed principally of red blood cells strongly suggestive of glomerulonephritis. SYN: *blood cell cast*. SEE: *illus.*

**RED BLOOD CELL CAST**(Orig. mag. $\times 400$)

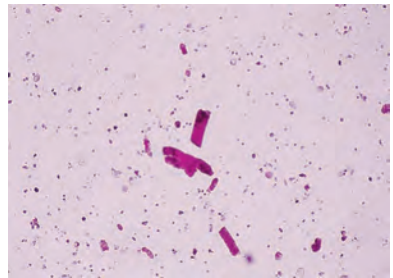
spica hip c. A cast containing the lower torso and extending to one or both lower extremities. If only one lower extremity is included, it is called a single hip spica; if two are included, it is called a double hip spica. These are used for treating pelvic and femoral fractures.

urinary c. A cylindrical clump of cells and proteins found in the urine in a wide variety of diseases and conditions.

uterine c. A cast from the uterus passed in exfoliative endometritis or membranous dysmenorrhea.

walking c. A cast or boot that allows the patient to be ambulatory.

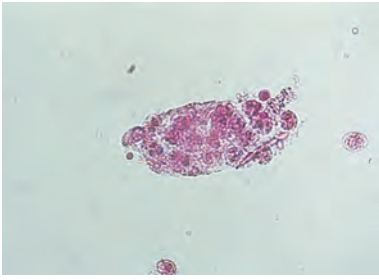
waxy c. A light yellowish, well-defined urinary cast probably made up of disintegrating kidney cells, found in some chronic kidney diseases, glomerulonephritis, and uncontrolled hypertension. SEE: *illus.*

**WAXY CAST**(Orig. mag. $\times 400$)

white blood cell c. A leukocyte cast found in urine in acute pyelonephritis, interstitial nephritis, and at times, glomerulonephritis. SEE: *illus.*

cast-brace A lower extremity cast that is open and hinged at the knee joint. It can be used to treat femoral fractures.

Castellani's paint (käs-tél-än'ez) [Aldo Castellani, It. physician, 1878–1971] Paint used to disinfect skin and to treat fungus infections of the skin. Its components are phenol, resorcinol, basic fuchsin, boric acid, and acetone.



WHITE BLOOD CELL CAST

(Orig. mag. $\times 400$)

casting (kăst'ing) The forming of an object in a mold.

serial c. Replacing casts on injured extremities at specified intervals to permit progressively greater ranges of joint motion so that the maximum range needed for function may be restored.

Castle's intrinsic factor (kăs'ilz intrin'zík fák'tër) Intrinsic factor.

Castleman's disease (kăs'l-mănz) [Benjamin Castleman, U.S. pathologist, 1906–1982] An occasionally aggressive illness marked by excessive growth of lymphoid tissue either localized in a single lymph node group or in multiple regions of the body. Although the cause is not precisely known, its associations with acquired immunodeficiency syndrome, Kaposi's sarcoma, and human herpes virus 8 infection have led some experts to propose that it has an infectious basis. Localized disease responds well to surgical resection. Widespread disease can sometimes be treated effectively with chemotherapy.

castor oil (kăs'tër oyl) SEE: under *oil*.

castrate (kăs'trät) [L. *castrare*, to prune] **1.** To remove the testicles or ovaries. SEE: *spay*. **2.** To render an individual incapable of reproduction. **3.** To spay or neuter. **4.** To deprive an individual of sex hormones by medical means, esp. in the treatment of hormone-sensitive illnesses. **5.** One who has been rendered incapable of reproduction.

castrated (kăs'trät-éd) Rendered incapable of reproduction by removal of the testicles or ovaries.

castration (kăs-trä'shün) **1.** Excision of the testicles or ovaries. **2.** Destruction or inactivation of the gonads.

female c. Removal of the ovaries. SYN: *oophorectomy*; *spaying*.

male c. Removal of the testes. SYN: *orchietomy*.

parasitic c. Destruction of the gonads by parasitic organisms early in life. It may result from direct infestation of the gonad or indirectly from effects of infestation in other parts of the body.

casualty (kăz'ü-äl-të) [L. *casualis*, acci-

dental] **1.** An accident causing injury or death. **2.** A person injured or killed in an accident or preventable traumatic event. **3.** A military person captured, missing, injured, or killed.

casuistics (kăz-ü-üs'tiks) [L. *casus*, chance] **1.** Analysis of clinical case records to establish the general characteristics of a disease. **2.** In moral questions, the determination of right and wrong by application of ethical principles to a particular case.

CAT SEE: *CT*.

cata- [Gr. *kata*, down] Prefix indicating down, downward, destructive, or against.

catabolin (kă-tăb'ô-lin) Interleukin-1-beta.

catabolism (kă-tăb'ô-lizm) [Gr. *katabole*, a casting down, + *-ismos*, condition] The destructive phase of metabolism; the opposite of anabolism. Catabolism includes all the processes in which complex substances are converted into simpler ones, often with the release of energy. SEE: *anabolism*; *metabolism*. **catabolic** (kăt'ă-böl'ik), *adj.*

catabolite (kă-tăb'ô-lit) Any product of catabolism. SYN: *catabolin*.

catacrotic (kăt'ă-kröt'ik) [" + *krotos*, beat] Indicating the downstroke of pulse tracing interrupted by an upstroke.

catacrotism (kă-tăk'rō-tizm) [" + " + *-ismos*, condition] A pulse with one or more secondary expansions of the artery following the main beat.

catadicrotic (kăt'ă-dī-kröt'ik) [" + *dis*, twice, + *krotos*, beat] Manifesting one or more secondary expansions of a pulse on the descending limb of the tracing.

catadicrotism (kăt'ă-dī'krō-tizm) [" + " + " + *-ismos*, condition] Two minor expansions following the main beat of an artery.

catagen (kăt'ă-jën) [" + *gennan*, to produce] The intermediate phase of the hair-growth cycle, between the growth or anagen stage and the resting or telogen phase.

catagenesis (kăt'ă-jën'ë-sis) [" + *genesis*, generation, birth] Retrogression or involution.

catalase (kăt'ă-lās) An enzyme present in almost all cells that catalyzes the decomposition of hydrogen peroxide to water and oxygen.

catalepsy (kăt'ă-lëp'së) [Gr. *kata*, down, + *lepsis*, seizure] A condition seen in some patients after parietal lobe strokes and some psychotic patients in which patients may appear to be in a trance or may assume rigidly held body postures.

cataleptic (kăt'ă-lëp'tik), *adj.*

cataleptoid (kăt'ă-lëp'toyd) [" + " + *eidōs*, form, shape] Resembling or simulating catalepsy.

catalysis (kă-täl'is-sis) [Gr. *katalysis*, dis-

solution] The speeding of a chemical reaction by a catalyst. **catalytic** (kăt-ă-lit'ik), *adj.*

catalyst (kăt'ă-list) A substance that speeds the rate of a chemical reaction without being permanently altered in the reaction. Catalysts are effective in small quantities and are not used up in the reaction (i.e., they can be recovered unchanged). All enzymes are catalysts; the human body has thousands of enzymes, each specific for a particular reaction. For example, pepsin catalyzes the hydrolysis of protein; amylase catalyzes the hydrolysis of starch; transaminases catalyze the transfer of an amino group from one molecule to another. SYN: *catalyzer*.

homogeneous c. A catalyst that exists in the same phase as the chemicals it influences and the reactions it produces. SEE: *phase*.

catalytic RNA Ribozyme.

catalyze (kăt'ă-līz) [Gr. *katalysis*, dissolution] To cause catalysis.

catalyzer (kăt'ă-li-zēr) A catalyst.

catamenia (kăt-ă-mē'nē-ă) [Gr. *kata*, according to, + *men*, month] Menstruation. **catamenial** (-ăl), *adj.*

catamnesia (kăt-ă-m-nē'sis) [Gr. *kata*, down, + *mneme*, memory] A patient's medical history after treatment; the follow-up history. SEE: *anamnesis*.

cataphasia (kăt-ă-fă'zē-ă) [+ *phasis*, speech] A speech disorder in which a single word is uttered repeatedly.

cataphoresis (kăt'ă-fō-rē'sis) [Gr. *kata*, down, + *phoresis*, being carried] Transmission of electronegative ions or

drugs into the body tissues or through a membrane by use of an electric current.

cataphoria (kăt'ă-fō'rē-ă) [+ *pherein*, to bear] The tendency of visual axes to incline below the horizontal plane.

cataphoric (kăt'ă-for'ik) Pert. to cataphora or cataphoresis.

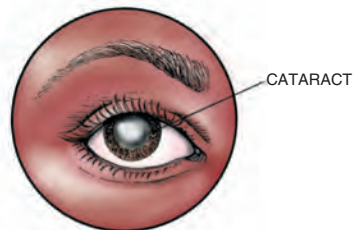
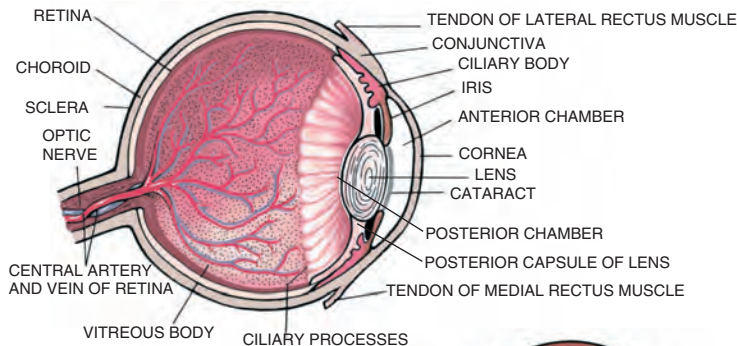
cataplasia (kăt'ă-plă'zhă, zhē-ă, zē-ă) Retromorphosis (2).

cataplectic (kăt-ă-plěk'tik) [+ *plexis*, stroke] Pert. to cataplexy.

cataplexy, cataplexia (kăt'ă-plēks-ē, kăt-ă-plěk'sē-ă) A sudden, brief loss of muscle control brought on by strong emotion or emotional response, such as a hearty laugh, excitement, surprise, or anger. Although this may cause collapse, the patient remains fully conscious. The episode lasts from a few seconds to as long as several minutes. The condition may be less severe with age. About 70% of patients with narcolepsy also have cataplexy.

cataract (kăt'ă-răkt) [L. *cataracta*, waterfall] An opacity of the lens of the eye, usually occurring as a result of aging, trauma, endocrine or metabolic disease, intraocular disease, or as a side effect of the use of tobacco or certain medications (such as steroids). Cataracts are the most common cause of blindness in adults. SEE: *illus.*; *visual field* for *illus.*

SYMPTOMS: At first, vision is distorted, particularly during night driving or in very bright light, causing light sensitivity (photophobia). As the cataract progresses, severe visual impairment develops.



CATARACT

PREVALENCE: After the age of 65, 90% of all adults have cataracts.

TREATMENT: Surgical removal of the lens is the only effective treatment. In the U.S. about a million cataract surgeries are performed annually, usually as an out-patient, same-day procedure. Typically, the lens and its anterior capsule are removed, leaving the posterior capsule of the lens in place. Ultrasound may be used to fragment the cataract (a process called "phacoemulsification") so that the particles of the lens may be removed through a tiny incision and a posterior chamber intraocular lens is inserted where the patient's own lens used to be. SEE: *intraocular lens; phacoemulsification*.

PATIENT CARE: *Preoperative:* The procedure is explained to the patient. An antiseptic facial scrub is performed. Mydriatic and cycloplegic eye drops are instilled to dilate the pupil, followed by lidocaine jelly and betadine drops prior to surgery; osmotic diuretics may be given to reduce intraocular pressure. An intravenous access is initiated, and antibiotics, a sedative, short-acting general anesthetic, and a local anesthetic are provided.

Postoperative: The patient is instructed to wear a clear eyeshield if prescribed, and to call if experiencing pain, or loss of vision. Blurred vision the day of surgery is to be expected. Eye drops are to be placed as directed and the patient should not swim or strain themselves. A postoperative checkup visit is scheduled for the day following surgery. Both patient and family are taught

1. how to inspect the eye for redness or watering and to report these conditions as well as any photophobia or sudden visual changes;

2. wash hands well and then to instill eye drops (antibiotic to prevent inflammation and steroids to reduce infection) as prescribed; and

3. to maintain the eye patch and shield as prescribed by the surgeon.

The patient should be taught to protect the eye from bright sunlight or glare by wearing dark glasses. SEE: *Nursing Diagnoses Appendix*.

capsular c. A cataract occurring in the capsule.

hypermaturation c. Overripe c.

immature c. An early cataract, too poorly developed to require therapy.

lenticular c. A cataract occurring in the lens.

mature c. Sufficiently dense changes in the anterior cortex of the lens to prevent the examiner from viewing the posterior portion of the lens and the posterior portion of the eye; that is, the entire lens is opaque and ophthalmoscopic examination of the eye past the lens is not possible. SYN: *ripe cataract*.

morgagnian c. SEE: *Morgagni's cataract*.

nuclear c., nuclear sclerotic c. A cataract in which the central portion of the lens is opacified.

overripe c. A cataract in which the lens solidifies and shrinks. This stage follows the mature stage. SYN: *hypermaturation cataract*.

radiation c. A cataract caused by exposure to radiation, esp. from sunlight.

ripe c. Mature c.

senile c. A cataract occurring in an older person.

siliquose c. A cataract with a dry, wrinkled capsule.

zonular c. A cataract with opacity limited to certain layers of the lens.

cataractogenic (kăt'ă-răk'tō-jên'ik) [L. *cataracta*, waterfall, + Gr. *gennan*, to produce] Causing or forming cataracts.

catarrh (kă-tăr') [Gr. *katarrhein*, to flow down] Term formerly applied to inflammation of mucous membranes, esp. of the head and throat. **catarrhal** (-ăl), *adj.*

dry c. An obsolete term for a nonproductive cough.

vernal c. Allergic conjunctivitis.

catastrophizing (kă-tăs'trō-fi-zing) Exaggerated focus on perceived failures in one's past, present, or future; associated with mood disorders, especially depression, and chronic pain.

catatonia (kăt-ă-tō'nē-ă) [" + *tonos*, tension] 1. A phase of schizophrenia in which the patient is unresponsive, marked by the tendency to assume and remain in a fixed posture and the inability to move or talk. 2. Stupor. **catatonic** (-tōn'ik), *adj.*

catatricrotic (kăt'ă-trī-krōt'ik) [" + *treis*, three, + *krotos*, beat] Manifesting a third impulse in the descending stroke of the sphygmogram of the pulse.

catatricrotism (kăt'ă-trī-krō-tizm) A condition in which the pulse shows a third impulse in the descending stroke of a pulse tracing.

catatropia (kăt'ă-trō'pē-ă) [" + *tropos*, turning] A condition in which both eyes are turned downward.

catchment area A geographical area defining the portion of a population served by a designated medical facility.

cat-cry syndrome SEE: *syndrome, cri du chat*.

catecholamine (kăt'ē-kōl'ă-mēn) One of many biologically active amines, including metanephrine, dopamine, epinephrine, and norepinephrine, derived from the amino acid tyrosine. They have a marked effect on the nervous and cardiovascular systems, metabolic rate, temperature, and smooth muscle.

Category A Agents (of bioterrorism) Those infectious agents that would produce the worst casualties if they were to be released in a biological attack on a population. The Category A agents in-

clude: anthrax, botulism, Ebola virus, Lassa virus, plague, smallpox, and tularemia.

category test One of the neuropsychological tests of abstract thinking; it assesses a patient's ability to learn strategies for sorting objects into related groups.

catelectrotonus (kăt'ê-lêk-trôt'ô-nûs) [" + *elektron*, amber, + *tonos*, tension] The increased excitability produced in a nerve or muscle in the region near the cathode during the passage of an electric current.

catenating (kăt'ên-ât'ing) [L. *catena*, chain] 1. Pert. to a disease that is linked with another. 2. Forming a series of symptoms.

catenation (kăt'ên-â'shûn) Concatenation.

catenoid (kăt'ê-noyd) [" + Gr. *eidos*, form, shape] Chainlike; pert. to protozoan colonies whose individuals are joined end to end.

catgut (kăt'gût") Sheep intestine (primarily the submucosal layer) processed for use as an absorbable ligature.

chromic c. Catgut treated with chromium trioxide. This enhances the strength of the suture material and delays its absorption.

catharsis (kă-thăr'sis) [Gr. *katharsis*, purification] 1. Purgative action of the bowels. 2. The Freudian method of freeing the mind by recalling from the patient's memory the events or experiences that were the original causes of a psychoneurosis. SEE: *abreaction*.

cathartic (kă-thăr'tik) [Gr. *kathartikos*, purging] An active purgative, producing bowel movements (e.g., cascara sagrada, castor oil). SEE: *purgative*.

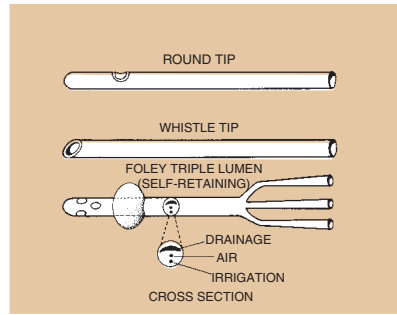
cathepsins (kă-thêp'sins) A group of protein-destroying, lysosomal enzymes found in nearly every cell in the body. Many of these enzymes are released by cancer cells in excessive amounts, a factor that contributes to the invasiveness of tumors into neighboring tissues. The detection of cathepsins in tumors is strongly correlated with metastasis.

catheter (kăth'ê-têr) [Gr. *katheter*, something inserted] A tube passed into the body for evacuating fluids or injecting them into body cavities. It may be made of elastic, elastic web, rubber, glass, metal, or plastic. SEE: *illus.*

antimicrobial-impregnated central c. An intravenous tube saturated with antibiotics; designed to decrease the likelihood of colonization or infection of indwelling infusion lines.

arterial c. A catheter inserted into an artery to measure pressure, remove blood, inject medication or radiographic contrast media, or perform an interventional radiological procedure.

balloon c. A multi-lumened catheter surrounded by a balloon. The balloon



TYPES OF CATHETERS

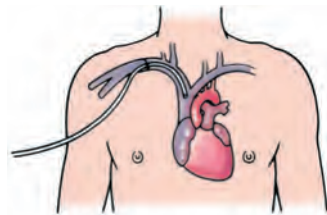
may be expanded by injecting air, saline, or contrast medium.

Bozeman-Fritsch c. SEE: *Bozeman-Fritsch catheter*.

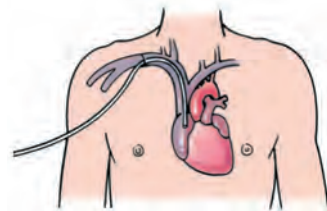
cardiac c. A long, fine catheter specially designed for passage through the lumen of a blood vessel into the arteries or chambers of the heart. SEE: *cardiac catheterization*.

central c. A catheter inserted into a central vein or artery for diagnostic or therapeutic purposes.

central venous c. A catheter inserted into the superior vena cava to permit intermittent or continuous monitoring of central venous pressure, to administer fluids, medications or nutrition, or to facilitate obtaining blood samples for chemical analysis. SEE: *illus.*



CATHETER (LINE) ENTERING VEIN



CATHETER TIP IN PLACE IN RIGHT ATRIUM

CENTRAL VENOUS CATHETER (SUBCLAVIAN)

PATIENT CARE: Health care professionals must use caution to prevent life-

threatening complications when inserting and maintaining a central line. The subclavian approach to the placement of a central line is preferred, because femoral placements may be complicated by deep venous thrombosis, and internal jugular sites carry an increased risk of infection. Sterile technique is a requirement during insertion. The skin should be prepared with chlorhexidine-glucuronate (2%) or povidone-iodine. Ultrasound guidance improves the likelihood of entering the desired vein without injury to neighboring structures. With or without radiological guidance, the best results are obtained by practitioners who perform the procedure frequently. After the catheter is inserted, it should be firmly sewn to the skin to keep it from migrating in and out of the insertion site. An antibiotic impregnated patch covered by a sterile dressing should be placed at the insertion site. The catheter should be manipulated as infrequently as possible during its use. Dressing changes are carried out using sterile technique. IV tubing and solutions and injection caps also should be changed as required by the agency's protocol. Health care professionals are responsible for preventing, assessing for, and managing central venous therapy complications (e.g., air embolism; cardiac tamponade; chylothorax, hemothorax, hydrothorax, or pneumothorax; local and systemic infections; and thrombosis). Documentation should include preprocedure and postprocedure physical assessment of the patient, catheter type and size, insertion site location, x-ray confirmation of the placement, catheter insertion distance (in centimeters), and the patient's tolerance of the procedure. Maintenance care procedures also should be fully documented. The site should be carefully inspected for inflammation, and any drainage should be cultured. When catheter-related infections are suspected, the catheter tip provides valuable information about infection sources in cases of sepsis. The tip should be cut off with sterile scissors and dropped directly into a sterile specimen container.

condom c. A specially designed condom that includes a collection tube attached to the distal end. The tubing carries urine to a collecting bag. Its use prevents men with urinary incontinence from soiling clothes or bed linens.



Continual use of this device may excoriate the skin of the penis.

double-channel c. A catheter providing inflow and outflow.

elbowed c. Prostatic c.

eustachian c. A catheter passed into

the eustachian tube through the nasal passages to ventilate the middle ear.

female c. A catheter about 5 in (12.7 cm) long, used to pass into a woman's bladder.

Foley c. SEE: *Foley catheter*.

glide c. A catheter inserted into the ureter to remove impacted kidney stones. A lubricated wire is advanced past the obstructing stone. The glide catheter is mounted on the wire, moved toward the kidney beyond the stone, and used to snare and retrieve the stone.

guide c. SEE: *guide catheter*.

heparin-bonded c. A pulmonary artery catheter with a heparin coating to reduce the risk of thrombus formation.

Hickman c. SEE: *Hickman catheter*.

impregnated c. A catheter coated with a medication designed to prevent complications of prolonged insertion in the body. Commonly used coatings include antibiotics and antiseptics.

indwelling c. Any catheter that is allowed to remain in place in a vein, artery, or body cavity.

intra-aortic c. SEE: *intra-aortic balloon counterpulsation*.

intravenous c. A catheter inserted into a vein to administer fluids or medications or to measure pressure.

Karman c. SEE: *Karman catheter*.

male c. A catheter 12 to 13 in (30.5 to 33 cm) long, used to pass into a man's bladder.

pacing c. A catheter inserted most commonly into the right side of the heart via the brachial, femoral, internal jugular, or subclavian vein for temporary pacing of the heart. The pacing wires or leads provide the electrical stimulus from an external source (a "pulse generator").

peripherally inserted central venous c. ABBR: PICC. A soft, flexible central venous catheter, inserted in a vein in the arm and advanced until the tip is positioned in the axillary, subclavian, or brachiocephalic vein. It may also be advanced into the superior vena cava. A PICC is commonly used for prolonged antibiotic therapy, total parenteral nutrition, continuous opioid infusion, or intermittent chemotherapy.

pharyngeal suction c. A rigid tube used to suction the pharynx during direct visualization. SYN: *Yankauer suction catheter*.

presternal c. A catheter used for peritoneal dialysis that exits the chest instead of the lower abdomen. It is made of two silicone rubber tubes joined at the implantation site by a titanium connector that links its abdominal and presternal parts.

prostatic c. A catheter, 15 to 16 in (38 to 40.6 cm) long, with a short el-

bowed tip designed to pass prostatic obstruction. SYN: *elbowed catheter*.

pulmonary artery c. A catheter inserted into the pulmonary artery to measure pulmonary artery pressures, pulmonary capillary wedge pressure, and, indirectly, left atrial pressure and cardiac output.

self-retaining c. A bladder catheter designed to remain in place (e.g., a Foley catheter).

suprapubic c. A tube that permits direct urinary drainage from the bladder through the lower abdominal wall, from a surgically fashioned opening located just above the pubic symphysis. Suprapubic urinary diversion is typically (but not exclusively) used as a temporary means of decompressing the bladder when the urethra is obstructed (e.g., in children with congenital deformities of the penis or urethra, or in adults with bladder outlet obstruction). When it is used for this purpose, it is considered a bridge before definitive surgery. SEE: *suprapubic aspiration of urine*; *suprapubic cystotomy*.

PATIENT CARE: The nurse observes for hemorrhage or prolonged hematuria and signs of local or systemic infection. Aseptic technique is used during dressing or equipment changes. Bladder irrigation is performed as prescribed. Medications (e.g., analgesics, antispasmodics, and bowel stimulants) are administered as prescribed. The patient's ability to micturate is evaluated. Intake and output are monitored and recorded. Fluids are forced unless otherwise restricted to ensure passage of dilute urine.

Swan-Ganz c. SEE: *Swan-Ganz catheter*.

Tenckhoff peritoneal c. SEE: *Tenckhoff peritoneal catheter*.

triple-lumen c. A central catheter containing three separate channels or passageways.

tunneled central venous c. An intravenous catheter inserted into the subclavian or internal jugular vein and then advanced into the right atrium or superior vena cava. The proximal end is tunneled subcutaneously from the insertion site and brought out through the skin at an exit site below the nipple line. Commonly used tunneled catheters include the Hickman and Broviac catheters.

umbilical vein c. A catheter placed in the umbilical vein of an infant to facilitate administration of medicines parenterally or to do an exchange transfusion.

vertebrated c. A catheter in sections to be fitted together so that it is flexible.

winged c. A catheter with little flaps at each side of the beak to help retain it in the bladder.

Yankauer suction c. SEE: *Yankauer suction catheter*.

catheterization (kăth"ĕ-tĕr-ĭ-ză'shŭn) [Gr. *katheterismos*] Use or passage of a catheter.

cardiac c. Percutaneous intravascular insertion of a catheter into the cardiac ventricles, coronary arteries, or great vessels for diagnosis, assessment of abnormalities, interventional treatment, and evaluation of the effects of pathology on the heart and great vessels. Diagnostic tests that can be performed with cardiac catheterization include:

1. Assessments of coronary artery anatomy and patency;
2. Estimates of cardiac ejection fraction and wall motion;
3. Measurements of intracardiac pressures;
4. Evaluations of the cardiac valves;
5. Biopsies of the endomyocardium.

PATIENT CARE: *Pre-catheterization:*

The nurse prepares the patient physically and emotionally by explaining the procedure and expected sensations. The patient's vital signs, including the presence and intensity of peripheral pulses, are assessed to establish a baseline measure. Cardiac monitoring leads are applied and an intravenous infusion initiated. Anxiety and activity levels are documented, as well as the presence and pattern of any chest pain. Any known allergies, particularly to shellfish or iodine (suggestive of sensitivity to radiopaque dye), are also documented, and the cardiologist is alerted to these allergies or any changes in the patient's condition. The groin is cleansed and hair is removed locally, and the patient is informed that an oral or intravenous mild sedative (rather than general anesthesia) will probably be given before or during the procedure, so that he or she is able to cough and breathe deeply as instructed during testing. A radiopaque contrast medium is injected into the arteries and nitroglycerin may be administered to aid visualization. After the injection, the patient may feel light-headed, warm, or nauseated for a few moments. The patient will have to lie on the back for several hours after the procedure and should report chest pain immediately both during and after the procedure.

During catheterization: Support personnel assist with the procedure according to protocol by monitoring cardiac pressures and rhythm and the results of hemodynamic studies. Patient comfort and safety are assured; and changes in emotional status, level of consciousness, and verbal and nonverbal responses are assessed to determine the patient's response to the procedure and need for reassurance or medication to prevent va-

sovalgal reactions or coronary artery spasm. Any complications, such as cardiac arrhythmias or allergic reaction to the contrast medium, are also evaluated and reported.

Postcatheterization: The nurse provides emotional support to the patient and answers questions. Cardiac rhythm and vital signs (including apical pulse and temperature) are monitored until stable according to protocol (usually every 15 min for the first 1 to 2 hr) or more frequently as the patient's condition requires. The blood pressure should not be checked in any limb used for catheter insertion. The dressing is inspected frequently for signs of bleeding, and the patient is instructed to report any increase in dressing tightness (which may indicate hematoma formation). Pressure is applied over the entry site and the extremity is maintained in extension according to protocol. The patient is cautioned to avoid flexion or hyperextension of the affected limb for 12 to 24 hr depending on protocol.

Neurovascular status of the involved extremity distal to the insertion site is monitored for changes, which may indicate arterial thrombosis (the most frequent complication), embolus, or another complication requiring immediate attention. The head of the bed is elevated no more than 30 degrees, and the patient is confined to bedrest. The patient may complain of urinary urgency immediately after the procedure. Fluids are given to flush out the dense radiopaque contrast medium, and urine output is monitored, esp. in patients with impaired renal function. The patient is assessed for complications such as pericardial tamponade, myocardial infarction, pulmonary embolism, stroke, congestive heart failure, cardiac dysrhythmia, infection, and thrombophlebitis. The patient's preoperative medication regimen is resumed as prescribed (or revised).

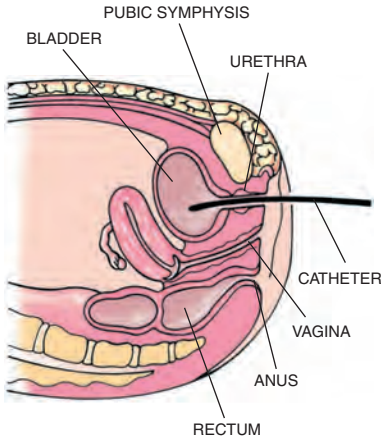
The patient will need to be driven home, and a responsible adult should be in attendance until the next morning. Both patient and family are provided with written discharge instructions explaining the need to report any of the following symptoms to the physician: bleeding or swelling at the entry site; increased tenderness; redness; drainage or pain at the entry site; fever; and any changes in color, temperature, or sensation in the involved extremity. The patient may take acetaminophen or other nonaspirin analgesic every 3 to 4 hr as needed for pain. The entry site should be covered with an adhesive bandage for 24 hr or until sutures, if present, are removed (usually within 6 days). The patient usually is permitted to shower the day after the procedure

and to take a tub bath 48 hr after the procedure (if no sutures are present). Strenuous activity should be avoided for 24 hr after the procedure.

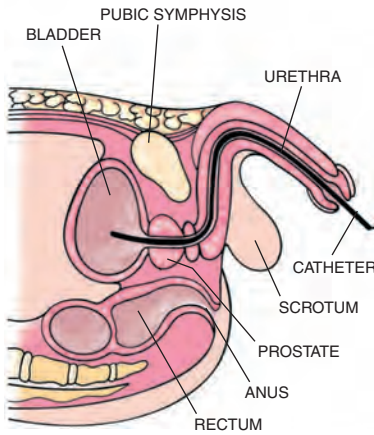
urinary bladder c. Introduction of a drainage tube through the urethra into the bladder to withdraw urine. Catheterization of the bladder may be performed when sterile urinary specimens are needed for laboratory analysis, when precise monitoring of urinary output is required (e.g., in the critical care unit), or when patients have chronic voiding difficulties.

Patients with chronic difficulty urinating sometimes are given indwelling urinary catheters; as an alternative, they may be given bladder training instruction, or assistance with toileting. When this is ineffective they may be instructed in the technique of clean, intermittent self-catheterization. To do this, they need to learn about their urethral anatomy and about methods they can use to avoid introducing microorganisms into the urinary bladder (hand-washing, periurethral and catheter cleansing, and catheter storage). Most patients need to catheterize themselves four or five times daily. Carefully performed intermittent catheterization is less likely to cause urinary tract infection than is chronic indwelling urinary catheterization. Individuals who have difficulty retaining urine (urinary incontinence) should receive bladder training and assistance in toileting at specific intervals rather than having an indwelling urinary catheter. **SEE: illus.**

PATIENT CARE: After the procedure and expected sensations are explained to the patient, the proper equipment is assembled, sterile gloves are donned, a sterile field created, and the indwelling catheter is connected to a closed drainage bag, if not preconnected. The balloon at the tip of this catheter is inflated (and deflated) before its insertion to make sure that it will stay in place after entering the bladder. The patient is properly positioned and draped (see instructions for female and male patients); the urethral orifice is prepared with antiseptic solution and the catheter is gently inserted. Sterile technique is maintained throughout these procedures. The indwelling catheter is advanced beyond the point where urinary flow begins, and the balloon inflated with the specified amount of sterile water, then the catheter is permitted to slip back slightly. The drainage tube is secured to the patient's leg, then looped on the bed, and the tubing leading to the collection bag is straightened to facilitate gravity drainage. The collection bag is suspended above the floor. The drainage tube is prevented from touching a surface when the collection bag is emp-



FEMALE



MALE

CATHETERIZATION OF URINARY BLADDER

tied; the spout is wiped with an alcohol swab before being refastened to the bag. The meatal area should be cleansed daily and inspected for inflammation. The patient's ability to void and remain continent is periodically evaluated and catheterization is discontinued when possible. Results of the procedure, including the character and volume of urine drained and the patient's response, are observed and documented. The patient should be draped to limit embarrassment and provided warmth and privacy, exposing only the genitalia area.

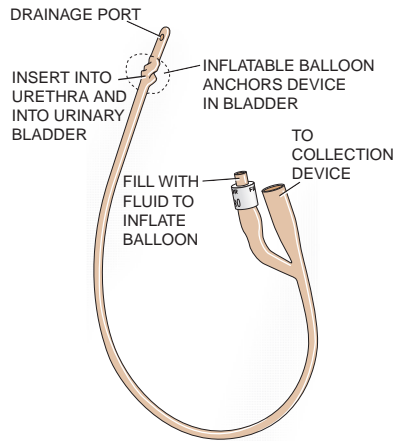
Female: The patient should be in the

dorsal recumbent position on a firm mattress or examining table to enhance visualization of the urinary meatus. Alternately, the lithotomy position, with buttocks at the edge of the examining table and feet in stirrups, may be used. For female patients with difficulties involving hip and knee movements, the Sims' or left lateral position may be more comfortable and allow for better visualization. Pillows may be placed under the head and shoulders to relax the abdominal muscles.

Male: The patient should be in a supine position with legs extended. Lubricant is applied to the catheter or may be instilled directly into the urethra with a prefilled syringe to facilitate passage of the tube. After the procedure, care should be taken to return the male patient's prepuce to its normal position to prevent any subsequent swelling.

Unless otherwise restricted, oral intake should be encouraged to maintain adequate urine output, and urine inspected for cloudiness and changes in color or odor, any of which indicate the need for urine culture to test for infection. When removing the indwelling catheter, the patient should be draped, the genitalia cleansed, and the balloon fully deflated using a syringe. The catheter is then gently rotated to ensure that it is not adhering to urogenital tissue, and should easily slip out into the gloved hand. Pulling the glove off over the catheter tip, then wrapping glove and catheter in a waterproof wrapper or bag, provides "double bagging" for disposal.

A high rate of morbidity and mortality is associated with long-term use of indwelling urinary catheters (7 days or longer). Indwelling urinary catheters should be used only for very brief peri-



URINARY CATHETER

ods or specific concerns, such as urinary retention that cannot be managed with other methods, or palliative care. Most indwelling catheters are made of latex. Silicone catheters should be used in patients with latex allergies. Silver-coated urinary catheters may result in fewer infections than silicone, silicone-coated, or the common hydrogel-coated latex catheters. Experts advocate using the smallest size catheter effective for the patient – usually 14 or 16 French, with a 5-ml balloon. Catheters 18 French or larger create discomfort, increase the risk of blocking the periurethral glands, and can lead to urinary tract infection and urethral irritation and erosion. For long-term use, inflate a 5-ml balloon with 10 ml of water, as underinflation can lead to balloon distortion and catheter deflection. The 30-ml balloon is useful for a short time following genitourinary surgery to decrease bleeding and prevent dislodgement. Urethral catheter tubing should be secured to prevent tension on the bladder neck and accidental dislodgement. For males, securing the tubing restraint on the abdomen works best; for females, the anterior medial thigh. The common practice of changing catheters monthly is based on Medicare and Medicaid reimbursement structures; however, data on the frequency for change are lacking. Thus change is probably best individualized to the patients or carried out following manufacturer's recommendations for the various types of catheters. Drainage bags should be emptied every 4 to 6 hr (minimum) to avoid migration of bacteria to the catheter lumen. If a patient develops symptoms of a urinary tract infection (fever, chills, malodorous or cloudy urine, hematuria, and/or suprapubic pain), antibiotic therapy should be instituted and a sample of urine sent for culture. Prophylactic antibiotics are not recommended with indwelling urinary catheterization, as they lead to drug-resistant infectious agents.

catheterize (kăth'ĕ-tĕr-ĭz) To pass or introduce a catheter into a part; usually referring to bladder catheterization.

cathexis (kă-thĕk'sis) [Gr. *kathexis*, retention] The emotional or mental energy used in concentrating on an object or idea.

cathode (kăth'ōd) [Gr. *kathodos*, a way down] ABBR: ca. **1.** The negative electrode from which electrons are emitted; the opposite of the anode or positive pole. **2.** In a vacuum tube, the electrode that serves as the source of the electron stream.

cathode ray tube A vacuum tube with a thin window at the end opposite the cathode to allow the cathode rays to pass outside. More generally, any dis-

charge tube in which the vacuum is fairly high.

cathodic (kă-thōd'ik) **1.** Pert. to a cathode. **2.** Proceeding outwardly or efferently as applied to a nerve impulse.

cation (kăt'ī-ōn) [Gr. *kation*, descending] An ion with a positive electric charge; opposite of anion. It is attracted by the cathode (negative pole).

catopophobia (kă-tōp'tră-fō'bē-ă) [Gr. *katoptron*, mirror + ""] A morbid fear of mirrors or of breaking them.

CAT scan Computed axial tomography scan. The proper term is "computed tomography" or "CT."

cat scratch disease A febrile disease characterized by lymphadenitis and, in some cases, conjunctivitis, uveitis, endocarditis, osteomyelitis, or central nervous system infections, transmitted to people by cats, esp. kittens. Fever, malaise, headache, and anorexia accompany the lymphadenopathy. The causative organism is *Bartonella henselae* (formerly *Rochalimaea*), which in cats usually produces asymptomatic infection. Diagnosis is based on clinical findings, a history of contact with cats, and positive results from a cat scratch antigen skin test. Antibiotics are not recommended in mild disease, but aminoglycosides, quinolones, or macrolides may be indicated for severe, disseminated disease. SEE: *bacillary angiomatosis*; *Bartonella*; *Nursing Diagnoses Appendix*.

PATIENT CARE: The patient is assessed for related symptoms and a history of cat contact. Prescribed cat scratch antigen skin testing is explained and administered. The patient is taught how to use hot compresses and handle and dispose of contaminated dressings. He is also advised to report headache, sore throat, stiff neck, and continuing fever (esp. if accompanied by chills or night sweats) because these may be indicators of rare complications. The patient is referred for further immune system evaluation if immunodeficiency is suspected because immunocompromise puts the patient at high risk for a disseminated form of this disease.

cat unit The amount of drug per kilogram of body weight just sufficient to kill a cat when injected intravenously slowly and continuously.

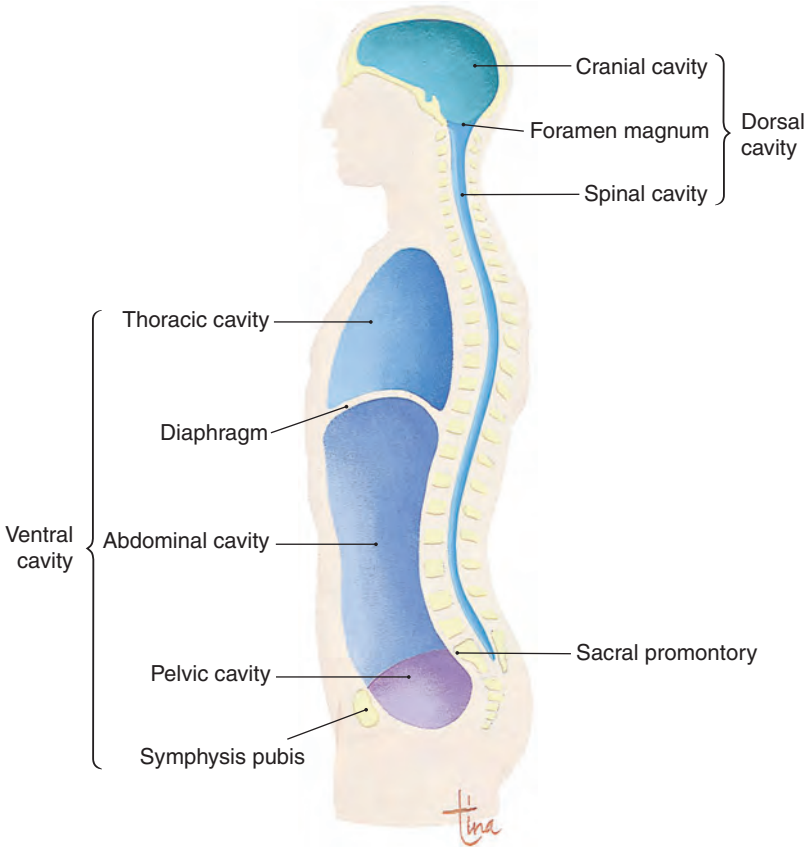
Caucasian (kaw'kă'zhĕn) Pert. unscientifically to individuals of European or Northern African descent. **caucasoid**, *adj.*

caud-, caudo- Combining forms meaning *tail*.

cauda (kaw'dă) *pl.* **caudae** [L.] A tail or tail-like structure.

c. epididymidis The inferior portion of the epididymis that is continuous with the ductus deferens.

- c. equina** The terminal portion of the spinal cord and the spinal nerves below the first lumbar nerve.
- c. striati** A tail-like posterior extremity of the corpus striatum.
- caudad** (kaw'dād) [L. *cauda*, tail, + *ad*, toward] Toward the tail; in a posterior direction.
- caudal** (kaw'dāl) [LL. *caudalis* fr. L. *cauda*, tail] **1.** Pert. to a cauda (tail) or tail-like structure. **2.** Pert. to or located at or near the hind or posterior part of the body. In human anatomy, "caudal," "dorsal," and "posterior" mean the same thing.
- caudate** (kaw'dāt) [L. *caudatus*] Possessing a tail.
- caul** (kawl) [O.Fr. *cale*, a small cap] Membranes or portions of the amnion covering the head of the fetus at birth.
- Caulobacter crescentus** (kawl-ō-bāk'tēr krē-sēn'tūs) A single-celled slightly curved bacterium that thrives in watery environments. It exists in two forms: a flagellated swarmer cell, and a stalked cell.
- causalgia** (kaw-sāl'jē-ā) [" + *algos*, pain] Intense burning pain accompanied by trophic skin changes, due to injury of nerve fibers. SYN: *complex regional pain syndrome, type 2*.
- causal treatment** Treatment directed toward removal of the cause of the disease.
- cause** (kawz) [L. *causa*] Something that brings about a particular condition, result, or effect.
- antecedent c.** An event or condition that predisposes to a disease or condition.
- determining c.** The final event or condition that brings about a disease or condition.
- necessary and sufficient c.** In logic, an antecedent condition that is wholly and solely capable of producing an effect.
- predisposing c.** Something that favors the development of a disease or condition.
- proximate c.** An event that immediately precedes another and is felt to be responsible for its occurrence.
- remote c.** An event or condition that is not immediate in its effect but predisposes to the development of a disease or condition.
- ultimate c.** The remote event or condition that initiated a train of events resulting in the development of a disease or condition.
- caustic** (kaw'stik) [Gr. *kaustikos*, capable of burning] **1.** Corrosive and burning; destructive to living tissue. **2.** An agent, particularly an alkali, that destroys living tissue (e.g., silver nitrate, potassium hydroxide, nitric acid). SEE: *poisoning; Poisons and Poisoning Appendix*.
- cauter-, cautero-** Combining forms meaning *heat or burn*.
- cauterant** (kaw'tēr-ānt) [Gr. *kauter*, a burner] **1.** Cauterizing. **2.** A cauterizing agent.
- cauterization** (kaw'tēr-ī-zā'shūn) [Gr. *kauteriazēin*, to burn] Destruction of tissue with a caustic, an electric current, a hot iron, or by freezing.
- chemical c.** Cauterization by the use of chemical agents, esp. caustic substances.
- electrical c.** Electrocautery.
- cauterize** (kaw'tēr-īz) To burn with a cautery, or to apply one.
- cautery** (kaw'tēr-ē) [Gr. *kauter*, a burner] A device used to destroy tissue by electricity, freezing, heat, or corrosive chemicals. It is used in potentially infected wounds and to destroy excess granulation tissue. Thermocautery consists of a red-hot or white-hot object, usually a piece of wire or pointed metallic instrument, heated in a flame or with electricity (electrocautery, galvanocautery).
- actual c.** Cautery acting by heat and not chemically.
- cava** (kā'vā) The vena cava.
- caval** (kā'vāl) Pert. to the vena cava.
- caveola** (kāv-ē-ō'lā) *pl. caveolae* A small pit or depression formed on the cell surface during pinocytosis.
- cavernitis** (kāv'ēr-nī'tis) [L. *caverna*, hollow, + Gr. *itis*, inflammation] Inflammation of the corpus cavernosum of the penis.
- cavernoma** (kāv'ēr-nō'mā) [" + Gr. *oma*, tumor] A cavernous angioma. SEE: *angioma; hemangioma*.
- cavernositis** (kāv'ēr-nō-sī'tis) [" + Gr. *itis*, inflammation] Inflammation of the corpus cavernosum.
- cavernosography** (kāv'ēr-nō-sōg'rā-fē) [Fr. (*corpus*) *cavernosum* + Gr. *graphos*, drawn, written] Radiological imaging of the corpus cavernosum.
- cavernostomy** (kā-vēr-nōs'tō-mē) Surgical drainage of an abscess within a renal calyx.
- cavernous** (kāv'ēr-nūs) [L. *caverna*, a hollow] Containing hollow spaces.
- cavernous sinus syndrome** The clinical consequences of a blood clot in the sinus cavernosus. Symptoms commonly include headache, unilateral or bilateral facial pain, ocular paralysis, facial edema, and retinal edema. SEE: *sinus cavernosus*.
- cavitary** (kāv'ī-tā'rē) Pert. to a cavity.
- cavitation** (kāv'ī-tā'shūn) [L. *cavitas*, hollow] **1.** Formation of a cavity. This process may be normal, as in the formation of the amnion in human development, or pathological, as in the development of cavities in lung tissue in pulmonary tuberculosis. **2.** The formation of gaseous bubbles in body fluids



CAVITIES OF THE BODY

during exposure to ultrasonic energy; known as acoustic cavitation.

cavitis (kā-vī'tīs) [n + Gr. *itis*, inflammation] Inflammation of a vena cava.

cavity (kāv'ī-tē) [L. *cavitas*, hollow] A hollow space, such as a body organ or the hole in a tooth produced by caries.

abdominal c. The ventral cavity between the diaphragm and pelvis, containing the abdominal organs. It is lined with a serous membrane, the peritoneum, and contains the following organs: stomach with the lower portion of the esophagus, small and large intestines (except sigmoid colon and rectum), liver, gallbladder, spleen, pancreas, adrenal glands, kidneys, and ureters. It is continuous with the pelvic cavity; the two constitute the abdominopelvic cavity. SEE: *abdomen*; *abdominal quadrants* for illus.

alveolar c. A tooth socket.

articular c. The synovial cavity of a joint.

body c. Either of the two major body

cavities, one containing the viscera of the thorax, abdomen, and pelvic areas (ventral), and the other composed of the cranial and spinal cavities (dorsal).

SEE: *illus.*

buccal c. Oral c.

cotyloid c. Acetabulum.

cranial c. The cavity of the skull, which contains the brain.

dental c. Caries.

dorsal c. The body cavity composed of the cranial and spinal cavities. SEE: *body c.* for illus.

glenoid c. Glenoid fossa.

joint c. The articular cavity or space enclosed by the synovial membrane and articular cartilages. It contains synovial fluid. SYN: *joint space*.

laryngeal c. The hollow inside the larynx from its inlet at the laryngopharynx to the beginning of the trachea. It has three segments (from top to bottom): vestibule of the larynx, ventricle of the larynx, infraglottic cavity.

lesser peritoneal c. Omental bursa.

medullary c. The marrow-filled space in a bone.

nasal c. SEE: *nasal cavity*.

oral c. The space inside the teeth and gums that is filled by the tongue when the mouth is closed and relaxed. SYN: *buccal cavity*.

pelvic c. The bony hollow formed by the innominate bones, the sacrum, and the coccyx. The major pelvic cavity lies between the iliac fossae and above the iliopectineal lines. The minor pelvic cavity lies below the iliopectineal lines. SEE: *pelvis*.

pericardial c. The potential space between the epicardium (visceral pericardium) and the parietal pericardium. SEE: *friction rub, pericardial; pericarditis*.

peritoneal c. The potential space between the parietal peritoneum, which lines the abdominal wall, and the visceral peritoneum, which forms the surface layer of the visceral organs. It contains serous fluid.

pleural c. The potential space between the parietal pleura that lines the thoracic cavity and the visceral pleura that covers the lungs. It contains serous fluid that prevents friction.

pleuroperitoneal c. The ventral body cavity. SEE: *body cavity* for illus.; *coelom*.

pulp c. The cavity in a tooth containing blood vessels and nerve endings.

resonating c. The anatomic intensifiers of the human voice, including the upper portion of the larynx, pharynx, nasal cavity, paranasal sinuses, and oral cavity.

Rosenmüller's c. SEE: under *Rosenmüller, Johann Christian*.

serous c. The space between two layers of serous membrane (e.g., the pleural, pericardial, and peritoneal cavities).

spinal c. The cavity that contains the spinal cord. SEE: *body c.* for illus.

thoracic c. The part of the ventral cavity above the diaphragm, the domed muscle that separates it from the abdominal cavity; it is enclosed by the chest wall. The thoracic viscera include the pleural membranes that surround the lungs, the mediastinum between the lungs, which contains the heart and pericardial membranes, the thoracic aorta, pulmonary artery and veins, vena cavae, thymus gland, lymph nodes, trachea, bronchi, esophagus, and thoracic duct. SEE: *body c.* for illus.

tympenic c. Cavity of the middle ear.

uterine c. The hollow space inside the body of the uterus.

visceral c. The body cavity containing the viscera (i.e., the thorax, abdomen, and pelvis).

cavity classification SEE: under *classification*.

cavum (kā'vūm) [L. *cavus*, a hollow] A cavity or space.

cavus (kā'vūs) [L., hollow] Talipes arcuatus.

C bar The curved part of a hand splint that maintains the thumb web space.

CBC *complete blood count*.

CBRNE agents Chemical, biological, radiological, nuclear, and explosive agents, i.e., technologically sophisticated weapons that may be used in military or terrorist activities.

CC collagenous colitis.

CC *chief complaint; collagenous colitis; Commission Certified*.

cc A dangerous abbreviation for *cubic centimeter*.



Written poorly, it may be misinterpreted as "U" (unit).

cccDNA Covalently closed circular DNA. It is the replicative form of the DNA of the hepatitis B virus. It persists within the nuclei of infected liver cells, produces viral RNA transcripts, and is difficult to eradicate. cccDNA is thought to be the form of the virus responsible for both chronic hepatitis B infection and persistent viral infection after antiviral treatment.

CCl₄ Carbon tetrachloride.

CCPD *continuous cycling peritoneal dialysis*.

CCRC Continuing care retirement center.

CCR5 coreceptor A cell surface receptor found on macrophages that facilitates entry of HIV-1 into these cells. Chemokines released by T cells attempt to compete with HIV by blocking the receptor to prevent infection.

CCRN Registered trademark indicating certification by the American Association of Critical-Care Nurses Certification Corporation.

CCU *coronary care unit*.

CD *cluster of differentiation*.

CD4 One of a group of proteins on the surface of lymphocytes that enhance immune recognition. Immune cells that express the CD4 molecule are also known as helper T cells; they work with cells that express major histocompatibility complex (MHC) class II molecules to recognize antigens and stimulate cell-mediated and humoral immune responses. The human immunodeficiency virus (HIV) uses the CD4 receptor to infect T lymphocytes, macrophages, and other immunologic cells. SEE: *AIDS; cluster of differentiation*.

CD20 An antigenic protein found only on the surface of B lymphocytes. It can be used to identify and separate those cells from others and can be exploited as a target for monoclonal antibody therapy.

CD34 antigen, CD34 glycoprotein A membrane-bound cell surface antigen.

It is a sialomucin, that is, a carbohydrate-rich protein, and is found principally on endothelial cells and blood-forming stem cells. It regulates cell-to-cell adhesion.

CD95 Fas.

CD receptor One of the markers on T lymphocytes and other white blood cells that, along with major histocompatibility complex (MHC) genes, is responsible for the recognition of antigens. More than 100 receptor molecules have been identified. CD4 receptors on T4 lymphocytes are the sites to which human immunodeficiency virus (HIV) binds, producing infection. SEE: *AIDS*; *cluster of differentiation*.

Cd Symbol for the element cadmium.

CDA *Certified Dental Assistant*.

CDC *Centers for Disease Control and Prevention*.

CDH *congenital dislocation of the hip*; *congenital dysplasia of the hip*

CDRS *Certified driver rehabilitation specialist*.

Ce Symbol for the element cerium.

CEA Carcinoembryonic antigen.

cebocephalus (sē'bō-sēf'ā-lūs) [Gr. *kebos*, monkey, + *kephale*, head] A fetus with a monkey-like head.

cecal (sē'kāl) [L. *caecalis*, pert. to blindness] 1. Pert. to the cecum. 2. Blind, terminating in a closed extremity.

cecectomy (sē-sēk'tō-mē) [L. *caecum*, blindness, + Gr. *ektome*, excision] Surgical removal of the cecum.

cecitis (sē-sī'tis) [" + Gr. *itis*, inflammation] Inflammation of the cecum. SYN: *typhloenteritis*.

cecolopexy (sē'kō-kō'lō-pēk'sē) [" + Gr. *kolon*, colon, + *pexis*, fixation] Surgical fixation of the colon and the cecum.

cecolostomy (sē'kō-kō-lōs'tō-mē) [" + " + *stoma*, mouth] A colostomy joining the cecum to the colon.

cecoileostomy (sē'kō-īl'ē-ōs'tō-mē) [" + *ileum*, ileum, + Gr. *stoma*, mouth] Surgical formation of an anastomosis between the cecum and the ileum.

cecopexy (sē'kō-pēk'sē) [" + Gr. *pexis*, fixation] Surgical fixation of the cecum to the abdominal wall.

cecoplication (sē'kō-plī-kā'shūn) [" + *plica*, fold] The reduction of a dilated cecum by making a fold in its wall.

cecopptosis (sē'kōp-tō'sis) [" + Gr. *ptosis*, a dropping] Falling displacement of the cecum.

cecosigmoidostomy (sē'kō-sīg'moy-dōs'tō-mē) [" + Gr. *sigmoides*, shaped like Gr. letter Σ (sigma), + *stoma*, mouth] A surgical connection between the cecum and the sigmoid.

cecostomy (sē-kōs'tō-mē) [" + Gr. *stoma*, mouth] Surgical formation of an artificial opening into the cecum.

cecotomy (sē-kōt'ō-mē) [" + Gr. *tome*, incision] An incision into the cecum.

cecum, caecum (sē'kūm) [L. *caecum*, blindness] A blind pouch or cul-de-sac that forms the first portion of the large intestine, located below the entrance of the ileum at the ileocecal valve. It averages about 6 cm in length and 7.5 cm in width. At its lower end is the vermiform appendix. SEE: *colon*.

cef- (sēf) [Fr. *ceph(alosporin)*] A prefix used in pharmacology to designate a cephalosporin.

ceftriaxone (sēf-trī'āks-ōn) An injectable, third-generation cephalosporin with a long half-life that can be given once daily. It is used to treat a wide spectrum of respiratory, gastrointestinal, and urinary infections.

ceiling effect The optimal potential effect of a medication. Once a therapeutic limit is reached, increases in dose may produce side effects but no further beneficial effects.

cel- SEE: *celo-*.

-cele [Gr. *hele*, tumor, swelling; *koilia*, cavity] Suffix indicating *swelling, hernia, or tumor*.

Celebrex (sēl'ē-brēks") SEE: *celecoxib*.

celecoxib (sēl-ē-cōk'sīb) A nonsteroidal anti-inflammatory drug approved for the treatment of osteoarthritis and rheumatoid arthritis.

Celexa SEE: *citalopram*.

celiac (sē'lē-āk) [Gr. *koilia*, belly] Pert. to the abdominal cavity.

celiac disease, celiac sprue Malabsorption, weight loss, and diarrhea, resulting from immunologic intolerance to dietary wheat products, esp. gluten and gliadin. Clinically patients may suffer bloating, flatulence, steatorrhea, anemia, weakness, malnutrition, vitamin and mineral deficiencies, rashes, bone loss, attenuated growth, delayed puberty, or failure to thrive. The disease is common, occurring in about 1 in 110 Americans. SYN: *Gee-Thaysen disease*.

celiectomy (sē'lē-ēk'tō-mē) [" + *ektome*, excision] 1. Surgical removal of an abdominal organ. 2. Excision of the celiac branches of the vagus nerve.

celiocentesis (sē'lē-ō-sēn-tē'sis) [" + *kentesis*, puncture] Puncture of the abdomen.

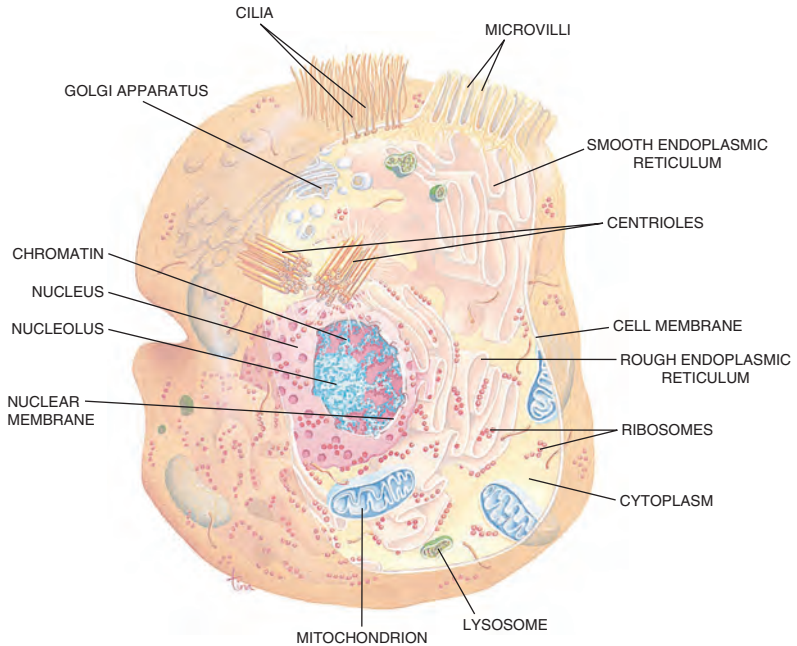
celiolpotomy (sē'lē-ō-kōl-pōt'ō-mē) [" + *kolpos*, vagina, + *tome*, incision] An incision into the abdomen through the vaginal wall.

celioenterotomy (sē'lē-ō-ēn'tēr-ōt'ō-mē) [" + *enteron*, intestine, + *tome*, incision] An incision through the abdominal wall to access the intestines.

celiogastrostomy (sē'lē-ō-gās-trōs'tō-mē) [" + *gaster*, stomach, + *stoma*, mouth] Laparogastrostomy.

celiogastrostomy (sē'lē-ō-gās-trōt'ō-mē) [Gr. *koilia*, belly, + *gaster*, stomach, + *tome*, incision] Laparogastrostomy.

celiohysterectomy (sē'lē-ō-hīs-tēr-ēk'tō-mē) [" + *hystera*, uterus, + *ektome*,



GENERALIZED HUMAN CELL AND ORGANELLES

excision] Removal of the uterus through an abdominal incision.

celiohysterotomy (sē'lē-ō-his'tēr-ōt'ō-mē) [" + " + *tome*, incision] A trans-abdominal incision into the uterus.

celiomyectomy (sē'lē-ō-mī'ō-mēk'tō-mē) [" + " + *oma*, tumor, + *ektome*, excision] Cutting of muscular tissue via an abdominal incision.

celiomyotomy (sē'lē-ō-mī'ō-mōt'ō-mē) [" + " + " + *tome*, incision] Incision of the abdominal muscles.

celiomyositis (sē'lē-ō-mī'ō-sī'tis) [" + " + *itis*, inflammation] Inflammation of the abdominal muscles.

celiopathy (sē'lē-ōp'ā-thē) [" + *pathos*, disease, suffering] Any disease of the abdomen.

celiorrhaphy (sē'lē-ōr'ā-fē) [" + *rhapshe*, seam, ridge] Laparorrhaphy.

celiosalpingectomy (sē'lē-ō-sāl'pīn-jēk'tō-mē) [" + *salpinx*, tube, + *ektome*, excision] Removal of the fallopian tubes through an abdominal incision.

celioscope (sē'lē-ō-skōp) [" + *skopein*, to examine] An endoscope for visual examination of a body cavity.

celioscopy (sē'lē-ōs'kō-pē) Examination of a body cavity through a celioscope.

celiotomy (sē'lē-ōt'ō-mē) [" + *tome*, incision] Surgical incision into the abdominal cavity.

vaginal c. Incision into the abdomen through the vagina.

cell (sēl) [L. *cella*, a chamber] A mass of protoplasm containing a nucleus or nuclear material; the structural unit of all animals and plants. Cells and cell products form all the body tissues; their structures are correlated with the functions of the organs of which these tissues are a part. Cells arise only from pre-existing cells, through cell division. Growth and development result from the increase in numbers of cells and their differentiation into different types of tissues. Specialized germ cells, the spermatozoa and ova, contain the genes to be passed to offspring.

STRUCTURE: A typical cell has a nucleus surrounded by cytoplasm. The nucleus is bounded by a double-layered nuclear membrane and contains the chromosomes, which are made of DNA and protein. One or more nucleoli, made of protein, RNA, and DNA, may be present; these are sites of ribosome formation. The cell membrane is made of phospholipids, protein, and cholesterol; it forms the outer boundary of the cell and selectively allows substances to enter or leave the cell. Within the cell are cell organelles, including ribosomes, proteasomes, endoplasmic reticulum, mitochondria, Golgi apparatus, centrioles, and lysosomes; each has a specific function. **SEE: illus.**

CELL DIVISION: *Meiosis* is the type of cell division in which two successive

divisions produce four cells that contain half the number of chromosomes present in somatic cells. In *mitosis*, the other type of cell division, each of the two daughter cells contains the same number of chromosomes as the parent cell. SEE: *meiosis* and *mitosis* for illus.

accessory c. A monocyte or macrophage; refers to the immune response. SEE: *antigen-presenting cell*; *macrophage*.

acidophil c. A cell with an affinity for staining with acid dyes.

acinar c. A cell present in the acinus of an acinous gland (e.g., of the pancreas).

adipose c. Fat c.

adventitial c. A macrophage along a blood vessel, together with perivascular undifferentiated cells associated with it.

air c. An air-filled sinus cavity in a bone.

alpha c. A cell of the anterior lobe of the pituitary and the pancreas. In the latter, these cells are the source of glucagon.

alveolar c., type I One of the thin, flat cells that form the epithelium of the alveoli.

alveolar c., type II An epithelial cell of the alveoli of the lungs that secretes pulmonary surfactant.

amacrine c. A modified nerve cell in the retina that has short branches (dendrites) but no long process (axon). SEE: *neuron*.

ameloblast c. The type of cell that produces the enamel rods of the tooth crown.

anterior horn c. A somatic motor neuron with its cell body in the ventral (anterior) horn of the gray matter of the spinal cord, and an axon that innervates skeletal muscle.

antigen-presenting c. ABBR: APC. A cell that breaks down antigens and displays their fragments on surface receptors next to major histocompatibility complex molecules. This presentation is necessary for some T lymphocytes that are unable to recognize soluble antigens. Macrophages are the primary antigen-presenting cells, but B cells and dendritic cells also can act as APCs. SEE: *T c.*; *macrophage processing*.

argentaffin c. A cell in the epithelium of the stomach, intestines, and appendix that secretes serotonin.

atypical glandular c. ABBR: AGC. An abnormal finding on a Pap test. This classification is divided into "favor neoplasia" or "not otherwise specified (NOS)". NOS is subdivided into endocervical or endometrial origin. Atypical endocervical cells are important because of their risk for significant disease. SYN: *atypical glandular cells of undetermined significance*.

atypical glandular c. of undetermined significance ABBR: AGUS. Atypical glandular cells.

B c. A lymphocyte that matures in the bone marrow and then migrates to lymphoid tissues, where a foreign antigen stimulates it to produce antibodies. All B cells are antigen specific and respond to only one foreign protein. The spleen and lymph nodes contain many B cells that, because of the large amount of blood passing through these organs, become exposed to new antigens. After a B cell comes in contact with an antigen, it differentiates into either a plasma cell or a memory cell, and then proliferates. Plasma cells produce antigen-specific antibodies. Memory cells are available to produce antibodies quickly if the same antigen reappears. Antibody production is part of the humoral immune response of adaptive immunity. The humoral immune response is effective against bacteria, viruses, and other pathogens, and is the basis for vaccination. SYN: *B lymphocyte*. SEE: *plasma c.*; *T c.*; *antibody*; *antigen*; *cytokine*; *immunoglobulin*; *vaccination*.

band c. The developing leukocyte at a stage at which the nucleus is not segmented.

basal c. A type of cell in the deepest layer of the epidermis.

basket c. 1. A branching basal or myoepithelial cell of the salivary and other glands. 2. A type of cell in the cerebellar cortex in which Purkinje cells rest.

basophil c. A cell with an affinity for staining with basic dyes.

beta c. 1. One of the insulin-secreting cells of the pancreas that constitute the bulk of the islets of Langerhans. 2. A basophil cell of the anterior lobe of the pituitary.

Betz c. SEE: *Betz cells*.

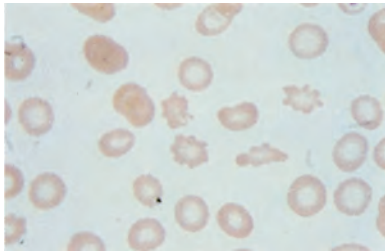
bipolar c. A neuron with two processes, an axon and a dendrite. It is found in the retina of the eye and in the cochlear and vestibular ganglia of the acoustic nerve.

blast c. 1. A newly formed cell of any type. Large numbers of blast cells in the peripheral blood indicate that the bone marrow is producing a high level of the particular cell (e.g., lymphoblast [lymphocyte], monoblast [monocyte]). 2. A cell that produces something, such as an osteoblast that produces bone matrix.

blood c. Any type of nucleated or non-nucleated cell normally found in the blood or blood-forming tissues. SEE: *blood* for illus.

bone c. A nucleated cell occupying a separate lacuna of bone. SEE: *osteoblast*; *osteoclast*; *osteocyte*.

burr c. An erythrocyte with 10 to 30 spicules distributed over the surface of the cell, as seen in heart disease, stomach cancer, kidney disease, and dehydration. SYN: *echinocyte*. SEE: *illus*.



BURR CELLS

cancer c. A cell present in a neoplasm and differentiated from normal tissue cells because of its degree of anaplasia, irregularity of shape, nuclear size, changes in the structure of the nucleus and cytoplasm, increased number of mitoses, and ability to metastasize.

capsule c. Satellite c.

castration c. An enlarged and vacuolated basophil cell seen in the pituitary in gonadal insufficiency or following castration.

CD 34+ c. Any cell whose surface expresses the CD34 antigen. CD34+ cells in the peripheral blood are used as stem cells during peripheral blood stem cell transplantation.

cementoblast c. One of the cells that produce the cementum layer, which covers the tooth root and provides attachment for the supporting periodontal ligament.

cementocyte c. One of the cells trapped within cementum that maintain cementum as a living calcified tissue by their metabolic activity.

centroacinar c. A duct cell of the pancreas more or less invaginated into the lumen of an acinus.

chalice c. Goblet c.

chief c. 1. One of the cells of the parathyroid gland that secrete the parathyroid hormone. 2. One of the cells of the gastric glands that secretes pepsinogen. 3. A chromophobe cell of the pituitary.

chromaffin c. An epinephrine-containing cell of the adrenal medulla whose granules stain brown when cells are stained with a fluid containing potassium bichromate.

cleavage c. A cell that results from mitosis or splitting of the fertilized ovum; a blastomere.

clue c. A vaginal epithelial cell, thickly coated with coccobacillary organisms; a hallmark of bacterial vaginosis. SEE: *illus.*

columnar c. An epithelial cell with height greater than its width.

cone c. A cell in the retina whose scleral end forms a cone that serves as a light receptor. Vision in bright light, color vision, and acute vision depend on the function of the cones. SEE: *rod c.*

cuboid c. A cell with height about equal to width and depth.

cytotoxic T c. A CD8+ T lymphocyte that can destroy microorganisms directly through the release of perforin and proteolytic enzymes. They are particularly important in the defense against viruses, rejection of allografts, and, possibly, new malignant cells. SEE: *T c.*

daughter c. Any cell formed from the division of a mother cell.

delta c. A cell of the islets of Langerhans of the pancreas that secretes somatostatin.

dendritic c. One type of antigen-presenting cell that helps T cells respond to foreign antigens. They are found in epithelial tissues and include the Langerhans' cells of the skin and interdigitating cells in lymph nodes; they also circulate in the blood.

endothelial c. One of the flat cells that form the lining of the blood and lymph vessels.

ependymal c. One of the cells of the developing neural tube that give rise to the ependyma. They originate from spongioblasts derived from the neural epithelium.

epithelial c. One of the cells forming the epithelial surfaces of membranes and skin. SEE: *epithelial tissue.*

fat c. A cell that stores fat. SYN: *adipose cell; adipocyte; lipocyte.*

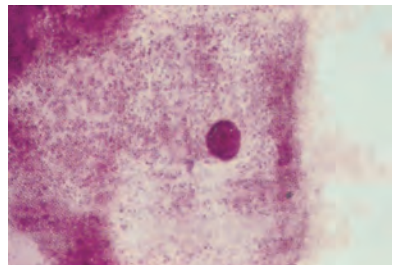
flame c. A bone marrow cell with a bright red cytoplasm, occasionally found in the marrow of patients with multiple myeloma.

foam c. A cell that contains vacuoles; a lipid-filled macrophage.

ganglion c. 1. Any neuron whose cell body is located within a ganglion. 2. A neuron of the retina of the eye whose cell body lies in the ganglion cell layer. The axons of ganglion cells form the fibers of the optic nerve.

germ c. A cell whose function is to reproduce the organism. It usually has a single set of chromosomes (haploid). Germ cells are called ova in females and spermatozoa in males.

giant c. 1. An active, multinucleated phagocyte created by several individual macrophages that have merged around



CLUE CELL

a large pathogen or a substance resistant to destruction, such as a splinter or surgical suture. SEE: *granuloma*; *tuberculosis*. **2.** Any large cell containing one or multiple nuclei.

glia c. Neuroglia c.

goblet c. An epithelial cell, containing a large globule of mucin, giving it the appearance of a goblet. SYN: *chalice cell*.

Golgi c. SEE: *Golgi cell*.

granule c. A small neuron of the cerebrum or the cerebellum that contains granules.

gustatory c. A neuroepithelial cell or taste cell of a taste bud.

hair c. An epithelial cell possessing stereocilia (microvilli) found in the maculae, cristae ampullaris, and the organ of Corti of the membranous labyrinth of the inner ear. These cells are receptors for the senses of position and hearing.

HeLa c. An immortal cancer cell that has been maintained in continuous tissue cultures for decades from a patient with carcinoma of the cervix. It is named for the first two letters of the patient's first and last names, Henrietta Lacks. HeLa cells have been used in thousands of experiments on cell growth, differentiation, and cancer, and in virology, pharmacology, and other fields.

helper T c. A type of T lymphocyte, whose surface is marked by CD4 receptors, that is involved in both cell-mediated and antibody-mediated immune responses. It secretes cytokines (chemical signals) that stimulate the activity of B cells and other T cells and binds with class II histocompatibility antigens, which are processed by macrophages and other antigen-presenting cells. SEE: *antigen processing*; *T c.*; *cell-mediated immunity*.

holly leaf c. A cell found in blood smears of persons with sickle cell anemia.

horizontal c. A neuron of the inner nuclear layer of the retina. The axons of these cells run horizontally and connect various parts of the retina.

Hürthle c. SEE: *Hürthle cell*.

hybridoma c. SEE: *hybridoma*.

hyperchromatic c. All or part of a cell that contains more than the normal number of chromosomes and hence stains more densely.

interstitial c. One of the many cells found in connective tissue of the ovary, in the seminiferous tubules of the testes, and in the medulla and cortex of the kidney. The cells in the testes and ovaries produce hormones such as testosterone and estrogen.

intestinal absorptive c. In the small intestine, any of the tall columnar cells topped with a brush border made of thousands of microvilli.

islet c. A cell of the islets of Langerhans of the pancreas.

juvenile c. The early developmental form of a white blood cell.

juxtaglomerular c. A modified smooth muscle cell in the wall of the afferent arteriole leading to a glomerulus of the kidney. This type of cell secretes renin when blood pressure decreases to activate the renin-angiotensin mechanism, which elevates blood pressure and increases sodium retention.

killer c. Natural killer c.

killer T c. SEE: *cytotoxic T c.*

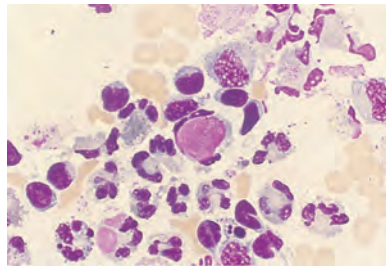
Kupffer c. SEE: *Kupffer cell*.

labile c. A cell that is always mitotically active, such as the epithelial cells lining the stomach and the stem cells in the red bone marrow.

lactotrope c. A cell in the anterior pituitary that produces the hormone prolactin.

L.E. c. Historically, an abbreviation for *lupus erythematosus* cell, a polymorphonuclear leukocyte that contains the phagocytized nucleus of another cell. It is characteristic but not diagnostic of lupus erythematosus.

This distinctive cell may form when the blood of patients with systemic lupus erythematosus is incubated and further processed according to a specified protocol. The plasma of some patients contains an antibody to the nucleoprotein of leukocytes. These altered nuclei, which are swollen, pink, and homogeneous, are ingested by phagocytes. These are the L.E. cells. The ingested material, when stained properly, is lavender and displaces the nucleus of the phagocyte to the inner surface of the cell membrane. The L.E. cell phenomenon can be demonstrated in most patients with systemic lupus erythematosus but is not essential for diagnosis. SEE: *illus*; *lupus erythematosus, systemic*.



L.E. CELL (center)

(Orig. mag. $\times 1000$)

Leydig's c. SEE: *Leydig's cell*.

littoral c. A macrophage found in the sinuses of lymphatic tissue.

lutein c. A cell of the corpus luteum of the ovary that contains fatty yellowish granules. Granulosa lutein cells are hypertrophied follicle cells; these lu-

tein (paralutein) cells develop from the theca interna.

lymphokine-activated killer c. ABBR: LAK cell. Natural killer cells, obtained from the patient's blood, that have been activated in a culture with interleukin-2. LAK cells are used, with some success, to treat patients with solid malignant tumors.

mast c. SEE: *mast cell*.

mastoid c. An old term for one of the mastoid sinuses of the temporal bone.

memory c. A cell derived from B or T lymphocytes that can quickly recognize a foreign antigen to which the body has been previously exposed. Memory T cells stimulate T helper lymphocytes and cytotoxic T cells; memory B cells stimulate the production of antigen-specific antibodies by B plasma cells. Both types of memory cells survive for years, providing a durable immune response against foreign antigens. SEE: *B c.*; *lymphocyte*.

microglia c. A neuroglial cell of mesodermal origin present in the brain and spinal cord and capable of phagocytosis.

mossy c. An astrocyte or other glial cell with many branching processes. SEE: *neuroglia*.

mother c. A cell that gives rise to similar cells through fission or budding. SYN: *parent cell*.

mucous c. A cell that secretes mucus; found in mucus-secreting glands.

myeloma c. A cell present in the bone marrow of patients with multiple myeloma.

myoepithelial c. A smooth muscle cell found between glandular cells and basement membrane of sweat, mammary, and salivary glands.

natural killer c. ABBR: NK cell. A large granular lymphocyte, a defensive cell of innate immunity, that bonds to cells and lyses them by releasing cytotoxins. Unlike other lymphocytes, these cells do not have B cell or T cell surface markers, and they can be activated without previous antigen exposure. NK cells destroy cells infected with viruses and some types of tumor cells in cultures. They also secrete gamma interferon ($\text{INF}\gamma$), tumor necrosis factor alpha ($\text{TNF}\alpha$), and granulocyte-macrophage colony-stimulating factor (GM-CSF), enhancing the effect of T lymphocytes.

nerve c. Neuron.

neuroglia c. A non-nerve cell of the supporting tissue of the central nervous system and the retina of the eye. This type includes astrocytes, oligodendrocytes, and microglia. SYN: *glia cell*.

Niemann-Pick c. SEE: *Niemann-Pick cell*.

nonstem c. Any cell found in the bone marrow that cannot reconstitute the marrow or give rise to more differentiated blood cells.

null c. A lymphocyte that is neither a T cell nor a B cell. SEE: *natural killer c.*

odontoblast c. A cell that produces dentin and is responsible for the sensitivity of and metabolism of dentin in the tooth.

olfactory c. A cell of the olfactory mucosa that has receptors for the sense of smell. Olfactory cells are continuously replaced from stem cells throughout adult life.

oxyntic c. A parietal cell of the gastric glands; it produces hydrochloric acid and the intrinsic factor.

parent c. Mother c.

phalangeal c. One of the cells supporting the hair cells of the organ of Corti. These cells form several rows of outer phalangeal cells (Deiters' cells) and a single row of inner phalangeal cells.

pigment c. Any cell that normally contains pigment granules.

plasma c. A cell derived from a B lymphocyte that has been sensitized to a specific foreign antigen and produces antibodies to that particular antigen. It may be found in the blood or in tissue fluid. SYN: *plasmacyte*.

prickle c. A cell possessing spinelike protoplasmic processes that connect with similar processes of adjoining cells. These are found in the stratum spinosum of the keratinized epithelium of the epidermis.

progenitor c. Stem c.

primordial c. One of the original germ cells that in the embryo migrate to the gonadal ridge, where they form all of the germ cells.

Purkinje c. SEE: *Purkinje cell*.

pus c. A leukocyte present in pus. Cells of this type are often degenerated or necrotic.

pyramidal c. A nerve cell of the cerebral cortex.

red c. The erythrocyte of the blood. Its principal purpose is to transport oxygen to the cells of the body. The hemoglobin that the red cell contains is oxygenated in the lungs, and the oxygen contained in the arterial system is released to the tissues from capillaries.

Renshaw c. SEE: *Renshaw cell*.

reticular c. 1. An undifferentiated cell of the spleen, bone marrow, or lymphatic tissue that can develop into one of several types of connective tissue cells or into a macrophage. 2. A cell of reticular connective tissue. SEE: *reticular tissue*.

reticuloendothelial c. An out-of-date term for a cell of the mononuclear phagocytic system.

Rieder c. SEE: *Rieder cell*.

rod c. A cell in the retina of the eye whose scleral end is long and narrow, forming a rod-shaped sensory receptor. Rods are stimulated by light and are essential for vision in dim light. SEE: *cone c.*

rosette c. A rose-shaped cluster of phagocytes surrounding lysed nuclear material or red blood cells. Rosette cells occur frequently in blood in which L.E. cells are present. Rosette cells are not diagnostic of lupus erythematosus. SEE: *L.E. c.*

Rouget c. SEE: *Rouget cell.*

satellite c. 1. A stem cell associated with skeletal muscle that may form a limited number of new muscle cells after injury. 2. One of the neuroglia cells enclosing the cell bodies of sensory neurons in spinal ganglia. SYN: *capsule cell.*

segmented c. A segmented neutrophil (i.e., one with a nucleus of two or more lobes connected by slender filaments).

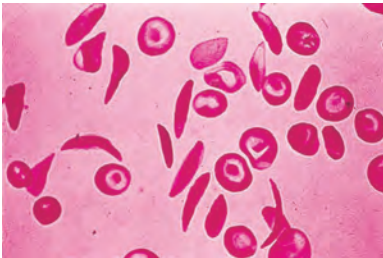
sensory c. A cell that when stimulated gives rise to nerve impulses that are conveyed to the central nervous system.

septal c. A type II alveolar cell that secretes pulmonary surfactant; it is adjacent to a septum of the alveoli.

serous c. A cell that secretes a thin, watery, albuminous secretion.

Sertoli c. SEE: *Sertoli cell.*

sickle c. An abnormal erythrocyte shaped like a sickle. SYN: *drepanocyte.* SEE: *anemia, sickle cell.* SEE: *illius.*



SICKLED CELLS IN SICKLE CELL DISEASE

signet-ring c. A vacuolated cell with the nucleus off center. Mucus-secreting adenocarcinomas usually contain these cells.

somatic c. A cell that is not a germ cell. Somatic cells have two sets of chromosomes (diploid) and include cells of many different shapes and functions.

spider c. Astrocyte.

squamous c. A flat, scaly, epithelial cell.

stellate c. A star-shaped cell with processes extending from it (e.g., astrocytes and Kupffer's cells).

stellate reticuloendothelial c. A Kupffer cell, one of the macrophages that line the sinusoids of the liver.

stem c. Any cell that can develop into more specifically differentiated daughter cells. Stem cells can be harvested from bone marrow, embryonic tissues, peripheral blood, or umbilical cord blood and used in applications such

as hematological transplants. SYN: *progenitor cell.* SEE: *transplantation, bone marrow.*

stem c. rescue In patients being treated with high doses of chemotherapy or radiation therapy, the removal of stem cells (the precursors to red and white blood cells and platelets) from the patient's blood before treatment and their reinfusion after treatment. Granulocyte colony stimulating factor, erythropoietin, and other growth factors are administered to stimulate proliferation of the stem cells after reinfusion. Until adequate numbers of cells repopulate the patient's marrow and bloodstream, the patient is at high risk for infection and bleeding.

Stem cell rescue is used in patients with solid tumors not involving bone marrow who require treatments that would destroy the blood-forming (hematopoietic) cells. The process is immunologically advantageous because the cells infused are the patient's own cells, and thus do not have foreign antigens.

Sternberg-Reed c. SEE: *Reed-Sternberg cell.*

stipple c. A red blood cell that contains small basophilic-staining dots. It is seen in lead poisoning, malaria, severe anemia, and leukemia.

suppressor T c. A previously used term for a type of lymphocyte that inhibits CD4+ and B cell activity. Because no specific CD markers have been identified for these cells, it is unlikely that they exist as a separate group.

sympathicotropic c. One of the large epithelial cells that occur in groups in the hilus of the ovary. They are thought to be chromaffin cells.

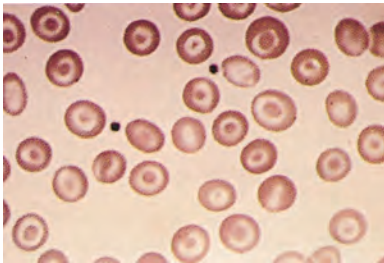
sympathochromaffin c. A chromaffin cell of ectodermal origin present in the fetal adrenal gland. Sympathetic and medullary cells originate from these cells.

T c. A lymphocyte from the bone marrow that migrates to the thymus gland, where it develops into a mature differentiated lymphocyte that circulates between blood and lymph, serving as one of the primary cells of the adaptive immune response. Immature T cells are called thymocytes. Mature T cells are antigen specific. T cell receptor (TCR) proteins on the surface of each T cell detect only one antigen. T cells are identified by surface protein markers called clusters of differentiation (CDs). All T cells have the CD3 marker; additional markers differentiate T subsets. CD4 T helper cells serve primarily as regulators, secreting cytokines that stimulate the activities of other white blood cells. CD8 T cells (cytotoxic T cells), effector cells that directly lyse (kill) organisms, are an important defense against viruses. Most CD8 T cells also produce

gamma interferon (INF γ), one of the strongest stimulators of macrophage activity. SYN: *T lymphocyte*. SEE: *immune response; lymphocyte; immunologic surveillance; T-cell receptor*.

T cells cannot recognize foreign antigens without the help of macrophages and other antigen-presenting cells (APCs), which change antigenic proteins into peptides that bind with major histocompatibility complex molecules. However, once the macrophage has helped them identify an antigen as "nonself," T cells dominate the adaptive immune response, directing macrophages, B cells, and other T cells in the body's defense. T cells and the cell-mediated immune mechanism are primarily responsible for graft rejection, other type IV hypersensitivity reactions, and tumor cell recognition and destruction. SEE: *cytokine; cell-mediated immunity*.

target c. An erythrocyte with a dark rounded central area surrounded by a lightly stained clear ring, which in turn is surrounded by a dense ring of peripheral cytoplasm. It is present in certain blood disorders, such as thalassemia, and in patients who have no spleen. SEE: *illius; hemoglobin C disease for illius*. SYN: *codocyte; leptocyte*.



TARGET CELLS

In hemoglobin C disease ($\times 600$)

tart c. A phagocyte that has ingested the unaltered nuclei of cells. These nuclei can be observed unchanged within the phagocytic cell.

taste c. One of the neuroepithelial cells within a taste bud that are receptors for the sense of taste. Each possesses on the free surface a short gustatory hair that projects through the inner taste pore.

tear-drop c. An abnormally shaped blood cell, sometimes found on blood smears of patients with bone marrow fibrosis, iron deficiency, or thalassemias. SYN: *dacrocyte*.

totipotent c. An undifferentiated embryonic cell that has the potential to develop into any type of cell.

Touton giant c. SEE: *Touton cell*.

Türk's irritation c. SEE: *Türk's irritation cell*.

Tzanck c. SEE: *Tzanck cell*.

undifferentiated c. A cell resembling an embryonic cell in that it has not demonstrated a change into a mature cell of any type.

visual c. A rod cell or cone cell of the retina.

wandering c. A rarely used term for a cell (such as a macrophage) that moves like an ameba.

white c. Leukocyte.

cell bank SEE: *under bank*.

cell-based therapy The use of living cells as therapeutic agents. Possible examples include dendritic cells, to initiate immune responses to particular cancers; stem cells, as a source for tissue replacement, repair, or gene delivery; and tumor cells, to create antigen targets for the immune system.

cell coat A colloquial term for glycocalyx.

cell counter, electronic An electronic instrument used to count blood cells, employing either an electrical resistance or an optical gating technique. SEE: *flow cytometry*.

cell division The fission of a cell. SEE: *meiosis* and *mitosis* for illus.

cell-free Pertaining to fluids or tissues that contain no cells or in which all the cells have been disintegrated by laboratory treatment.

cell growth cycle The order of physical and biochemical events that occur during the growth of cells. In tissue culture studies, the cyclic changes are divided into specific periods or phases: the DNA synthesis or S period, the G_0 period or gap, the M or mitotic period, and the G_1 period.

cell kill In antineoplastic therapy, the number of malignant tumor cells destroyed by a treatment.

cell line A group of identical cells that can be maintained in the laboratory indefinitely because they are able to thrive and reproduce themselves *in vitro*.

cell mass In embryology, the mass of cells that develops into an organ or structure.

cellobiose (sĕl'ō-bī'ōs) A disaccharide resulting from the hydrolysis of cellulose.

cellophane (sĕl'ō-fān) A thin, transparent, waterproof sheet of cellulose acetate. It is used as a dialysis membrane.

cell-penetrating peptide A peptide that readily crosses cell membranes and therefore can influence cellular functions or can carry other molecules that can directly or indirectly perform the same tasks.

cell saver An apparatus that aspirates extravasated blood in an operative field; after appropriate filtration the blood may be returned to the patient. This device cannot be used when the blood returned to the patient may be infected or contaminated (e.g., in perforated diverticulitis). SEE: *blood salvage*.

cell sorting The separation of cells from one another, based on physical or chemical properties. Cell-separation tech-

niques are used to collect uniform populations of cells from tissues or fluids in which many different cell types are present. The collected cells can then be used for transplantation or scientific study. Common methods of separating cells include cloning, centrifugation, electrophoresis, magnetism, and antibody- or fluorescent-binding. SEE: *flow cytometry*.

fluorescence-activated c. s. ABBR: FACS. A method of separating cells by selectively tagging them with colored fluorescent dyes bound to specific cellular structures or molecules.

cellula (sĕl'ū-lā) *pl.* **cellulae** [L., little cell] **1.** A minute cell. **2.** A small compartment.

cellular (sĕl'ū-lār) Pertaining to, composed of, or derived from cells.

cellulase (sĕl'ū-lās) An enzyme that converts cellulose to cellobiose. It is present in some microorganisms and marine life.

cellulifugal (sĕl'ū-lif'ū-gāl) [" + *fugere*, to flee] Extending or moving away from a cell.

cellulipetal (sĕl'ū-lip'ī-tāl) [" + *petere*, to seek] Extending or moving toward a cell.

cellulite (sĕl'ū-līt") A colloquial term for subcutaneous deposits of fat with dimpling of the skin, esp. in the buttocks and thighs. SYN: *gynoid lipodystrophy*.

cellulitis (sĕl'ū-lī'tis) [" + Gr. *itis*, inflammation] A spreading bacterial infection of the skin and subcutaneous tissues, usually caused by streptococcal or staphylococcal infections in adults (and occasionally by *Haemophilus* species in children). It may occur following damage to skin from an insect bite, an excoriation, or other wound. The extremities, esp. the lower legs, are the most common sites. Adjacent soft tissue may be involved. Affected skin becomes inflamed: red, swollen, warm to the touch, and tender. Spread of infection up lymphatic channels may occur. Cellulitis involving the face is called erysipelas. When it affects the lower extremities, cellulitis must be differentiated from stasis dermatitis, which is associated most commonly with bilateral, chronic dependent edema and, occasionally, with deep venous thrombosis. Risk factors for cellulitis include diabetes mellitus, lymphedema, venous stasis or insufficiency, immune suppression, injection drug use, malnutrition, peripheral vascular disease, and previous skin diseases. SEE: *illus.*; *necrotizing fasciitis*.

ETIOLOGY: Bacteria gain access through breaks in the skin and spread rapidly, overwhelming normal body defenses; lesions between the toes from athlete's foot are common entry sites.

TREATMENT: For mild cases of cel-



CELLULITIS

lulitis, oral antibiotics may be effective depending on the causative organism. For severe cases, intravenous penicillinase-resistant penicillins are used; surgical débridement to obtain cultures and to rule out fasciitis is recommended for patients with diabetes.



Rarely, group A streptococcal cellulitis may be complicated by exfoliative dermatitis or infection of the subcutaneous fat and fascia, causing necrosis (necrotizing fasciitis), a condition popularly ascribed to the action of "flesh-eating bacteria."

PATIENT CARE: Blood cultures should be obtained from patients with cellulitis to assess for sepsis before beginning therapy with antibiotics. The affected body part should be elevated above the level of the heart. Outlining the affected area with a skin marker allows the caregiver to readily determine if inflamed tissues are responding to therapy. Size, shape, color, and temperature of the affected area and surrounding tissues should be documented and any drainage described. Applying warm soaks to the area increases vasodilation, thus decreasing edema and relieving pain. Pain should be treated with prescribed oral analgesics and anti-inflammatory drugs. Blood sugars, if elevated, should be lowered to normal levels (preferably about 126 mg/dl or less). Patients on prolonged bedrest should be given heparin to prevent deep venous thrombosis as well as stool softeners to prevent constipation. Patients who develop cellulitis are often at risk for recurrence; they should learn general skin hygiene, how to clean cuts, scratches, cracked skin, and abrasions, and the importance of prompt treatment for infections.

eosinophilic c. A rash marked by firm, swollen, itchy patches that appear suddenly. The patches may be oval or circular, violet or red, and are associated with abnormally high blood eosin-

ophyl levels. The cause is unknown. SYN: *Wells syndrome*.

pelvic c. Parametritis.

postseptal c. Facial infection invading the orbit.

preseptal c. Soft tissue infection limited to the tissues anterior to the orbital septum.

cellulofibrous (sĕl'ū-lō-fī'brūs) [ʹ + *fibra*, fiber] Both cellular and fibrous.

cellulose (sĕl'ū-lōs) [L. *cellula*, little cell] A polysaccharide that forms plant fiber; a fibrous form of carbohydrate, (C₆H₁₀O₅)_n, constituting the supporting framework of most plants. It is composed of many glucose units. When ingested, it stimulates peristalsis and promotes intestinal elimination. When ingested by humans, cellulose provides no nutrient value because it is not chemically changed or absorbed in digestion; it remains a polysaccharide.

Some foods that contain cellulose are apples, apricots, asparagus, beans, beets, bran flakes, broccoli, cabbage, celery, mushrooms, oatmeal, onions, oranges, parsnips, prunes, spinach, turnips, wheat flakes, whole grains, and whole wheat bread. SEE: *fiber*, *dietary*.

c. acetate 1. A support medium commonly used in electrophoresis. 2. A semisynthetic dialysis membrane.

carboxymethyl sodium c. ABBR: CMC. Carboxymethyl cellulose sodium.

oxidized c. Cellulose that has been oxidized and is made to resemble cotton or gauze. It is used to arrest bleeding by direct application to the site of hemorrhage.

cellulose triacetate c. A semisynthetic dialysis membrane with excellent biocompatibility that can be used in high-flux dialyzers.

cellulotoxic (sĕl'ū-lō-tōk'sīk) [ʹ + Gr. *toxikon*, poison] 1. Poisonous to cells. 2. Caused by cell toxins.

cell wall SEE: *under wall*.

celo-, cel- [Gr. *kele*, tumor, swelling] Combining forms meaning *tumor* or *hernia*.

celo-, cel- [Gr. *koilia*, cavity] Combining forms meaning *cavity*.

celom, celoma (sĕ'lōm, sĕ-lō'mă) [Gr. *koiloma*, a hollow] The coelom.

celosomia (sĕ-lō-sō'mĕ-ă) [ʹ + *soma*, body] A congenital fissure of the sternum with herniation of the fetal viscera.

Celsius scale (sĕl'sĕ-ūs) [Anders Celsius, Swedish astronomer, 1701–1744] A temperature scale on which the boiling point of water is 100° and the freezing point is 0°. This is the official scientific name of the temperature scale, also called the centigrade scale. SEE: *Fahrenheit scale* for table; *Celsius thermometer* for table; Conversion Factors Appendix.

cement (sĕ-mĕnt') 1. Any material that

hardens into a firm mass when prepared appropriately. 2. To cause two objects to stick together, as in using an adhesive to join a gold inlay to the cavity of a tooth and to insulate the pulp from metallic fillings. 3. The material used to make one substance adhere to another.

glass ionomer c. A dental adhesive made from powdered aluminosilicate glass and liquid polyacrylic acid, used as a lining for dental cavities; as a permanent dental restorative material; and, as a result of leakage, as a source of fluoride. The cement is not recommended for Class II or IV restorations.

silicate c. A hard, translucent, tooth-colored restorative material. Silicate cement is produced by mixing aluminosilicate (an acid-based powdered glass) with liquid phosphoric acid. Because the cement is damaging to pulp of the tooth, pulp protection is required. Leakage often occurs at the margins of a silicate cement, but the fluoride released prevents caries.



Pulp protection is required.

zinc-eugenol c. A cement and protectant used in dentistry. SEE: *zinc oxide and eugenol*.

zinc phosphate c. The oldest of the dental cements, composed of a powder (zinc oxide and magnesium oxide) and a liquid (phosphoric acid and water). An acid-base reaction occurs when the powder and liquid are mixed. The set cement is unreacted zinc oxide particles suspended within a matrix of zinc aluminophosphate. The cement is used for inlays, crowns, bridges, and orthodontic appliances.

zinc polycarboxylate c. Dental cement that can be used to attach cast restorations and orthodontic appliances and as a thermal insulating base. It forms an adhesive bond with enamel. It is produced by mixing a powder containing zinc oxide and magnesium oxide with a liquid solution of polyacrylic acid.

cementation (sĕ'mĕn-tă'shūn, sĕm'ĭn) The use of a plastic or moldable substance to seal joints and cement or join substances together. SYN: *luting*.

cementicle (sĕ-mĕn'tī-kl) The small calcified area in the periodontal membrane of the root of a tooth.

cementitis (sĕ'mĕn-tī'tis) [L. *cementum*, cement, + Gr. *itis*, inflammation] Inflammation of the dental cementum.

cementoblast (sĕ-mĕn'tō-blăst) [ʹ + Gr. *blastos*, germ] A cell of the inner layer of the dental sac of a developing tooth. It deposits cementum on the dentin of the root.

cementoclasia (sĕ-mĕn'tō-klă'sĕ-ă) [ʹ + Gr. *klasis*, breaking] Decay of the cementum of a tooth root.

cementoclast (sē-mĕn'tō-klăst) A very large multinucleated cell associated with the removal of cementum during root resorption, more correctly called an odontoclast.

cementogenesis (sē-mĕn'tō-jĕn'ĕ-sĭs) [*"* + Gr. *genesis*, generation] The development of cementum on the root dentin of a tooth.

cementoid (sē'mĕn'toyd) [*"* + Gr. *eidōs*, form, shape] The noncalcified matrix of cementum.

cementoma (sē'mĕn-tō'mă) [*"* + Gr. *oma*, tumor] A benign fibrous connective tissue growth containing small masses of cementum, usually found in the periodontal ligament near the apex of the tooth.

cementum (sē-mĕn'tŭm) [L.] The thin layer of calcified tissue formed by cementoblasts which covers the tooth root. In it are embedded the collagenous fibers of the periodontal ligament, which are also attached to the surrounding alveolar bone proper, thereby supporting the tooth. Also called *substantia ossea dentis*.

CEN *certified emergency nurse*.

ensor (sĕn'sĕr) [L. *ensor*, judge] In psychoanalysis, a psychic inhibition that prevents abhorrent unconscious thoughts or impulses from being expressed objectively in any form recognized at the conscious level.

ensus (sĕn'sŭs) In hospital management, the number of patients confined within the hospital.

centenarian (sĕn'tĕ-nă'rĕ-ăn) A person over the age of 100.

center (sĕn'tĕr) [L. *centrum*, center]

1. The middle point of a body. **2.** A group of nerve cells within the central nervous system that controls a specific activity or function. **3.** A facility specializing in a particular service. For centers that are facilities, see under the first word. SEE: e.g., *birth center*; *poison control center*; *trauma center*.

acoustic c. The hearing center in the brain; located in the temporal lobe of the cerebrum.

association c. Center controlling associated movements.

auditory c. The center for hearing in the anterior gyri of the transverse temporal gyri. SEE: *area*, *auditory*.

autonomic c. The center in the brain or spinal cord that regulates any of the activities under the control of the autonomic nervous system. Most centers are located in the hypothalamus, medulla oblongata, and spinal cord.

Broca's c. SEE: *Broca's area*.

chondrification c. The center of cartilage formation.

ciliospinal c. The center in the spinal cord that transmits sympathetic impulses that dilate the pupils of the eyes.

defecation c. Either of two centers, a

medullary center located in the medulla oblongata and a spinal center located in the second to fourth sacral segments of the spinal cord. The anospinal center controls the reflex aspects of defecation.

deglutition c. A group of structures in the brain that controls swallowing. These structures are located in the medulla oblongata and in the inferior pons.

diabetic c. An area in the floor of the fourth ventricle of the brain.

epiotic c. The ossification center of the temporal bone, forming the upper and posterior part of the auditory capsule.

expiratory c. The part of the respiratory center in the medulla that promotes a forced exhalation.

feeding c. An area in the ventrolateral nucleus of the hypothalamus that originates signals to the cerebral cortex that stimulate eating. SEE: *satiety c.*; *set point weight*.

germinal c. A collection of B cells undergoing proliferation within the follicle of a lymph node or other lymphoid tissue after antigen stimulation.

gustatory c. The center, primarily in the parietal lobes, that feels and interprets taste. SYN: *taste area*.

heat-regulating c. One of two centers, a heat loss and a heat production center, located in the hypothalamus. They regulate body temperature.

higher c. A center in any portion of the brain, in contrast to one in the spinal cord.

inspiratory c. The respiratory center in the medulla that generates impulses that cause contraction of the diaphragm and external intercostal muscles.

lower c. A center in the brainstem or spinal cord.

micturition c. A center that controls the reflexes of the urinary bladder. These are located in the second to fourth and fourth to sixth sacral segments of the cord. Higher centers are present in the medulla oblongata, hypothalamus, and cerebrum.

motor cortical c. An area in the frontal lobe in which impulses for voluntary movements originate.

nerve c. An area in the central nervous system or in a ganglion that is responsible for certain functions; examples include the motor areas in the frontal lobes of the cerebrum.

organization c. **1.** An embryonic group of cells that induces the development of another structure. **2.** A region in an ovum that is responsible for the mode of development of the fertilized ovum.

ossification c. The site or sites in bones where calcification begins and bone replaces fibrous connective tissue or cartilage. The region of bone formation at the center of the body of a long

bone is called the primary (diaphyseal) ossification center. Most secondary ossification centers are found in the epiphyses.

pneumotaxic c. The center in the pons that rhythmically inhibits inspiration.

psychocortical c. One of the centers of the cerebral cortex concerned with voluntary muscular contractions.

reflex c. A region within the brain or spinal cord where connections (synapses) are made between afferent and efferent neurons of a reflex arc.

respiratory c. A region in the medulla oblongata of the brainstem that regulates movements of respiration. This area consists of an inspiratory center, located in the rostral half of the reticular formation overlying the olivary nuclei, and an expiratory center, located dorsal to the inspiratory center. The pons contains the apneustic center, which prolongs inhalation, and the pneumotaxic center, which helps bring about exhalation.

satiety c. An area in the ventromedial hypothalamus that modulates the stimulus to eat by sending inhibitory impulses, following a meal, to the feeding center, also located in the hypothalamus. Blood levels of nutrients and gastrointestinal hormones influence its activity.

speech c. Broca's area.

sweat c. One of the principal centers controlling perspiration located in the hypothalamus; secondary centers are present in the spinal cord.

temperature c. Thermoregulatory c.

thermoregulatory c. A center in the hypothalamus that regulates heat production and heat loss, esp. the latter, so that a normal body temperature is maintained. It is influenced by nerve impulses from cutaneous receptors and by the temperature of the blood flowing through it. SYN: *temperature center*.

vasoconstrictor c. The center in the medulla oblongata that brings about the constriction of blood vessels.

vasomotor c. The center that controls the diameter of blood vessels; the vasoconstrictor and vasodilator centers.

visual c. A center in the occipital lobes of the cerebrum that receives visual information transmitted from the retina.

vital c. Any of the centers in the medulla concerned with respiration, heart rate, or blood pressure.

Wernicke's c. SEE: *Wernicke's center*.

Center for Drug Evaluation and Research ABBR: CDER. A division of the U.S. Food and Drug Administration that reviews and oversees the manufacture of pharmaceuticals distributed to U.S. citizens and provides clinical information

about the uses and hazards of drugs. Website: www.fda.gov/cder/

centering As part of meditative practice, an attempt to attain a state of self-awareness, relaxation, and psychological balance.

Centers for Disease Control and Prevention ABBR: CDC. A division of the U.S. Public Health Service in Atlanta, Georgia, that investigates and controls various diseases, especially those that have epidemic potential. The agency is also responsible for national programs to improve laboratory conditions and encourage health and safety in the workplace.

Centers for Education and Research on Therapeutics ABBR: CERT. A division of the Agency for Healthcare Research and Quality that directs efforts toward improving patient outcomes by reducing the incidence of medical errors. The program focuses on supporting research and disseminating current information about the appropriate use of therapeutic agents.

centesis (sĕn-tĕ'sis) [Gr. *kentesis*, puncture] Puncture of a cavity.

-centesis Suffix meaning *puncture and aspiration of*.

centigrade (sĕn'ti-grād) [L. *centum*, a hundred, + *gradus*, a step] ABBR: C. 1. Having 100 degrees. 2. Pertaining to a thermometer divided into 100°. The boiling point of water is 100° and the freezing point is 0°.

centigram (sĕn'ti-grām) [° + Gr. *gramma*, a small weight] One hundredth of a gram.

centiliter (sĕn'ti-lĕ-tĕr) [° + Gr. *litra*, measure of wt.] One hundredth of a liter. SEE: *metric system*.

centimeter (sĕn'ti-mĕ-tĕr) [° + Gr. *metron*, measure] ABBR: cm. One hundredth of a meter. SEE: *metric system*.

centimeter-gram-second system ABBR: CGS. An early version of the SI units system, no longer in use.

centimorgan (sĕn'ti-mor'gān) ABBR: cM. One hundredth of a morgan; a measure of genetic distance that indicates the likelihood of crossover of two loci on a gene.

centipede (sĕn'ti-pĕd") [° + *pes*, foot] An arthropod of the subclass Chilopoda distinguished by an elongated flattened body of many segments, each with a pair of jointed legs. The first pair of appendages are hooklike claws bearing openings of ducts from poison glands. The bites of large tropical centipedes may cause severe local and sometimes general symptoms, but they are rarely fatal.

centipoise (sĕn'ti-poyz) A unit of viscosity, one hundredth of a poise. SEE: *poise*.

centrad (sĕn'trăd) [Gr. *kentron*, center, + *L. ad*, toward] Toward the center.

central (sĕn'trăl) **1.** Situated at or pertaining to a center. **2.** Principal or controlling.

central auditory processing disorder A condition, sometimes confused with attention deficit disorder or hearing disorders, in which a child has normal hearing and intelligence, but cannot interpret sounds and their correct contexts or meanings.

central cord syndrome, central cervical cord syndrome Paralysis of the hands and arms (and often of the lower limbs but to a less severe degree) resulting from an injury to the cervical spinal cord. Bladder dysfunction and sensory losses below the level of the injury often occur. The condition is typically produced by a hyperextension injury of the neck.

central core disease A rare, congenital muscle disease characterized by muscular weakness or hypotonia in infancy due to impaired release of calcium by skeletal muscle. Calcium is a crucial cofactor in muscle contraction.

central dogma of molecular biology The outdated principle which states that proteins are made from RNA, which in turn is made from DNA. Other permutations are found in nature; e.g., RNA viruses use a reverse transcriptase to make complementary DNA.

central excitatory state ABBR: CES. A condition of increased excitability in the central nervous system, esp. in the spinal cord, following an excitatory stimulus.

central inhibitory state ABBR: CIS. A condition of decreased excitability in the central nervous system, esp. in the spinal cord, resulting from an inhibitory stimulus.

central island An abnormally raised ridge of corneal tissue that may be left behind after failed photorefractive eye surgery. The lump or ridge of thick cornea may cause distorted or double vision.

central nervous system ABBR: CNS. The brain and spinal cord. SEE: *brain* and *cranial nerve* for illus.

COMPOSITION: Nerve tissue that forms the brain and spinal cord consists of gray and white matter. Gray matter is made of the cell bodies of neurons, and white matter is made of the axons and dendrites of these neurons. White matter transmits impulses within the CNS.

central serous retinopathy ABBR: CSR. Serous detachment under the macula due to leakage of fluid from the choriocapillaris into the subretinal space between the retina and retinal pigment epithelium. Typically involves one eye

and often resolves spontaneously. Occurs most often in men aged 20 to 40.

central vision loss Loss of the ability to see things directly in front of the eye, a symptom that often occurs in patients with macular degeneration. The macula of the retina contains the greatest concentration of cone photoreceptors in the eye and is the location on the retina where vision is sharpest and colors are perceived with greatest clarity. When diseases like macular degeneration disturb the integrity of the macula, central vision loss occurs. A sudden loss of central vision is an ophthalmological emergency, requiring referral to a retinal specialist as soon as possible.

centration (sĕn'tră'shŭn) The ability of the preschool child to focus or center attention on only one aspect or characteristic of a situation at a time.

centrifugal (sĕn-trif'ŭ-găl) [' + *L. fugere*, to flee] Receding from the center.

centrifuge (sĕn'tri-fŭj) A device that spins test tubes at high speeds. The heavy particles in the liquid settle to the bottom of the tube, and the lighter liquid goes to the top. When unclotted blood is centrifuged, the plasma goes to the top and the heavy red cells go to the bottom of the tube. The white blood cells are heavier than the plasma but lighter than the red blood cells, so they form a thin layer between the red blood cells and the plasma. SEE: *buffy coat*.

human c. A device that accommodates a human subject being rotated while suspended from a long arm. It is used to investigate the ability of subjects to withstand positive gravitational forces.

centriole (sĕn'trĕ-ŏl) A minute organelle consisting of a hollow cylinder closed at one end and open at the other, found in the cell center or attraction sphere of a cell. Before mitosis it divides, forming two daughter centrioles (diplosomes). During mitosis the centrioles migrate to opposite poles of the cell, and each forms the center of the aster to which the spindle fibers are attached. SEE: *mitosis*.

centripetal (sĕn-trĭp'ĕ-tăl) [' + *L. petere*, to seek] Directed toward the axis.

centrocyte (sĕn'trŏ-sĭt) [' + *kytos*, cell] Any of the stages of B lymphocytes found in the center of lymphatic follicles.

centrodesmus (sĕn-trŏ-dĕz'mŭs) [Gr. *kentron*, center, + *desmos*, a band] The matter connecting the two centrosomes in a nucleus during mitosis.

centrolecithal (sĕn'trŏ-lĕs'ĭ-thăl) [' + *lekithos*, yoke] Pert. to an egg cell with the yolk centrally located.

centromere (sĕn'trŏ-mĕr) [' + *meros*, part] A constricted region of a chromosome, a specific sequence of about 200 nucleotides that connects the chromatids during cell division. Attached to

this DNA is a protein disk called a kinetochore, which attaches the pair of chromatids to a spindle fiber.

centrosclerosis (sĕn'trō-sklĕ-rō'sis) [" + *sklerosis*, a hardening] Filling of the bone marrow space with bone tissue.

centrosome (sĕn'trō-sōm) [" + *soma*, body] A region of the cytoplasm of a cell usually lying near the nucleus, containing in its center one or two centrioles, the diplosomes. SEE: *mitosis*.

centrosphere (sĕn'trō-sfĕr) [" + *sphaira*, sphere] The cytoplasm of the centrosome.

centrostaltic (sĕn'trō-stāl'tik) [" + *stellen*, send forth] Pert. to a center of motion.

centrum (sĕn'trūm) *pl.* **centra** [L.]

1. Any center, esp. an anatomical one.
2. The body of a vertebra.

cepacia SEE: *Burkholderia cepacia*.

cephalad (sĕf'ā-lād) [Gr. *kephale*, head, + L. *ad*, toward] Toward the head.

cephalgia (sĕf'ā-lāl'jĕ-ā) [" + *algos*, pain] Headache. SYN: *cephalodynia*.

cephalalgic (-jik), *adj.*

cephalea (sĕf'ā-lĕ'ā) [Gr. *kephale*, head] Cephalgia.

cephaledema (sĕf'ā-lĕ-dĕ'mā) [" + *oedema*, swelling] Edema of the head, esp. of the brain.

cephalexin (sĕf'ā-lĕk'sin) A first-generation cephalosporin antibiotic. It is effective against gram-positive and some gram-negative bacteria.

cephalhematocele (sĕf'āl-hĕ-māt'ō-sĕl) [" + *haima*, blood, + *kele*, tumor] A bloody tumor communicating with the dural sinuses.

cephalic (sĕ-fāl'ik) [L. *cephalicus*]

1. Cranial.
2. Superior in position.

cephalocaudal pattern of development (sĕf'ā-lō-kawd'āl) [" + "'] The principle of maturation that states motor development, control, and coordination progress from the head to the feet.

cephalocele (sĕf'ā-lō-sĕl) [" + *kele*, hernia] Protrusion of the brain from the cranial cavity.

cephalocentesis (sĕf'ā-lō-sĕn-tĕ'sis) [" + *kentesis*, puncture] Surgical puncture of the cranium.

cephalodynia (sĕf'ā-lō-din'ĕ-ā) [" + *odyne*, pain] Headache.

cephalohematoma (sĕf'ā-lō-hĕ'mā-tō'mā) [" + " + *oma*, tumor] A mass composed of clotted blood, located between the periosteum and the skull of a newborn. It is confined between suture lines and usually is unilateral. The cause is rupture of periosteal bridging veins due to pressure and friction during labor and delivery. The blood reabsorbs gradually within a few weeks of birth.

cephalohemometer (sĕf'ā-lō-hĕ-mōm'ĕ-tĕr) [" + *haima*, blood, + *metron*, measure] An instrument for determin-

ing changes in intracranial blood pressure.

cephalometer (sĕf'ā-lōm'ĕ-tĕr) [" + *metron*, measure] **1.** A device for measuring the head. **2.** In radiology, a device that maintains the head in a certain position for radiographic examination and measurement.

cephalometry (sĕf'ā-lōm'ĕ-trĕ) Measurement of the head by using certain bony points directly, or by tracing radiographs made using well-established planes for linear and angular measurements. Cephalometry is used in oral, orthodontic, and plastic surgery, e.g., in the repair of cleft palate or facial asymmetries. It is also employed in dentistry to assess growth and to determine orthodontic or prosthetic treatment plans.

cephalomotor (sĕf'ā-lō-mō'tor) [Gr. *kephale*, head, + L. *motus*, motion] Pert. to movements of the head.

cephalonia (sĕf'ā-lō-nĕ-ā) A condition marked by mental retardation and enlargement of the head.

cephalopathy (sĕf'ā-lōp'ā-thĕ) [" + *pathos*, disease, suffering] Any disease of the head or brain.

cephalopelvic (sĕf'ā-lō-pĕl'vik) Pert. to the relationship between the measurements of the fetal head and the diameters of the maternal pelvis, esp. to the size of the pelvic outlet through which the fetal head will pass during delivery.

cephaloplegia (sĕf'ā-lō-plĕ'jĕ-ā) [" + *plege*, stroke] Paralysis of head or neck muscles or both.

cephalorhachidian (sĕf'ā-lō-rā-kid'ĕ-ān) [" + *rachis*, spine] Pert. to the head and spine.

cephalosporin (sĕf'ā-lō-spor'in) General term for a group of antibiotic derivatives of cephalosporin C, which is obtained from the fungus *Cephalosporium*.

first-generation c. Group of cephalosporin antibiotics capable of killing gram-positive cocci such as *Staphylococcus aureus*, streptococci, and some aerobic gram-negative rods. These agents are commonly used to treat skin and soft tissue infections, uncomplicated respiratory tract infections, and urinary tract infections. Examples of first generation cephalosporins are cephalothin, cephaloridine, cephapirin, cefazolin, cephradine, cephalixin, and cefadroxil.

second-generation c. Group of cephalosporin antibiotics possessing some ability to kill gram-positive cocci such as staphylococci and streptococci, as well as aerobic gram-negative rods. Some agents, namely cefotetan, cefoxitin, and cefmetazole, can be used to treat anaerobic infections. Examples of second-generation cephalosporins are cefamandole, cefuroxime, cefonicid, ceforanide, cefixime, cefaclor, cefoxitin, cefotetan, and cefmetazole.

third-generation c. Group of cepha-

losporin antibiotics capable of killing aerobic gram-negative rods. These agents are commonly used for treatment of pneumonia and meningitis. Some agents, namely ceftazidime and cefoperazone, have excellent activity against *Pseudomonas aeruginosa*. Examples of third-generation cephalosporins are cefsulodin, cefotaxime, ceftizoxime, ceftriaxone, cefoperazone, moxalactam, and ceftazidime.

Cephalosporium (sĕf'ă-lō-spor'ĕ-ŭm) A genus of imperfect fungi that inhabit soil. Cephalosporins are derived from them.

cephalostat (sĕf'ă-lō-stăt') A device that holds a patient's head in a fixed position. It may be used, e.g., in anesthesiology, to facilitate tracheal intubation; in dental radiography, to improve the quality of radiographs; and in ear, nose, and throat surgery to limit head movement. SYN: *craniostat*.

cephalothoracic (sĕf'ă-lō-thō-rās'ik) [ʹ + *thorakos*, chest] Pert. to the head and thorax.

cephalothoracopagus (sĕf'ă-lō-thō'ră-kōp'ă-gŭs) [ʹ + ʹ + *pagos*, thing fixed] A double fetus joined at the head and thorax.

cephalotome (sĕf'ă-lō-tōm) [ʹ + *tome*, incision] An instrument for cutting the head of the fetus to facilitate delivery.

cephalotomy (sĕf'ă-lōt'ō-mĕ) Cutting the fetal head to facilitate delivery.

cephamycin (sĕf'ă-mī'sin) [From *cephalosporin*] + ʹ] A group of antibiotics related to the second-generation cephalosporins, having increased bacterial activity against Enterobacteriaceae but diminished effectiveness against gram-positive bacteria. Members of this class of drugs, e.g., cefoxitin, cefotetan, are often used to treat mixed aerobic/anaerobic infections.

-cept A combining form for a drug formed when a receptor is fused to the Fc portion of an immunoglobulin G molecule.

ceptor (sĕp'tor) [L. *receptor*, receiver] Receptor (2).

chemical c. A ceptor that detects chemical changes in the body.

contact c. A ceptor that receives stimuli contributed by direct physical contact.

distance c. A ceptor that perceives stimuli remote from the immediate environment.

cera (sĕ'ră) [L.] Wax (1).

c. alba White wax.

c. flava Yellow wax.

ceramics, dental [Gr. *keramos*, potter's clay] The use of porcelain or porcelain-like materials to manufacture esthetic dental restorations. Crowns, veneers, and inlays are some dental restorations that use porcelain.

ceramide (sĕr'ă-mid) A class of lipids that do not contain glycerol. They are

derived from a sphingosine. Glycosphingolipids and sphingomyelins are derived from ceramides.

c. oligosaccharides A class of glycosphingolipids.

cercaria (sĕr-kă'rĕ-ă) *pl. cercariae* [Gr. *kerkos*, tail] A free-swimming stage in the development of a fluke or trematode. Cercariae develop within sporocysts or rediae that parasitize snails or bivalve mollusks. They emerge from the mollusk and either enter their final host directly or encyst in an intermediate host that is ingested by the final host. In the latter case, the encysted tailless form is known as a metacercaria. SEE: *fluke; trematode*.

ceraricide (sĕr-kă'rĭ-sĭd") An agent that is lethal to cercaria.

cerclage (săr-kložh') [Fr., *hooping*] Encircling tissues with a ligature, wire, or loop.

cervical c. The use of ligatures around the cervix uteri to treat cervical incompetence during pregnancy. This has been used to prevent spontaneous abortion, although its efficacy is uncertain. SEE: *Shirodkar operation*.

Cercomonas (sĕr-kôm'ō-nās) [Gr. *kerkos*, tail, + *monas*, unit] A genus of free-living flagellate protozoa.

cercomoniasis (sĕr'kō-mō-nĭ'ă-sis) Infection with *Cercomonas intestinalis*.

cercus (sĕr'kŭs) *pl. cerci* [L., tail] A hairlike structure.

cera flexibilitas (sĕr'rĕ-ă flĕk'sĭ-bĭl'ĭ-tās) [L. *cera*, wax, + *flexibilitas*, flexibility] Flexibility, waxy. SEE: *catalepsy*.

cereal (sĕr'ĕ-ăl) [L. *cerealis*, of grain] An edible seed or grain, containing approximately 70% to 80% carbohydrate by weight and 8% to 15% protein. Many cereals also provide significant dietary fiber. Common cereals include barley, oats, rice, and wheat.

cerebellifugal (sĕr'ĕ-bĕl-i-fŭ'găl) [L. *cerebellum*, little brain, + *fugere*, to flee] Extending or proceeding from the cerebellum.

cerebellipetal (sĕr'ĕ-bĕl-lĭp'ĭ-tăl) [ʹ + *petere*, to seek] Extending toward the cerebellum.

cerebellitis (sĕr'ĕ-bĕl-i'tis) [ʹ + Gr. *itis*, inflammation] Inflammation of the cerebellum.

cerebellum (sĕr-ĕ-bĕl'ŭm) [L., little brain] The portion of the brain forming the largest segment of the rhombencephalon. It lies dorsal to the pons and medulla oblongata, overhanging the latter. It consists of two lateral cerebellar hemispheres and a narrow medial portion, the vermis. It is connected to the brainstem by three pairs of fiber bundles, the inferior, middle, and superior peduncles. The cerebellum is responsible for coordination of voluntary movements, the speed, trajectory, and stopping of movements, and for maintaining

posture and balance. Sensory information to the cerebellum comes from the skeletal muscles and from inner ear receptors. **SEE: illus.**

Although the cerebellum does not initiate movements, it interrelates with many brainstem structures in executing various movements, including maintaining proper posture and balance; walking and running; fine voluntary movements as required in writing, dressing, eating, and playing musical instruments; and smooth tracking movements of the eyes. The cerebellum controls the property of movements, such as speed, acceleration, and trajectory. **cerebellar** (-är), *adj.*

cerebral (sēr'ä-bril, sä-rē') **1.** Pert. to the intellect. **2.** Of, pertaining to, or located within the cerebrum, as cerebral palsy, cerebral aneurysm, and cerebral cortex.

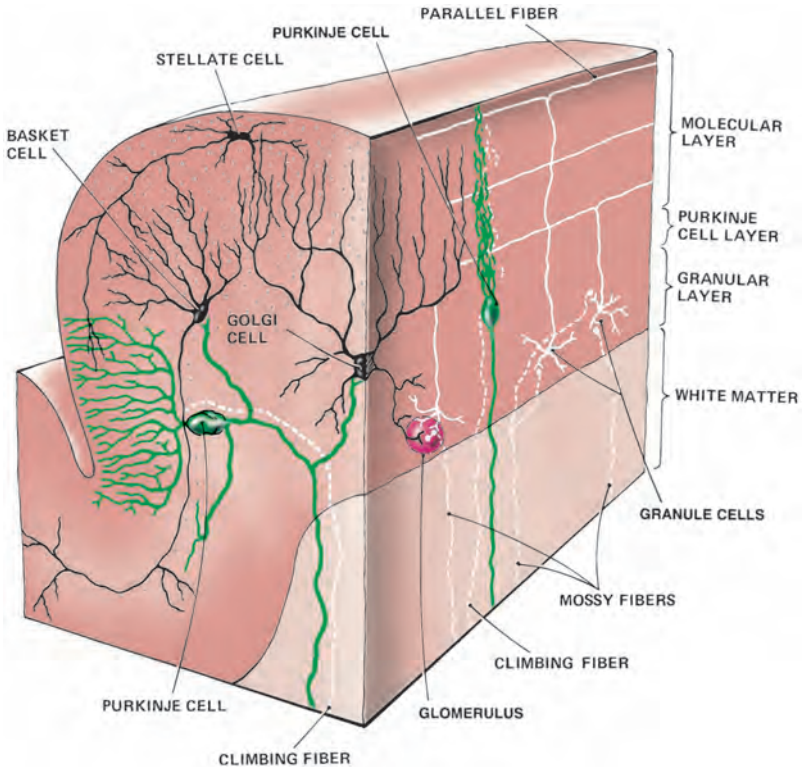
cerebral dominance **SEE:** under *dominance*.

cerebral palsy **ABBR:** CP. An "umbrella" term for a group of nonprogressive but often changing motor impairment syndromes secondary to lesions or anomalies of the brain arising in the early

stages of its development. CP is a symptom complex rather than a specific disease. For the vast majority of children born at term in whom CP later develops, the disorder cannot reasonably be ascribed to birth injury or hypoxic-ischemic insults during delivery. CP rarely occurs without associated defects such as mental retardation (60% of cases) or epilepsy (50% of cases).

Risk factors have been divided into three groups: those occurring prior to pregnancy, such as an unusually short interval (less than 3 months) or unusually long interval since the previous pregnancy; those occurring during pregnancy, including physical malformations, twin gestation, abnormal fetal presentation, fetal growth retardation, or maternal hypothyroidism; and perinatal factors such as prematurity, premature separation of the placenta, or newborn encephalopathy. Nonetheless among infants with one or more of these risk factors, 95% do not have CP.

Cerebral palsy is classified by the extremities involved and the type of neurological dysfunction present, such as



CEREBELLUM

Layers of the cerebellar cortex

spastic (50%), hypotonic, dystonic, athetotic (20%), ataxic (10%), or a combination of these. It is not possible to diagnose CP in the neonatal period, and early clinical diagnosis is complicated by the changing pattern of the disease in the first year of life. Many patients have impaired swallowing and/or drooling. Impaired speech is present in about 80% of these children, and many also have dental abnormalities, vision and/or hearing deficits, and reading disabilities.

All infants and children, especially those with risk conditions for CP (low birth weight, low Apgar scores at 5 min, seizures, metabolic disturbances), are assessed for delays in attaining developmental milestones. This type of assessment can provide valuable clues to recognizing CP. CP should also be suspected in infants who have difficulty sucking or keeping a nipple or food in their mouths; who seldom move voluntarily or have arm or leg tremors with voluntary movement; who cross their legs when lifted from behind rather than bicycling or pulling them up; or who have legs that are difficult to separate (making diapering problematic). Early recognition and promotion of optimal development assist the child to realize his or her potential.

INCIDENCE: In the U.S., about 10,000 children are born each year with CP.

TREATMENT: Therapy is directed to maximizing function and preventing secondary handicaps. Essential to the outcome of patients with CP is establishing good hand function, which helps compensate for other motor deficits. Broad therapeutic goals include establishing locomotion, communication, self-help and gaining optimum appearance and integration of motor functions; correcting associated deficits as effectively as possible; and providing educational opportunities adapted to the individual child's needs and capabilities. Antianxiety agents may be employed to relieve excessive motion and tension. Botulinum toxin helps to reduce contractures. Skeletal muscle relaxants may be given to decrease spasticity. Anticonvulsants are used for children experiencing seizure activity, and dextroamphetamine may improve performance in hyperactive, dyskinetic children. **SEE: *Nursing Diagnoses Appendix.***

PATIENT CARE: The individualized therapeutic plan usually involves a variety of settings, facilities, and specially trained personnel, including the parents, who are taught to handle their child's condition properly. A specially trained physical therapist designs an individualized program of exercises and

other treatment modalities to meet the child's specific problems and needs and to stimulate the child to achieve functional goals. A speech therapist is an important team member, initiating speech training early, before the child develops poor communication habits. Eye and ear specialists deal with visual and auditory deficits. Dental care is especially important and should start as soon as teeth erupt. Braces and other mobilizing devices are used to help prevent or reduce deformities, control alignment, and permit self-propulsion. An orthopedic surgeon intervenes when spasticity causes progressive deformities. Nurses in pediatric facilities and community settings are involved in all aspects of therapeutic management and provide support and encouragement. They teach the child (as appropriate) and the parents about the desired and adverse effects of any medications used in the therapeutic regimen.

A wide variety of technical aids are available to help improve the child's function. They include electromechanical toys, microcomputers, voice synthesizers, and other devices the child can control. Passive range of motion, stretching, and elongation exercises are valuable at any age. Training in activities of daily living and manual skills is based on the child's developmental level and functional abilities. Hand activities are started early to improve the child's motor function and to provide sensory experiences and environmental information. The child is encouraged to feed him/herself, using specially designed utensils and placing food well back in the mouth to aid swallowing. A high-calorie diet should be provided to meet the child's high-energy status. Thoroughly chewing food, drinking through a straw, and sucking on lollipops all help in developing muscle control and thus minimizing drooling. Washing and dressing independently are also encouraged, with clothing modified to aid this independence rather than carrying out these tasks for the child. Parents are taught to assist only when necessary, and then in an unhurried manner, as hurried movements tend to increase muscle spasticity. Play is incorporated into the therapeutic program.

The child's needs and potential determine his or her educational requirements, which range from attendance at regular school to special classes or facilities designed to meet his or her needs. The teaching team develops an individual educational prescription (IEP), which they communicate to parents and any others involved in the child's learning. Special Olympics and other community programs can enable the child to participate in competitive sports, add-

ing an extra dimension to physical activities. The child also should be encouraged to participate in artistic programs, games, and other activities. Parents should be advised against overprotection and helped to recognize the child's need to establish relationships with other children. A valuable intervention on the part of health care professionals is providing the family with emotional support, helping them to cope with the disorder and to connect with other families. Parent groups share concerns and problems and provide practical information as well as comfort. United Cerebral Palsy Association Inc. (800-872-5827; www.ucpa.org) provides a variety of services for children with CP and their families. Local chapters can be accessed through a local telephone directory or health department.

Throughout treatment, health care providers and the child's family continually reassess and evaluate the child's status by observing movements and speech, self-care and other activities, school attendance and performance, interactions with others and choice of activities, and behaviors and responses to challenges. The child and family are interviewed regularly about their feelings and concerns and are supported to cope with the condition.

cerebral salt wasting syndrome ABBR: CSW. Hyponatremia that develops in a critically ill patient who has suffered brain injury or infarction. The condition typically occurs in patients who are volume-depleted. High concentrations of sodium are found in the urine. Infusions of saline are therapeutic.

cerebration (sēr'ē-brā'shūn) [L. *cerebratio*, brain activity] Mental activity; thinking.

cerebromeningitis (sēr'ē-brō-mēn'in-jī'tis) [" + Gr. *meninx*, membrane, + *itis*, inflammation] Inflammation of the cerebrum and its membranes.

cerebropathy (sēr'ē-brōp'ā-thē) [" + *pathos*, disease, suffering] Any disease of the brain, esp. the cerebrum.

cerebrophysiology (sēr'ē-brō-fiz-ē-ōl'ō-jē) [" + Gr. *physis*, nature, + *logos*, word, reason] The physiology of the brain.

cerebro sclerosis (sēr'ē-brō'sklē-rō'sis) [" + Gr. *sklerosis*, hardening] Hardening of the brain, esp. of the cerebrum.

cerebroside (sēr'ē-brō-sīd") A lipid or fatty substance present in nerve and other tissues.

cerebrosideosis (sēr'ē-brō-sī-dō'sis) A form of lipoidosis with keratin in the fatty cells. SEE: *Gaucher's disease*.

cerebrospinal (sēr'ē-brō-spī'nāl) [" + *spina*, thorn] Pert. to the brain and spinal cord, as the cerebrospinal axis.

cerebrospinal axis SEE: under *axis*.

cerebrospinal fluid-to-blood glucose ratio Glucose ratio.

cerebrospinal puncture SEE: under *puncture*.

cerebrosterol A brain-derived sterol (technically: 24S-hydroxycholesterol) that is found in excessive concentrations in the bloodstream of persons with Alzheimer's disease.

cerebrotomy (sēr'ē-brōt'ō-mē) [L. *cerebrum*, brain, + Gr. *tome*, incision] 1. Incision of the brain to evacuate an abscess. 2. Dissection of the brain.

cerebrovascular (sēr'ē-brō-vās'kū-lār) [" + *vasculum*, vessel] Pert. to the blood vessels of the brain, esp. to pathological changes.

cerebrum (sēr'ē-brūm, sēr-ē'brūm) [L.] The largest part of the brain, consisting of two hemispheres separated by a deep longitudinal fissure. The hemispheres are united by three commissures—the corpus callosum and the anterior and posterior hippocampal commissures. The surface of each hemisphere is thrown into numerous folds or convolutions called gyri, which are separated by furrows called fissures or sulci.

EMBRYOLOGY: The cerebrum develops from the telencephalon, the most anterior portion of the prosencephalon or forebrain.

ANATOMY: Each cerebral hemisphere consists of three primary portions—the rhinencephalon or olfactory lobe, the corpus striatum, and the pallium or cerebral cortex. The cortex is a layer of gray matter that forms the surface of each hemisphere. The part in the rhinencephalon (phylogenetically the oldest) is called the archipallium; the larger nonolfactory cortex is called the neopallium. The cerebrum contains two cavities, the lateral ventricles (right and left) and the rostral portion of the third ventricle. The white matter of each hemisphere consists of three kinds of myelinated fibers: commissural fibers, which pass from one hemisphere to the other; projection fibers, which convey impulses to and from the cortex; and association fibers, which connect various parts of the cortex within one hemisphere.

Lobes: The principal lobes are the frontal, parietal, occipital, and temporal lobes and the central (the insula or island of Reil). **Basal ganglia:** Masses of gray matter are deeply embedded within each hemisphere. They are the caudate, lentiform, and amygdaloid nuclei and the claustrum. **Fissures and sulci:** These include the lateral cerebral fissure (of Sylvius), the central sulcus (of Rolando), the parieto-occipital fissure, the calcarine fissure, the cingulate sulcus, the collateral fissure, the sulcus circularis, and the longitudinal cerebral fissure. **Gyri:** These include the supe-

rior, middle, and inferior frontal gyri, the anterior and posterior central gyri, the superior, middle, and inferior temporal gyri, and the cingulate, lingual, fusiform, and hippocampal gyri.

PHYSIOLOGY: The cerebrum is concerned with sensations (the interpretation of sensory impulses) and all voluntary muscular activities. It is the seat of consciousness and the center of the higher mental faculties such as memory, learning, reasoning, judgment, intelligence, and the emotions. **SEE: illus.**

On the basis of function, several areas have been identified and located. Motor areas in the frontal lobes initiate all voluntary movement of skeletal muscles. Sensory areas in the parietal lobes are for taste and cutaneous senses, those in the temporal lobes are for hearing and smell, and those in the occipital lobes are for vision. Association areas are concerned with integration, analysis, learning, and memory.

cereulide (sēr'oo-līd") The heat-stable toxin produced by *Bacillus cereus* that causes nausea and vomiting.

cerium (sēr'rē-ūm) [L.] SYMB: Ce. A metallic element obtained from the rare earths; atomic weight 140.12, atomic number 58.

ceroid (sēr'royd) A fatty pigment present in various tissues.

CERT *Centers for Education and Research on Therapeutics.*

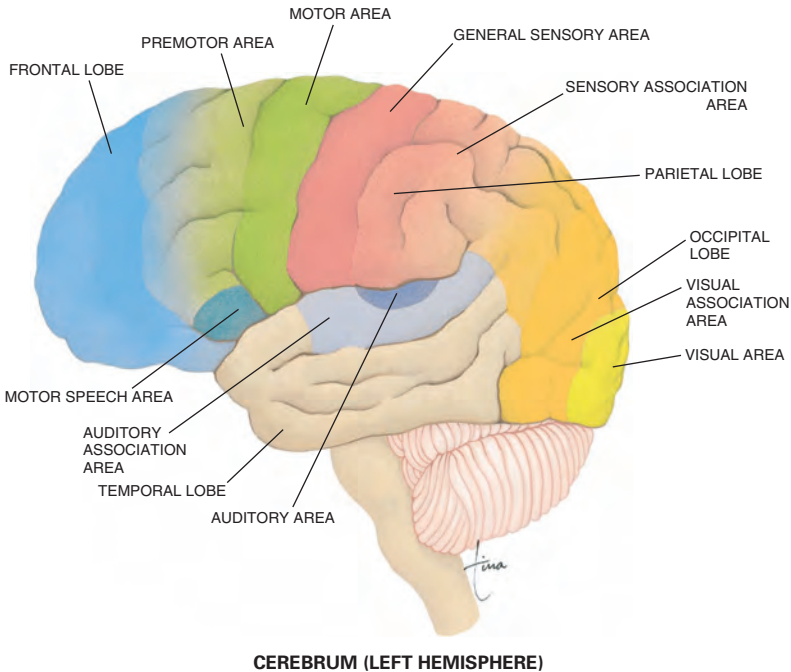
certifiable (sēr'ti-fi-ā-b'l) 1. Pert. to in-

fectious diseases that must be reported or registered with the health authorities. 2. In forensic medicine, a term applied to a mentally incompetent individual who requires the care of a guardian or institution.

certification (sēr'ti-fi-kā'shūn) 1. A legal document prepared by an official body that indicates a person or institution has met certain standards, or that a person has completed a prescribed course of instruction or training. 2. The completion of a form indicating the cause of death. 3. The legal process of declaring a person insane or mentally incompetent on the basis of medical evidence.

board c. In health care, a process that ensures that an individual has met standards beyond those of admission to licensure and has passed specialty examinations in the field. The various medical professional organizations establish their own standards and administer their own board certification examinations. Individuals successfully completing all requirements are called Fellows, such as Fellow of the American College of Surgeons (FACS) or Fellow of the American College of Physicians (FACP). Board certification may be required by a hospital for admission to the medical staff or for determination of a staff member's rank (e.g., general staff, associate staff, or full attending status).

medical-surgical nursing c. The validation of knowledge in medical-surgi-



cal nursing via an examination offered by one of two organizations: 1. The Medical-Surgical Nursing Certification Board (MSNCB), a partner of the Academy of Medical-Surgical Nurses (AMSN), or 2. The American Nurses Credentialing Center (ANCC), a subsidiary of the American Nurses Association.

certified medication technician ABBR: CMT. Certified medication aide.

certified organic Accredited as meeting specified legal standards for food production and record keeping, i.e., grown, processed, accounted for, and transported to guarantee organic purity.

certified pulmonary function technician An individual trained to evaluate respiratory function who has passed the examination offered by the National Board for Respiratory Care.

certified respiratory therapist ABBR: CRT. An entry-level respiratory care practitioner who has passed the examination offered by the National Board for Respiratory Care.

certify (sĕr't'ĭ-fĭ) [L. *certus*, certain, + *facio*, to make] 1. To confirm or verify. 2. To make a declaration concerning the sanity of an individual. 3. To report certain specified diseases to public health authorities.

ceruloplasmin (sĕ-roo'lō-plāz'mĭn) A blue glycoprotein to which most of the copper in the blood is attached. It is decreased in Wilson's disease.

cerumen (sĕ-roo'mĕn) [L. *cera*, wax] A substance secreted by glands at the outer third of the ear canal. Usually cerumen does not accumulate in the ear canal, but it may clog the channel in some persons; the cerumen may become impacted and must be physically removed, not by irrigation of the canal but by use of a curette. Soft cerumen is easily removed by gentle syringe instillation of water in the canal. **ceruminous** (-mĭ-nāl, -mĭ-nūs), *adj.*

ceruminolysis (sĕ-roo'mĭ-nōl'ĭ-sĭs) The dissolution or disintegration of cerumen in the external ear canal.

ceruminosis (sĕ-roo'mĭ-nō'sĭs) [n + Gr. *osis*, condition] Excessive secretion of cerumen.

ceruminous gland One of the modified sweat glands in the skin lining the external auditory canal that secrete cerumen.

Cervarix A human papillomavirus vaccine.

cervic- SEE: *cervico-*.

cervical (sĕr'vĭ-kāl) [L. *cervicalis*] 1. Pert. to or in the region of the neck. 2. Pert. to the cervix of an organ, as the cervix uteri.

cervical cap A barrier contraceptive device placed over the uterine cervix, designed to prevent the entry of sperm into the womb. SEE: under *cap*.

cervical intraepithelial neoplasia ABBR: CIN. Dysplasia of the basal layers of the squamous epithelium of the uterine cervix. This may progress to involve deeper layers of the epithelium. Grades 1, 2, and 3 represent increasing progression of the pathological process. Grade 3 (CIN 3) represents carcinoma in situ. CIN 3 is also classed stage 0 of cancer of the cervix. SEE: *Bethesda System, The; cancer, cervical*.

cervical length The measured distance between the external os and the functional internal os of the uterine cervix. At term, the average cervical length is 3.5 to 4.0 cm. A length of 2.0 cm or less is associated with an increased risk of preterm labor.

cervical motion tenderness ABBR: CMT. Pain elicited when the uterine cervix is manipulated during pelvic examination. CMT is often found in patients with pelvic inflammatory disease.

cervical rib syndrome Pain and paresthesias in the the hand, neck, shoulder, or arms, usually due to compression of the brachial plexus of nerves by an accessory cervical rib. SEE: *scalenus syndrome*.

cervical ripening SEE: under *ripening*.

cervicectomy (sĕr'vĭ-sĕk'tō-mĕ) [L. *cervix*, neck, + Gr. *ektome*, excision] Surgical removal of the cervix uteri.

cervices (sĕr'vĭ-sĕz) Pl. of cervix.

cervicitis (sĕr-vĭ-sĭ'tĭs) [n + Gr. *itis*, inflammation] Inflammation of the cervix uteri.

cervico-, cervic- (sĕr'vĭ-kō) [L. *cervix*] Combining forms pert. to the neck or to the neck of an organ.

cervicocolpitis (sĕr'vĭ-kō-kōl-pĭ'tĭs) [n + Gr. *kolpos*, vagina, + *itis*, inflammation] Inflammation of the cervix uteri and vagina.

cervicodynia (sĕr'vĭ-kō-dĭn'ĕ-ă) [n + Gr. *odyne*, pain] A pain or cramp of the neck; cervical neuralgia.

cervicofacial (sĕr'vĭ-kō-fā'shĕ-ăl) [n + *facies*, face] Pert. to the neck and face.

cervicogenic (sĕr'vĭ-kō-jĕn'ĭk) Relating to, or beginning in, the upper segments of the cervical spine or neighboring soft tissues.

cervicography (sĕr'vĭ-kōgr'ă-fĕ) Photographic study of the uterine cervix.

cervicovaginitis (sĕr'vĭ-kō-vāj'ĭ-nĭ'tĭs) [n + *vagina*, sheath, + Gr. *itis*, inflammation] Inflammation of the cervix uteri and the vagina.

cervix (sĕr'vĭks) *pl.* **cervices** [L.] The neck or a part of an organ resembling a neck.

c. uteri The neck of the uterus; the lower part from the internal os outward to the external os. It is rounded and conical, and a portion protrudes into the vagina. It is about 1 in (2.5 cm) long and is penetrated by the cervical canal, through which the fetus and menstrual

flow escape. It may be torn in childbirth, esp. in a primigravida.

Deeper tears may occur in manual dilatation and use of forceps; breech presentation also may be a cause. Laceration may be single, bilateral, stellate, or incomplete. Tears are repaired by suturing to prevent hemorrhage and later complications. SYN: *cervical canal*.

CES *central excitatory state.*

cesarean birth Cesarean section.

cesarean-obtained barrier-sustained
ABBR: COBS. Used in reference to animals delivered sterilely by cesarean section and maintained in a germ-free environment.

cesarean section Delivery of the fetus by means of an incision through the abdominal wall and into the uterus. Operative approaches and techniques vary. A horizontal incision through the lower uterine segment is most common; the classic vertical midline incision may be used in times of profound fetal distress. Elective cesarean section is indicated for known cephalopelvic disproportion, malpresentations, some patients with toxemia, and active genital herpes infection. The most common reason for emergency cesarean delivery is fetal distress.

COMPLICATIONS: Potential adverse effects on the mother following cesarean delivery include bleeding, fever, abdominal pain, hospital-acquired infection (wound, respiratory, genitourinary), thromboembolic phenomena, paralytic ileus, and wound dehiscence.

PATIENT CARE: *Preoperative:* The procedure is explained to the patient (and/or her partner) and psychological support is provided. Baseline measures of maternal vital signs and fetal heart rate are obtained; maternal and fetal status are monitored until delivery according to protocol. Laboratory data, ultrasound results, or the results of other studies are available to the obstetrical team. The operative area is prepared according to the surgeon's preference, and an indwelling urinary catheter is inserted as prescribed. An intravenous infusion with a large-bore catheter is started, and oral food and fluid are restricted as time permits. Blood replacement is prepared only as the surgeon requests. The patient is premedicated to reduce anxiety and discomfort. She should be placed in a slightly lateral (15 degree) position to reduce vena caval compression, supine hypotension, and resultant fetal hypoxia. General or regional anesthesia is initiated depending on the extent of fetal or maternal distress.

Postoperative: As soon as possible after the delivery of the baby, the mother is allowed to see and touch her newborn. Once recovery is sufficient, the patient

should have the opportunity to hold and or breastfeed the newborn. The pediatrician or nurse midwife or anesthetist assesses the newborn's status. The neonate is observed for signs of respiratory distress and resuscitative equipment kept readily available until physiologically stable. Vital signs are monitored for mother and baby. The dressing and perineal pad are assessed for bleeding. The fundus is gently palpated for firmness (avoiding the incision), and intravenous oxytocin is administered as prescribed. If general anesthesia is used, routine postoperative care and positioning are provided; if regional anesthesia is used, the anesthesia level is assessed until sensation has completely returned. Intake and output are monitored, and any evidence of blood-tinged urine is documented and reported. (The indwelling urinary catheter usually is removed within 48 hr.) Cold is applied to the incision to control pain and swelling; if prescribed, analgesics are administered, and noninvasive pain-relief measures are instituted. Lochia and breasts are assessed. The mother is assisted to turn from side to side and is encouraged to breathe deeply, cough, and use incentive spirometry to improve ventilation and to mobilize secretions. When bowel sounds have returned, oral fluids and food are encouraged and bowel and bladder activity are monitored.

The patient is assisted with early ambulation to prevent pulmonary, vascular, and GI complications, and urged to visit her newborn in the nursery if the neonate is not healthy enough to be brought to her bedside. Usual postpartal instruction is provided regarding fundus, lochia, and perineal care; breast and nipple care; and infant care. Instruction is also given on incision care and the need to report any hemorrhage, chest or leg pain (possible thrombosis), dyspnea, separation of the wound's edges, or signs of infection, such as fever, difficult urination, or flank pain. Any activity restrictions after discharge are discussed with both the woman and her partner. Encourage the patient to share feelings about the experience, suggest participation in a cesarian birth sharing group if available and appropriate, and arrange for further psychological support as deemed necessary. SEE: *Nursing Diagnoses Appendix*.

cervical c.s. Surgical removal of the fetus, placenta, and membranes through an incision in the portion of the uterus just above the cervix.

classic c.s. Surgical removal of the fetus, placenta, and membranes through an incision in the abdominal and uterine walls.

extraperitoneal c.s. Surgical re-

removal of the fetus, placenta, and membranes through an incision into the lowest portion of the anterior aspect of the uterus. This approach does not entail entering the peritoneal cavity.

low transverse c.s. Surgical removal of the fetus, placenta, and membranes through a transverse incision into the lower uterine segment. Use of this incision is associated with a decreased incidence of maternal and fetal mortality and morbidity in future pregnancies.

postmortem c.s. Surgical removal of the fetus from the uterus immediately after maternal death.

cesium (sē'zē-ūm) [L. *caesius*, sky blue] SYMB: Cs. A metallic element; atomic weight 132.905, atomic number 55. It has several isotopes. The radioactive isotope ¹³⁷Cs, which has a half-life of 30 years, is used therapeutically for irradiation of cancerous tissue.

cesspool Colloquial term for *septic tank*.

Cestan-Chenais syndrome (sēs-tān'shēn-ā') [Raymond Cestan, Fr. neurologist, 1872–1934; Louis J. Chenais, Fr. physician, 1872–1950] A neurological disorder with complex hemibody deficits and cranial nerve findings produced by a lesion of the brainstem.

Cestoda (sēs-tōd'ă) [Gr. *kestos*, girdle] A subclass of the class Cestoidea, phylum Platyhelminthes, which includes the tapeworms, having a scolex and a chain of segments (proglottids) (e.g., *Taenia*, intestinal parasites of humans and other vertebrates).

cestode (sēs'tōd) [" + *idos*, form, shape] A tapeworm; a member of the Cestoda family. **cestoid** (-toyd), *adj.*

cestodiasis (sēs'tō-dī'ă-sīs) [" + " + *-iasis*, condition] Infestation with tapeworms. SEE: *Cestoda*.

Cestoidea (sēs-toy'dē-ă) A class of flatworms of the phylum Platyhelminthes; it includes the tapeworms.

cetirizine (sē-tīr'ī-zēn) A piperazine, administered orally to relieve allergic symptoms caused by histamine release, including seasonal and perennial allergic rhinitis and chronic urticaria. Its therapeutic classes are allergy, cold, and cough remedies, and antihistamines.

CF *Christmas factor; citrovorum factor; cystic fibrosis.*

Cf Symbol for the element californium.

CFT *complement fixation test.*

CGD *Chronic granulomatous disease.*

cGMP *cyclic guanosine monophosphate.*

C.G.S. *centimeter-gram-second*, a name given to a system of units for length, weight, and time.

CH₄ Methane.

C₂H₂ Acetylene.

C₂H₄ Ethylene.

C₆H₆ Benzene.

Chaddock's reflex (chăd'öks) [Charles G. Chaddock, U.S. neurologist, 1861–

1936] **1.** Extension of the great toe when the outer edge of the dorsum of the foot is stroked. It is present in disease of the corticospinal tract. **2.** Flexion of the wrist and fanning of the fingers when the tendon of the palmaris longus muscle is pressed.

Chadwick's sign (chăd'wīkz) [James R. Chadwick, U.S. gynecologist, 1844–1905] A deep blue-violet color of the cervix and vagina caused by increased vascularity; a probable sign of pregnancy that becomes evident around the fourth week of gestation.

chafe (chăf) [O.Fr. *chaufer*, to warm] To injure by rubbing or friction.

chafing (chăf'ing) A superficial inflammation that develops when skin is subjected to friction from clothing or adjacent skin. This may occur at the axilla, groin, or anal region, between digits of hands and feet, or at the neck or wrists. Erythema, maceration, and sometimes fissuring occur. Bacterial or fungal infection may result secondarily.

Chagas' disease (chăg'ăs) [Carlos Chagas, Braz. physician, 1879–1934] American trypanosomiasis.

chagoma (shă-gō'mă) A painful, red swollen lesion found at the site of inoculation of the parasite *Trypanosoma* into the skin. SEE: *trypanosomiasis, South American.*

chain (chăn) [O.Fr. *chaîne*, chain] **1.** A related series of events or things. **2.** In bacteriology, bacterial organisms strung together. **3.** In chemistry, the linkage of atoms in a straight line or in a circle or a ring. The ring or straight-line structures may have side chains that branch off from the main compound.

electron transport c. SEE: *electron transport chain.*

food c. The transfer of food energy from producers (green plants) to primary consumers (herbivores) to secondary consumers (carnivores). Dead organisms of all kinds are reduced to simpler chemicals by decomposers (bacteria and fungi), which make minerals available again for green plants.

heavy c. The large polypeptide chains of antibodies. SEE: *heavy chain disease.*

J c. The joining portion of a polymeric immunoglobulin, found in dimeric and polymeric IgA and pentameric IgM.

kinematic c., kinetic c. A series of bones connected by joints. Movement of one segment influences other parts of the chain.

light c. The small polypeptide chains of antibodies.

chain of custody A verifiable procedure that links the collection of evidence (e.g., medical samples taken during a rape examination) with its shipping and han-

dling and its eventual receipt by a clinical laboratory. SEE: *rape*.

chaining (chān'īng) A behavioral therapy in which reinforcement is given for behaviors related to established behavior. Also called *chained reinforcement*.

chain reaction A self-renewing reaction in which the initial stage triggers a subsequent reaction, which in turn causes the next, and so on.

chain of survival In emergency cardiac care, the idea that the survival of patients in cardiac arrest depends on the linkage of the following: 1. early access, 2. early CPR, 3. early defibrillation, 4. early advanced life support. If for any reason any one of these links is missing or delayed, the chance of survival decreases considerably. SEE: *cardiopulmonary resuscitation*.

chair, birthing SEE: *birthing chair*.

chair stand (chār) [O.Fr.] The time it takes to rise from a seated position in a straight-backed chair to a standing position unsupported. The test may be performed in several ways. In one assessment the subject gets up from a chair five times, and the time it takes to complete these maneuvers is measured. In another assessment the number of times the patient can get up and down in 30 sec is counted. The test is one of several used in physical therapy and gerontology to assess balance, endurance, mobility, and strength.

chakra, cakra (chūk'rā) [Sanskrit, wheel] A Sanskrit term that literally means "wheel" or "disk." In Kundalini and Tantric yoga, the chakras are seven energy centers running parallel to the spine that influence the conscious state of the body and therefore its health and well-being. Yogis believe that chakras interact directly with the endocrine and nervous systems to influence physical and emotional states.

chalasia (kā-lā'zē-ā) [Gr. *chhalasis*, relaxation] Relaxation of sphincters.

chalazion (kā-lā'zē-ōn) *pl.* **chalazia, chalazions** [Gr. *khalaza*, hailstone] A benign, granulomatous lesion analogous to a sebaceous cyst developing on the eyelids, formed by distention of a meibomian gland with secretion. SYN: *meibomian cyst*. SEE: *steatoma*.

chalicosis (kāl-ī-kō'sīs) [Gr. *chalix*, limestone, + *osis*, condition] Pneumonocystosis associated with the inhalation of dust produced by stone cutting.

challenge (chāl'ēnj) In immunology, administration of a specific antigen to an individual known to be sensitive to that antigen in order to produce an immune response.

food c. Exposing a patient to a substance to which the patient is thought to react adversely. Ethically, the test cannot be performed without the patient's permission, but for accuracy the

test foods should be disguised during the test. Typically, food challenges are performed after the patient has eliminated the suspected food from his or her diet for 1 or 2 weeks. To eliminate bias, the patient should agree to ingest several disguised foods that he or she is known to tolerate, in addition to the suspected food. SEE: *elimination diet*.

peremptory c. A challenge to remove a juror from a prospective jury without cause.

challenge for cause A request that a prospective juror not be allowed to serve for specific reasons or causes (e.g., concerns about potential bias or prejudice).

challenge test Administering a substance in order to determine its ability to cause a response, esp. the giving of an antigen and observing or testing for the antibody response.

chalone (kāl'ōn) [Gr. *chalan*, to relax] A protein that inhibits mitosis in the tissue in which it is produced.

chamber (chām'bēr) [Gr. *kamara*, vault] A compartment or closed space.

altitude c. Low-pressure c.

anterior c. The space between the cornea and iris of the eye. SEE: *posterior c.*

aqueous c. The anterior and posterior chambers of the eye, containing the aqueous humor.

Boyden c. SEE: *Boyden chamber*.

drip c. A hollow device where intravenous fluids are collected before infusion into a patient.

hyperbaric c. An airtight enclosure strong enough to withstand high internal pressure. It is used to expose animals, humans, or an entire surgical team to increased air pressure. SYN: *pressure chamber*. SEE: *oxygenation, hyperbaric*.

ionization c. A device used to measure radiation by equating ion production in a gas chamber with the intensity of an electrical charge.

low-pressure c. An enclosure designed to simulate high altitudes by exposing humans or animals to low atmospheric pressure. Such studies are essential for simulated flights into the atmosphere and space. SYN: *altitude chamber*.

monoplace c. A hyperbaric chamber that supplies an enriched oxygen environment to a single person (or to a small child with a family member or nurse in attendance). It may be used to treat those suspected of severe carbon monoxide exposure.

multiplace c. A hyperbaric chamber that supplies an enriched oxygen environment to several patients who have suffered severe carbon monoxide exposure. All the patients wear their own masks and have their own oxygen supply within the chamber.

posterior c. In the eye, the space behind the iris and in front of the vitreous body. It is occupied by the lens, its zonules, and the aqueous humor. SEE: *anterior c.*; *eye for illus.*

pressure c. Hyperbaric c.

pulp c. The central cavity of a tooth. The pulp canal contains arteries, veins, lymphatic vessels, and sensory nerve endings. Anatomically, the pulp chamber can be divided into the body and the pulp horns. Pulp horns correspond to the cusps of the teeth. SEE: *root canal*; *pulp cavity.*

vitreous c. The cavity behind the lens in the eye that contains the vitreous humor.

Chamberlain procedure (chām'bēr-līn) [J. Maxwell Chamberlain, U.S. thoracic surgeon, 1908–1968] Incision into the mediastinum through an incision made next to the sternum. The procedure is used to obtain specimens for biopsy or laboratory analysis, as an alternative to mediastinoscopy.

chamomile, camomile (kām'ë-mīl) [Gr. *khamamelon*, earth apple] The flowering heads of the plant *Anthemis nobilis*. They are used in bitters to improve appetite and digestion and in alternative medicine as a tea. Hypersensitivity reactions to chamomile may produce dermatitis, asthma, or anaphylaxis.

champissage (shām-pī-sāzh') [Fr. fr Hindi *champo*, knead, press] An ancient Hindu technique of scalp massage. It is promoted as a means of combating hair loss. The shoulders and neck are sometimes included in the treatment.

chance 1. That which occurs randomly. 2. An accident.

chancr (shāng'kēr) [Fr., ulcer] A hard, syphilitic primary ulcer, the first sign of syphilis, appearing approx. 2 to 3 weeks after infection. SEE: *illus.*; *syphilis.*

chancrous (-krūs), *adj.*

SYMPTOMS: The ulcer begins as a painless erosion or papule that ulcerates superficially. It generally occurs alone. It has a scooped-out appearance due to level or sloping edges that are adherent, and a shining red or raw floor. The ulcer heals without leaving a scar. It may appear at almost any site includ-

ing the mouth, penis, urethra, hand, toe, eyelid, conjunctiva, vagina, or cervix. Discovery of these organisms in the chancre is the basis for the positive dark-field test for syphilis. SYN: *hard c.*; *hunterian c.*; *true c.*



During the chancre stage, syphilis is highly contagious. The chancre contains many spirochetes.

hard c. Chancre.

hunterian c. Chancre.

simple c. Chancroid.

soft c. Chancroid.

true c. Chancre.

chancroid (shāng'kroyd) [r + Gr. *eidos*, form, shape] A sexually transmitted infection, caused by the *Haemophilus ducreyi* (a gram-negative bacillus). Its hallmark is the appearance on the genitals of one or more painful ulcers. The incubation period is typically 2 to 5 days, although longer incubations have been reported. The genital chancre of syphilis is clinically distinguished from that of chancroid in that the syphilitic ulcer is painless. Cultures on chocolate agar are used to confirm the diagnosis. Ceftriaxone, azithromycin, or ciprofloxacin are used to treat the infection. SEE: *illus.*



CHANCROID

SYMPTOMS: A chancroid begins with multiple pustules or ulcers having abrupt edges, a rough floor, yellow exudate, and purulent secretion. It is sensitive and inflamed. It heals rapidly, leaving a scar. Chancroids may affect the penis, urethra, vulva, or anus. Multiple lesions may develop by autoinoculation. Types include transient, phagedenic, giant, and serpiginous.

change, fatty Any abnormal accumulation of fat within parenchymal cells. It may occur in the heart or other organs. When seen in the liver, it often is a result of excessive and prolonged alcohol intake or obesity.

change of life Menopause.

change-of-shift That time during the working day when one group of health care professionals arrive for work and



TYPICAL CHANCRE OF PRIMARY SYPHILIS

another group prepares to leave. At this juncture reports about patients are relayed from one group to another and tasks that need to be accomplished are assigned.

channel (chăn'ël) [L. *canalis*, a water-pipe] **1.** A conduit, groove, or passage-way through which various materials may flow. **2.** In cell biology, a passage-way in the cell membrane through which materials may pass.

anion c. Channels in red blood cells that cross the cell membrane. Chloride ions (Cl^-) and bicarbonate ions (HCO_3^-) are exchanged via these channels.

gated c. An ion channel in a cell membrane that opens or closes in response to a stimulus such as a neurotransmitter or to a change in pressure, voltage, or light.

ion c. A protein that spans the lipid bilayer of the cell membrane and regulates the movement of charged particles (e.g., electrolytes) into and out of cells.

leakage c. An ion channel in a cell membrane that is always open, making the membrane permeable to ions.

nongated c. Leakage c.

receptor-operated c. A conduit in a cell membrane through which ions pass when a neurotransmitter binds to its receptor site.

voltage c. A glycosylated protein in a cell membrane through which ions pass when the electrical potential of the membrane shifts.

voltage-gated c. A gated ion channel that opens in response to a change in the membrane potential of a cell membrane; such channels give muscle fibers and neurons their ability to generate and propagate impulses.

voltage-regulated c. Voltage-gated c.

channelopathy A disease that results from a mutation in an ion channel in a cell membrane (e.g., from a mutation that alters the uptake of an electrolyte such as sodium, potassium, or calcium by a cell).

chaotropic agent (kă"ô-tröp'ik) [Gr. *chaos* + Gr. *tropikos*, pertaining to a turn] An ion that disrupts membranes, nucleic acids, and proteins.

chaperone (shăp-ër-ôn') **1.** An individual who accompanies a health care provider during the examination of a disabled patient to ensure that sexual boundary violations do not occur. **2.** Molecular chaperone.

molecular c. A protein that shapes other protein molecules so they can work optimally as receptors or can be secreted or cleared from cells.

chapped (chăpt) [ME. *chappen*] Inflamed, roughened, fissured, as from exposure to cold.

character (kăr'äk-tër) **1.** A person's pattern of thought and action, esp. regard-

ing moral choices. Character differs from personality, although in psychiatry the terms are often used interchangeably. **2.** The feature of an organism or individual that results from the expression of genetic information inherited from the parents.

character disorder A personality disorder manifested by a chronic, habitual, maladaptive pattern of reaction that is relatively inflexible, limits the optimal use of potentialities, and often provokes the responses from the environment that the individual wants to avoid.

characteristic (kăr'äk-tër-is'tik) **1.** A trait or character typical of an organism or of an individual. **2.** In logarithmic expressions, the number to the left of the decimal point, as distinguished from the mantissa, the number to the right of the decimal point.

acquired c. A trait or quality that was not inherited but is the result of environmental influence.

anal c. Anal personality.

dominant c. SEE: *dominant*.

primary sex c. An inherited trait that influences the development of the reproductive organs.

recessive c. Recessive gene.

secondary sex c. A gender-related physical attribute that normally develops under the influence of sex hormones at puberty. Voice quality, facial hair, and body fat distribution are examples.

sex-conditioned c. A genetic trait carried by both sexes but expressed or inhibited by the sex of the individual.

sex-limited c. A trait present in only one sex even though the gene responsible is present in both sexes.

sex-linked c. A trait controlled by genes on the sex chromosomes. The X and Y chromosomes determine sex but also carry genes unrelated to sex. SYN: *sex-linked gene*.

characterize (kăr'äk-tër-iz") To mark, identify, or describe the attributes of something. This helps to distinguish an individual or material from other examples of similar individuals or materials.

charcoal (chăr'köl) [ME. *charcole*] A black granular mass or fine powder prepared from soft charred wood.

ACTION/USES: In treating people who have ingested organic poisons, activated charcoal is given orally as a suspension in water, using 8 ml of diluent per gram of charcoal. This may be given to infants by using a nipples bottle. The dose is 1 to 2 g/kg of body weight. Superactivated charcoal is two to three times more effective than activated charcoal. Charcoal should be administered as soon as possible after intake of the toxin. It is contraindicated in patients who have ingested corrosive chemicals. Ionized chemicals (e.g., ac-

ids, alkalis, and salts of cyanide, iron, and lithium) are not well absorbed by charcoal.

superactivated c. A type of charcoal used in treating poisoning. It is several more times as effective as activated charcoal.

Charcot, Jean M. (shär-kō') French neurologist, 1825–1893.

C. foot A deformity of the foot; seen in individuals with diabetes mellitus.

C. joint A type of diseased joint, marked by hypermobility, associated with tabes dorsalis, syringomyelia, or other conditions involving spinal cord disease or injury. Bone decalcification occurs on the joint surfaces, accompanied by bony overgrowth about the margins. Pain is usually absent, although there are exceptions. Deformity and instability of the joint are characteristic.

Charcot-Bouchard aneurysm (shär-kō') [Charcot; Charles Jacques Bouchard, Fr. physician, 1837–1886] A microaneurysm in a small artery of the brain thought, in the past, to be a cause of intracranial hemorrhage.

Charcot-Leyden crystal (shär-kō'li'dén) [Charcot; Ernest V. von Leyden, Ger. physician, 1832–1910] A type of colorless, hexagonal, double-pointed, often needle-like crystal found in the sputum in asthma and bronchial bronchitis or in the feces in ulceration of the intestine, esp. amebiasis.

Charcot-Marie-Tooth disease (shär-kō'mä-rē'tooth') [Charcot; Pierre Marie, Fr. neurologist, 1853–1940; Howard Henry Tooth, Brit. physician, 1856–1925] A form of progressive neural atrophy of muscles supplied by the peroneal nerves. There are numerous variants of the disease: some are transmitted on the X chromosome and some are autosomal recessive. In all versions, there is a defect in the myelination of peripheral nerves, causing motor deficits (such as footdrop) and loss of sensation. SYN: *peroneal muscular atrophy*.

Charcot's triad 1. The combination of nystagmus, intention tremor, and scanning speech. It is frequently associated with multiple sclerosis. 2. The combination of right upper quadrant abdominal pain, fever, and jaundice—a marker of cholangitis.

charge 1. In electricity, the amount of electrical force present. 2. To add electrical energy to a battery. 3. The cost to the patient and/or the third-party payer for a medical service or hospitalization.

covered c. A medical service that is reimbursable by a third-party payer.

customary and reasonable c. The usual cost of a specific service to a patient. The term is used in the medical insurance industry to determine the

amount the provider will be reimbursed for the service or procedure. Under Medicare, this is the lowest customary charge by a physician for a service or the prevailing charge of other area physicians for the same service.

maximum allowable c. ABBR: MAC. In medical care financial management, the maximum reimbursement rate a health plan will allow for the cost of services such as prescribed medicines or professional fees.

charlatan (shär'lä-tän) [It. *ciarlatano*] A pretender to special knowledge or ability, as in medicine. SYN: *quack*.

Charles' law (shärl) [Jacques A. C. Charles, Fr. physicist, 1746–1823] At constant pressure, a given amount of gas expands its volume in direct proportion to the absolute temperature. SYN: *Gay-Lussac's law*. SEE: *Boyle's law*.

charleyhorse (chär'lē-hors") A colloquial term for pain and tenderness in the fibromuscular tissue of the thighs, usually caused by muscle strain or tear. The condition is marked by sudden onset and aggravation on movement. Relief can be obtained from rest, local applications of cold, gentle massage, and nonsteroidal anti-inflammatory drugs.

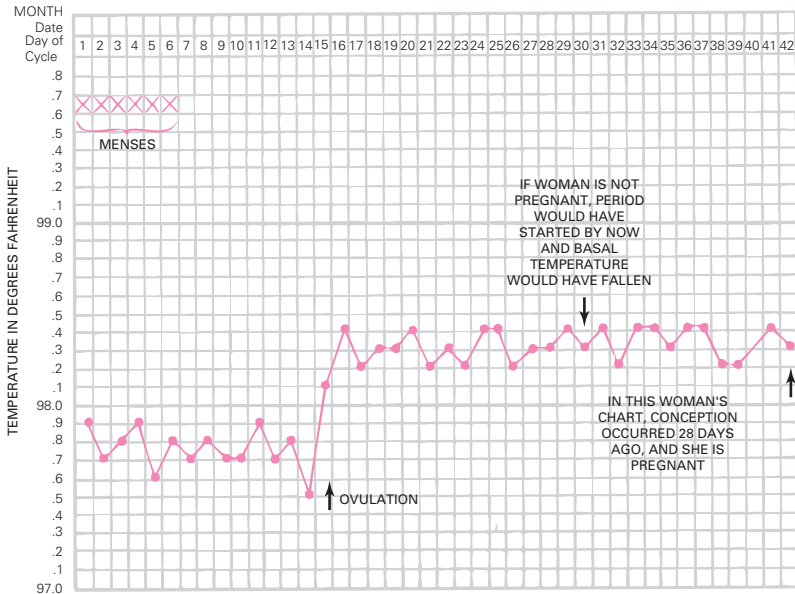
chart (chärt) [L. *charta*, paper] 1. A form or sheet of paper used to record the course of a patient's illness. It includes records of temperature, pulse, respiratory rate, blood pressure, urinary and fecal output, and doctors' and nurses' notes. 2. To record on a graph the sequence of events such as vital signs. SEE: *charting*. 3. The complete clinical record of a patient, including physical and psychosocial state of health as well as results of diagnostic tests. Plans for meeting the needs of the patient are also included. SEE: *problem-oriented medical record*. 4. To record the clinical, radiographic, and forensic findings of the teeth and surrounding tissues.

basal temperature c. A daily chart of temperature obtained upon awakening. Some women are able to predict the time of ovulation by carefully analyzing the character and rhythm of the temperature chart. This information and other data can be used to establish that the woman is ovulating. Use of this method to control conception by predicting time of ovulation is unreliable in most cases. SEE: *illus.*; *conception*; *luteal phase defect*.

dental c. SEE: *dental chart*.

charta (kär'tä) [L.] A preparation intended principally for external application, made either by saturating paper with medicinal substances or by applying the latter to the surface of the paper by adding adhesive liquid.

charting (chärt'ing) The process of making a tabulated record of a patient's progress and treatment during an illness,



BASAL BODY TEMPERATURE CHART

outpatient procedure, office visit, or hospitalization. The physician and other health care providers need detailed information about the patient that the nurse or other members of the health care team may contribute through observation and contact. These notes and flow sheet entries contain details used in planning, implementing, and evaluating patient care. SEE: *nursing process; problem-oriented medical record.*



Verbal reports are not sufficient; they may be misunderstood or forgotten.

Written documentation is considered legal evidence. It must be recorded promptly and be dated and timed, and be clear, concise, and legible. Mistakes should be corrected by noting the mistaken entry and correction, or by placing a single line through the mistaken entry and writing the correction immediately after. If an entry is made late, it should follow the most recent entry in the chart and include the date and time when it was made. Slang should not be used. Since charting procedures may differ among health care institutions, it is crucial to learn to use the system specified in one's own facility.

The following subheadings exemplify those aspects of patient care found in complete nursing records: *Vital signs:* including blood pressure, pulse, respiration, and temperature. They are re-

corded on admission and before the patient goes for procedures, to the operating room, or with any significant change in patient status. Recording of the blood pressure should include any differences noted between arms, and any postural changes (when bleeding, dizziness, fluid loss, or syncope are present). The pulse record should include its rate in beats per minute and any unusual characteristics such as irregularities of rhythm. Respiratory records include the rate per minute and the character (e.g. Cheyne-Stokes, deep, difficult, easy, gasping, labored, quiet, shallow, or stertorous). The record of temperature should include the method of measurement (axillary, auditory, central, oral, rectal) and whether the temperature is accompanied by chills, diaphoresis, rigors, or localizing symptoms. Any treatment for fevers of hypothermia should be recorded. *Alterations in consciousness:* Coma, drowsiness, and obtundation as well as convulsions should be precisely described. It is important to make note of the appearance of the patient during these events, including any localizing movements, any precipitating events, and ocular and pupillary findings if abnormal. Incontinence of bowel or bladder, and unintentional injury to self during changes in consciousness should be noted, as well as any delay in recovery to normal awareness. *Diet:* The percentage of intake for each meal and type of meals consumed are recorded. If a calorie

count is needed, the type and amount of each food and liquid taken are recorded. If the patient is being monitored for intake and output, the amount of each liquid consumed is documented. The following should be included in dietary records: amount of liquids taken; hours of giving; type of diet (full, light, soft, liquid, special); and appetite. The description of appetite may include remarks about special likes or dislikes, difficulties with ingestion, or alterations in digestion. *Discharge or death*: The date and hour of discharge or death and the name of the person who ordered the discharge or pronounced the death should be given. *Dressings*: This chart should include the changes of dressings on wounds and the amount and character of drainage (including the phrase "Specimen Saved," if this was done). In addition, the hour, the person who changed the dressing, the removal of stitches or drains, and the patient's reaction to the dressing change should be recorded. *Drugs*: The name of each medicine, the dosage, the route of administration, the time of administration, and the frequency should be confined to the prescribed column of the medical record. When preparations are dispensed in liquid form, the actual dose given should be recorded rather than the amount of solution. Any unfavorable, unusual, or idiosyncratic reaction from drugs or treatments should be recorded. All medicines, treatments, preparations, and the like should be charted by the nurse who administers them whether or not the nurse is in charge of the patient. *Excretions*: Time, character, and other facts are included. The chart should include a description of the stool, including whether produced spontaneously or by enema, the amount, consistency, color, presence or absence of blood, pus or mucus, the odor, and any abnormal constituents present. The chart should have a similar description of the urine, and include records of its amount, its color and general appearance, and whether the urine was obtained through a catheter. The nurse should record any urination accompanied by pain or burning, and the time any specimen of urine was sent to the laboratory. The timing of a 24-hour collection should be noted, and the amount obtained should be recorded in the chart and on the laboratory record. *General appearance*: The patient's color, mental state (see below), and mood should be documented. *Hemorrhages and discharges*: These should be described, and any unusual specimens saved for examination. *Infant feeding*: Breast versus bottle feeding are noted, and any maternal education is given. Any formula given should be recorded the first

time; afterward, the amount given suffices. If infants regurgitate, the approximate amount is recorded. *Laboratory*: The date and time, type of specimen, ordering physician, method of transport, and courier are all noted. SEE: *chain of custody*.

Mental state: The record should document the patient's alertness and awareness, cooperativeness, delirium or delusion, depression, hallucinosis, psychotic symptoms, and teaching and learning ability. Reactions to visitors and mood change after visitors depart should be reported. This is esp. important in psychiatric patients. *Nausea*: The chart should record whether nausea was accompanied by vomiting, and whether it followed certain foods, drugs, interventions, or treatments. *Nerves*: All symptoms of nervousness or excitability should be noted. *Nursing care*: The nurse should chart and date all activities, ambulation, assessments, independent interventions, medications given, and special treatments. *Pain*: The record should include the character (e.g., sharp, dull, burning, grinding, throbbing), onset, location, duration, and any factors that exacerbate the pain or facilitate its remission. *Personal care*: Baths, personal hygiene, and the patient's reactions to these should be recorded. For women, this includes menstruation and the type of menstrual protection used. *Physician*: The physician's visit is recorded as are any verbal or telephone orders and the time they are expressed or written, and carried out. *Physical therapy*: The hour of going for treatment, the hour of return, and the condition of the patient should be charted. *Sleep*: Hours of sleep during both day and night are charted. If an accurate estimate is impossible, an approximation is made and noted as such. Abnormalities of sleep, such as apneic periods, bruxism, nightmares, and sleepwalking are recorded. *Surgery*: Documentation includes the procedure, preparation (including medications), the time, the admission and discharge from the postanesthesia care unit (PACU) or critical care unit; the transfer to the patient's room, the condition, lines, monitors, tubes, and assessment on return to the room; and the results of assessments during the first few hours after surgery. PACU and critical care nurses record treatment and condition while the patient is under their care. *Symptoms*: An accurate description of all symptoms should be given. The remarks should include both subjective and objective findings. *Time*: Everything relating to the patient's progress should be charted as it occurs. *Treatments*: The hour of treatment, the nature of the treatment, the provider of the treatment, and the pa-

tient's reaction are recorded. *Radio-graphic studies*: The type of study, its hour of initiation, the location of the study, the transportation involved, the practitioners, and the patient's subsequent condition are all recorded. *Visits of family or clergy*: The hour, the name of the visitor, and the rite performed are charted, as well as the patient's response. *Miscellaneous*: Any sudden or marked change in the patient's condition is charted, as well as any subsequent notification of the patient's relatives, physician, or clergy.

charting and numbering of teeth Any of the various systems developed for designating teeth in a chart system including numbers, letters, or symbols. They are not uniformly accepted. Widely used are the two-digit system of Federation Dentaire Internationale (FDI system) and the American system, which numbers the permanent teeth consecutively from the upper right third molar as #1 through the maxillary teeth to #16, and then to the left mandibular third molar as #17 and through the mandibular teeth to the right third molar as #32.

chartula (kār'tū-lā) [L., small piece of paper] A paper folded to form a receptacle containing a dose of medicine.

chasma (kăz'mă) [Gr., a cleft] An opening, gap, or wide cleft.

chaste tree berry [partial translation of *L. agnus castus*, chaste (lamb)] An herbal remedy from the chemically active fruit of the chaste or hemp tree (*Vitex agnus-castus*), promoted for its relief of premenstrual symptoms (esp. breast swelling) and discomfort associated with menopause and as an aid for breast enlargement.

Chaussier's areola (shō-sē-āz') [François Chaussier, Fr. physician, 1746–1828] Indurated tissue around the lesion of a malignant pustule.

CHB *complete heart block*.

Ch.B. *Bachelor of Surgery*; used mostly in the United Kingdom.

CHD *congenital hip dislocation; congenital heart disease; coronary heart disease*.

check [O.Fr. *escheq*] **1.** To slow down or arrest the course of a condition. **2.** To verify.

check bite A sheet of hard wax used to make an impression of teeth to check articulation.

checkpoint In molecular and cell biology, a process or chemical that temporarily blocks or retards a biochemical event. Checkpoint mutations are associated with the unregulated growth of some cancers.

check-up General term for a visit to a health care provider for a history and physical examination.

check valve Any valve that permits fluids or gases to flow in just one direction. Check valves are used, for example, in infusion sets to prohibit backflow of fluids during intravenous therapy.

Chédiak-Higashi syndrome (shē'dē-āk-hē-gă'shē) [M. Chédiak and O. Higashi, contemporary French and Japanese physicians, respectively] A lethal metabolic disorder, inherited as an autosomal recessive trait, in which neutrophils contain peroxidase-positive inclusion bodies. Partial albinism, photophobia, and pale optic fundi are clinical features. Children usually die by 5 to 10 years of age of a lymphoma-like disease.

cheek [AS. *ceace*] **1.** The side of the face forming the lateral wall of the mouth below the eye. **SYN:** *bucca*. **2.** The buttock.

cheekbone (chēk'bōn) The malar bone. **SEE:** *zygomatic bone*.

cheek retractor A device that encloses the cheek at the angle of the mouth for proper exposure of the operating field.

cheil- **SEE:** *cheilo-*.

cheilectomy (kī-lēk'tō-mē) [Gr. *cheilos*, lip, + *ektome*, excision] **1.** Surgical removal of abnormal bone around a joint to facilitate joint mobility. **2.** Surgical removal of a lip.

cheilectropion (kī'lēk-trō'pē-ōn) [ʹ + *ektrope*, a turning aside] Eversion of the lip.

cheilitis (kī-lī'tīs) [ʹ + *itis*, inflammation] Inflammation of the lip.

angular c. An inflammation of the corners of the mouth. The cause is bacterial infection of the skin. Erythema and painful fissures are present. This condition usually occurs in edentulous patients. **SYN:** *perleche*.

solar c. Skin changes including papules and plaques that occur on sun-exposed areas of the lips.

c. venenata Dermatitis of the lips resulting from chemical irritants in lipsticks, lip cream, and various other materials.

cheilo-, cheil- Combining forms meaning *lip*. **SEE:** *chilo-*.

cheilognathopalatosis (kī'lō-nā'thō-pāl-ā-tōs'kī-sīs) [ʹ + *gnathos*, jaw, + *L. palatum*, palate, + *Gr. schisis*, a splitting] A developmental anomaly in which there is a cleft in the hard and soft palates, upper jaw, and lip.

cheilophagia (kī'lō-fā'jē-ā) [ʹ + *phag-ein*, to eat] The habit of biting one's own lip.

cheiloplasty (kī'lō-plās'tē) [ʹ + *plassein*, to form] Plastic surgery on the lips.

cheilorrhaphy (kī-lor'ā-fē) [ʹ + *rhaphe*, seam, ridge] Surgical repair of a cleft lip.

cheiloschisis (kī-lōs'kī-sīs) [ʹ + *schisis*, a splitting] Cleft lip.

cheilosis (kī-lō'sīs) [ʹ + *osis*, condition] A morbid condition in which the lips become reddened and develop fissures at the angles. It is seen frequently in vi-

tamin B complex deficiencies, esp. riboflavin.

cheilostomatoplasty (kī'lō-stō-măt'ō-plās'tē) [*l'* + *stoma*, mouth, + *plassein*, to form] Plastic surgery and restoration of the mouth.

cheilotomy, chilotomy (kī-lōt'ō-mē) [*l'* + *tome*, incision] Excision of part of the lip.

cheirognostic, chirognostic (kī'rōg-nōs'tik) [Gr. *cheir*, hand, + *gnostikos*, knowing] Able to distinguish the left from the right side of the body; able to perceive which side of the body is being stimulated.

cheirospasm (kī'rō-spāsm) [*l'* + Gr. *spasmos*, a convulsion] Chirospasm.

chelate (kē'lāt) [Gr. *chele*, claw] **1.** In chemistry, to grasp a metallic ion in a ring-shaped molecule. **2.** In toxicology, to use a compound to enclose or sequester a toxic substance, rendering it inactive or less injurious. SEE: *poisoning; Poisons and Poisoning Appendix*.

chelation (kē-lā'shūn) [Gr. *chele*, claw] **1.** The combining of metallic ions with certain heterocyclic ring structures so that the ion is held by chemical bonds from each participating ring. **2.** An alternative or complementary medical practice that uses infusions of ethylenediaminetetra-acetic acid to remove toxic substances from the body. Its effectiveness in the treatment of human disease is unproven.

cheloid (kē'loyd) [Gr. *kele*, tumor, swelling, + *eidōs*, form, shape] Keloid.

chemabrasion (kēm-ā-brā'shūn) The use of a chemical to destroy superficial layers of skin. This technique may be used to treat scars, tattoos, or abnormal pigmentation. SYN: *chemexfoliation*.

chemexfoliation (kēm'eks-fō'lē-ā'shūn) Chemabrasion.

CHEMFET *chemically sensitive field effect transistor*.

chemical (kēm'ik-āl) [Gr. *chemeia*, chemistry] Pert. to chemistry.

chemical, biological, radiological, nuclear, and explosive agents ABBR: CBRNE. Technologically sophisticated weapons that may be used in military or terrorist activities.

Chemical Abstract Service ABBR: CAS. A branch of the American Chemical Society that maintains a registry of chemicals, active ingredients used in drugs, and food additives. Each chemical is assigned a permanent CAS number through which current data can be traced.

chemical change A process in which molecular bonds break or form between electron-sharing atoms or molecules to create substances with new properties or characteristics. For example, oxygen and hydrogen combine to form water. Sodium (a metal) and chlorine (a gas) combine to form sodium chloride, or

common salt. Glucose (C₆H₁₀O₅) is metabolized to carbon dioxide (CO₂) and water (H₂O). Oxygen combines with hemoglobin to form oxyhemoglobin when the hemoglobin in the blood comes into contact with the oxygen in the air contained in the alveoli of the lungs. A chemical change is also known as a chemical reaction.

chemical compound SEE: under *compound*.

chemical disaster SEE: under *disaster*.

chemically sensitive field effect transistor ABBR: CHEMFET. A specialized chemical sensor found in some clinical laboratory instruments.

chemical reflex Chemoreflex.

chemical restraint A sedative or tranquilizer given to a patient to reduce agitation or potentially hazardous behavior.



Psychoactive drugs should be given to patients only when other less invasive and less hazardous means of calming or stabilizing behavior have been exhausted or when there is imminent risk of injury without their use.

chemical warfare The tactics and technique of conducting warfare by using toxic chemical agents. Agents used include nerve gases; agents that cause temporary blindness, paralysis, hallucinations, or deafness; eye and lung irritants; blistering agents, including mustard gas; defoliants; and herbicides.

PATIENT CARE: Victims of a chemical exposure or attack require decontamination, ideally on site as rapidly as possible by specially equipped and trained Emergency Medical Services (EMS)/fire personnel or hospital-based health care professionals. Decontamination includes:

1 isolation of the victim, preferably outdoors or in a sealed, specially ventilated room;

2 removal of all clothing and jewelry from the victim;

3 protection of any part of the body that has not been exposed to toxins;

4 repeated irrigation and flushing of exposed skin with water; a dilute wound-cleaning solution, such as Dakin's solution (sodium hypochlorite), may also be used on skin (but not on the eyes or within penetrating wounds);

5 additional irrigation of wounded skin with sterile solution (typically for about 10 min longer than the irrigation of intact skin);

6 irrigation of the eyes with saline solution (about 15 min);

7 cleansing beneath the surface of exposed fingernails or toenails;

8 collection and disposal of effluent and contaminated clothing.

To avoid secondary injuries and exposures, trained personnel who carry out decontamination must wear chemical masks with a filtered respirator, self-contained underwater breathing apparatus (SCUBA), and splash-resistant protective clothing that covers all skin and body surfaces and is impervious to all chemicals. Following decontamination, victims require triage and treatment.

Treatments for chemical exposures include both supportive care (e.g., the administration of oxygen, intravenous fluids, analgesics, topical remedies, and psychosocial support) and the administration of antidotes or chemical antagonists (where available). One example of a chemical antagonist is physostigmine. It is used to reverse the effects of exposure to cholinesterase-inhibiting pesticides. The details of the treatment for most specific exposures may be found in references such as the National Library of Medicine's website: www.sis.nlm.nih.gov/Tox/ChemWar.html. SEE: *biological warfare; names of specific chemical warfare agents*.

chemiluminescence, chemoluminescence (kēm'ī-loo'mī-nēs'ēns, kēm'ō-loo'mī-nēs'ēns) Cold light or light resulting from a chemical reaction and without heat production. Certain bacteria, fungi, and fireflies produce this type of light. SEE: *luciferase*.

chemist (kēm'īst) Someone who is trained in chemistry.

chemistry (kēm'ī-strē) [Gr. *chemeia*, chemistry] The science dealing with the molecular and atomic structure of matter and the composition of substances—their formation, decomposition, and various transformations.

analytical c. Chemistry concerned with the detection of chemical substances (qualitative analysis) or the determination of the amounts of substances (quantitative analysis) in a compound.

biological c. Biochemistry.

colloid c. The application of chemistry to systems and substances, and the problems of emulsions, mists, foams, and suspensions.

combinatorial c. The manufacturing of molecules having specific sizes, shapes, or functional characteristics using computer-aided algorithms or design rules.

general c. The study of the entire field of chemistry with emphasis on fundamental concepts or laws.

inorganic c. The chemistry of compounds not containing carbon.

nuclear c. Radiochemistry; the study of changes that take place within the nucleus of an atom, esp. when the nucleus is bombarded by electrons, neutrons, or other subatomic particles.

organic c. The branch of chemistry dealing with substances that contain carbon compounds.

pathological c. The study of chemical changes induced by disease processes (e.g., changes in the chemistry of organs and tissues, blood, secretions, or excretions).

pharmaceutical c. The chemistry of medicines, their composition, synthesis, analysis, storage, and actions.

physical c. Theoretical chemistry; the chemistry concerned with fundamental laws underlying chemical changes and the mathematical expression of these laws.

physiological c. The subdivision of biochemistry concerned with chemical processes in living organisms.

chemo A colloquial term for cancer chemotherapy.

chemoautotrophic (kēm'ō-aw'tō-trōf'īk, kēm'ō) [" + "] Capable of oxidizing a reduced molecule in the presence of other inorganic materials in order to synthesize carbohydrates. Chemoautotrophy is a characteristic nutritional strategy of the Proteobacteria.

chemo brain A colloquial term for difficulties with concentration and memory that may follow the administration of some forms of cancer chemotherapy.

chemocautery (kēm'ō-kaw'tēr-ē) [Gr. *chemeia*, chemistry, + *kauterion*, branding iron] Cauterization by chemical agents.

chemoreceptor (kēm'ō-sēp-tēr) Chemoreceptor.

chemocoagulation (kēm'ō-kō-āg'ū-lā'shūn) [" + L. *coaglutio*, coagulation] Coagulation caused by chemical agents.

chemodectoma (kēm'ō-dēk-tō'mā) [" + *dektikos*, receptive, + *oma*, tumor] A tumor of the chemoreceptor system. SEE: *paraganglioma*.

chemokine (kēm'ō-kīn') Any polypeptide cytokine that causes chemotaxis, attracting neutrophils, monocytes, and T lymphocytes; e.g., to assist in destroying an invading microorganism. SEE: *cytokine; inflammation*.

chemokinesis (kēm'ō-kīn-ē'sīs) The accelerated random locomotion of cells, usually in response to chemical stimuli.

chemoluminescence (kēm'ō-loo'mī-nēs'ēns) Chemiluminescence.

chemolysis (kēm'ō-l'ī-sīs) [" + *lysis*, dissolution] Destruction by chemical action.

chemomechanical caries removal (kēm'ō-mē-kān'ī-kīl) ABBR: CCR. The removal of demineralized dentin from a tooth by applying a chemical gel or solution to soften it and then scraping away the diseased tissue manually. This technique may be used as an alter-

native to dental drilling. It is typically used in pediatric dentistry, in phobic patients, and in patients with anesthetic allergies or contraindications to drilling.

chemonucleolysis (kēm"ō-nū-klē-ōl'ī-sīs)

A method of dissolving a herniated nucleus pulposus, by injecting the enzyme chymopapain into it. This procedure is controversial and is contraindicated for patients with a herniated lumbar disk in which the nucleus pulposus protrudes through the annulus.

chemopallidectomy (kēm"mō-pāl"ī-dēk'tō-mē)

[" + L. *pallidum*, globus pallidus, + Gr. *ektome*, excision] Destruction of a portion of the globus pallidus of the brain with drugs or chemicals.

chemoprevention (kēm"mō-prē-vēn'shūn)

[Gr. *cheimea*, chemistry, + ME *preventen*, to anticipate] Chemoprophylaxis.

chemoprophylaxis (kēm"mō-prō"fi-lāk'sīs)

The use of a drug or chemical to prevent a disease (e.g., the taking of an appropriate medicine by a traveler to prevent malaria). SYN: *chemoprevention*.

chemoreceptor (kēm"mō-rē-sēp'tor)

[" + L. *recipere*, to receive] A sense organ or sensory nerve ending (as in a taste bud) that is stimulated by and reacts to certain chemical stimuli and that is located outside the central nervous system. Chemoreceptors are found in the large arteries of the thorax and neck (carotid and aortic bodies), the taste buds, and the olfactory cells of the nose. SYN: *chemoceptor*. SEE: *carotid body*; *taste bud*.

chemoreflex (kēm"mō-rē'flēks)

[" + L. *reflectere*, to bend back] Any involuntary response initiated by a chemical stimulus. SYN: *chemical reflex*.

chemoresistance (kēm"mō-rē-zīs'tāns)

The resistance of a cell or microorganism to the expected actions of drugs or chemicals.

chemosenses (kēm"mō-sēns)

[" + "] Either of the two chemical senses of smell and taste.

chemosensitive (kēm"mō-sēn'sī-tīv)

Reacting to the action of a chemical or a change in chemical composition.

chemosensory (kēm"mō-sēn'sō-rē)

Pert. to the sensory detection of a chemical, esp. by odor.

chemosensory disorders Any disorder of smell or taste, e.g., anosmia or ageusia.

chemosis (kēm"mō'sis) [Gr. *cheme*, cockleshell, + *osis*, condition] Edema of the conjunctiva around the cornea.

chemotic (-mōt'ik), *adj.*

chemosterilant (kēm"mō-stēr'ī-lānt)

1. A chemical that kills microorganisms. **2.** A chemical that causes sterility, usually of the male, in organisms such as insects.

chemosurgery (kēm"ō-sūr'jēr-ē)

Destruction of tissue by the use of chemical compounds.

chemosynthesis (kēm"mō-sin'thē-sīs) The formation of a chemical compound from other chemicals or agents. In biological systems, this involves metabolism.

chemotactic (kēm"mō-tāk'tik) Pert. to chemotaxis.

chemotaxin (kēm"mō-tāk'sin)

A substance released by bacteria, injured tissue, and white blood cells that stimulates the movement of neutrophils and other white blood cells to the injured area. Complement factors 3a (C3a) and 5a (C5a), cytokines, leukotrienes, prostaglandins, and fragments of fibrin and collagen are common chemotaxins. SEE: *inflammation*.

chemotaxis (kēm"mō-tāk'sīs)

[Gr. *che-meia*, chemistry, + *taxis*, arrangement] The movement of additional white blood cells to an area of inflammation in response to the release of chemical mediators by neutrophils, monocytes, and injured tissue. SEE: *chemotropism*.

chemothalamectomy (kēm"mō-thāl-ā-mēk'tō-mē)

Chemical destruction of a part of the thalamus.

chemotherapy (kēm"mō-thēr'ā-pē)

[" + *therapeia*, treatment] Drug therapy used, e.g., to treat infections, cancers, and other diseases and conditions. SEE: *Nursing Diagnoses Appendix*.



Chemotherapeutic agents used to treat cancer are poisons and pose risks to those who handle them, primarily pharmacists and nurses. Usually, only oncology practitioners specifically trained in chemotherapy administration should perform this task. The most important factor in reducing exposure is the use of proper protection when preparing and administering these agents. After washing hands, the health care provider dons appropriate apparel. Protective clothing may be used if drugs are prepared under a hood, but generally only surgical powder-free or hypoallergenic latex-free chemotherapy gloves are used for most administrations. He or she then gathers equipment to administer the drugs, including normal saline or D5W solution as prescribed (the same solution should be used for both priming and mixing), IV tubing, the drugs, alcohol swabs, sterile gauze, all equipment required to start an IV line or enter a port, and plastic-backed absorbent pads. Hydration is provided prior to administration of the chemotherapy drugs, along with an antiemetic, antihistamine, or other agents as warranted. Patients often may eat or drink during chemotherapy administration. The drugs should be administered in a calm environment, and all chemotherapy waste and equipment must be discarded in designated waste containers. Health care providers must follow OSHA guidelines when cleaning up drug spills. Spill kits should be available and

used, and spill areas cleaned three times using soap and water (skin) or detergent followed by clean water (other surfaces). Gloves also should be worn when handling the patient's excreta. Exposure poses additional risks to female reproductive health, including ectopic pregnancies, spontaneous abortions, and fetal abnormalities.

PATIENT CARE: Cancer chemotherapeutic agents include: alkylating agents and nitrosureas, antimetabolites, antitumor antibiotics, plant alkaloids, and steroid hormones, among other classes of drugs. Antineoplastic agents kill cancer cells, but also kill or injure normal cells, esp. those which normally divide rapidly, and may consequently compromise patient comfort and safety. Bone marrow suppression is a common and potentially serious adverse reaction. Chemotherapy can decrease the numbers of white blood cells, red blood cells, and platelets in the peripheral bloodstream. Leukopenia increases the patient's risk for infection, esp. if the granulocyte count falls below $1000/\text{mm}^3$. The patient is given information about personal hygiene and potential sites for infection and is taught to recognize signs and symptoms, such as fever, cough, sore throat, or a burning sensation when urinating. The patient is cautioned to avoid crowds and people with colds or flu. Filgrastim (Neupogen) or pegfilgrastim (Neulasta) is administered as prescribed to stimulate proliferation and differentiation of neutrophils. Thrombocytopenia (abnormally low platelet count) increases a patient's risk for bleeding when the platelet count falls below $50,000/\text{mm}^3$; the risk is highest when the platelet count falls below $20,000/\text{mm}^3$. Oprelvekin (Neumega) may be used to treat this complication. The patient is assessed and taught to observe for bleeding gums, increased bruising or petechiae, hypermenorrhea, tarry stools, hematuria, and coffee-ground emesis. He or she is advised to avoid cuts and bruises and to use a soft toothbrush and an electric razor. The patient must report sudden headaches, which could indicate intracranial bleeding. He or she should use a stool softener, as prescribed, to avoid colonic irritation and bleeding. Intramuscular injections are avoided to prevent bleeding. Anemia develops slowly over the course of treatment, so the patient's hemoglobin, hematocrit, and red blood cell counts are monitored. Dehydration can lead to a false-normal hematocrit, which decreases when the patient is rehydrated. The patient is assessed for and taught to report any dizziness, fatigue, pallor, or shortness of breath on minimal exertion. He or she must rest

more frequently, increase dietary intake of iron-rich foods, and take a multivitamin with iron, as prescribed. Growth factors or colony-stimulating factors are administered as prescribed, e.g., epoetin alfa (Procrit) enhances RBC production to increase hemoglobin levels and whole blood or packed cells are transfused as prescribed for a symptomatic patient.

Antineoplastics attack cancer cells because they divide rapidly. For the same reason, they also destroy rapidly dividing normal cells. While epithelial damage can affect any mucous membrane, the oral mucosa is the most common site of destruction. Stomatitis is a temporary but disabling phenomenon that may interfere with eating and drinking. It can range from mild and barely noticeable to severe and debilitating malnutrition. Preventive mouth care is initiated and taught to the patient to provide comfort and decrease the severity of mouth pain. Therapeutic mouth care is also provided, including topical antibiotics, if prescribed. The patient can experience nausea and vomiting from gastric mucosal irritation (oral or parenteral chemotherapy), chemical irritation of the central nervous system (parenteral chemotherapy), or psychogenic factors activated by sensations, suggestions, or anxiety. Chemotherapy-induced nausea and vomiting is of great concern because it can cause fluid and electrolyte imbalance, noncompliance with the treatment regimen, tears at the esophageal-gastric junction leading to massive bleeding (Mallory-Weiss syndrome), wound dehiscence, and pathological fractures. It also reduces quality of life by interfering with the patient's ability and motivation to take an active role in his or her self-care. Such complications are assessed for and prevented as much as possible. Chemical irritation is controlled by administering prescribed combinations of antiemetics that act by different mechanisms, such as serotonin antagonists, prochlorperazine, diphenhydramine, droperidol, and dronabinol. Signs and symptoms of aspiration are monitored, because most antiemetics are sedating. Psychogenic factors can be relieved by using relaxation techniques to minimize feelings of isolation and anxiety prior to and during each treatment. The patient is encouraged to express feelings of anxiety, and to listen to music, engage in relaxation techniques, meditation, or self-hypnosis to help promote feelings of well-being and a sense of control.

Hair loss is a distressing adverse reaction to the patient, esp. when the patient's body image or self-esteem is closely linked to his or her grooming or appearance. The patient is informed

that hair loss usually is gradual, affects both men and women, and may be partial or complete, depending on the drug or drug combination employed. He or she is reassured that alopecia is reversible after treatment ends. A real-hair or synthetic wig can be prescribed as a cranial prosthesis (for insurance coverage of the expense). The patient is encouraged to purchase it before hair loss begins and is informed where to access this and other head coverings. Although some patients prefer to expose their baldness, the scalp should be protected from sun exposure. Some chemotherapeutic agents have irreversible effects such as peripheral neuropathy, although treatment is available to reduce these.

Chemotherapy extravasation may lead to tissue necrosis if the drug is a vesicant, so the patient is taught to immediately report any pain, stinging, burning, swelling, or redness at the injection site. Extravasation must be distinguished from vessel irritation or flare reaction. Vein irritation is felt as aching or tightness along the blood vessel, and the length of the vein may become reddened or darkened, accompanied by swelling. In flare reaction, itching is the major complaint; redness occurs in blotches along the vessel, may look like hives, and subsides within 30 min. Blood return from the IV usually can be obtained with both irritation and flare reaction. To help prevent extravasation, most known vesicant drugs are administered through a central venous catheter. If extravasation is suspected, the infusion is stopped and any drug is aspirated. The extremity is elevated, and cold compresses are applied, except for *Vinca* alkaloids, for which heat is recommended. Depending on agency protocol, the oncologist is notified, and if a specific antidote for the drug exists, it is administered as prescribed. The main line IV provides direct access to the patient if an undesired reaction occurs; other drugs can be administered quickly to counteract the adverse reaction. SEE: table.

Complementary and alternative therapies are often used to help patients undergoing chemotherapy to feel better and more in control of their illness and its treatment.

adjuvant c. The giving of cytotoxic drugs to eradicate cancerous cells that may remain in the body after surgery or radiation therapy.

combination c. The use of two or more complementary drugs to treat a disease.

consolidation c. Cycles of therapy with cytotoxic drugs after the initial treatment for a cancer. The object is to

Important Considerations in the Administration of Chemotherapy

- Has the patient had allergic reactions to this medication in the past?
- What fluids are compatible, or incompatible, with the agent to be administered?
- What is the exact dosage for this patient's body size and weight?
- How is the drug mixed or prepared?
- What is the proper route of administration?
- How stable is the drug once prepared?
- How should it be stored?
- What other drugs is the patient taking? Are any likely to cause drug interactions?
- Can the drug cause skin or vein irritation during administration? How will these complications be managed?
- What is the anticipated schedule of administration?
- What are the specific side effects of the agent? How should the patient and health care team prepare for early or delayed effects?
- How are effects of the drug to be monitored?
- How often should the patient have physical examinations, imaging studies, or blood tests?
- What findings suggest further drug administration should be delayed or cancelled?
- Who should the patient contact with concerns?

sustain a remission that has been achieved during induction.

induction c. The initial treatment of advanced cancers or leukemias with high doses of cytotoxic drugs to try to produce a remission.

peritoneal c. Intraperitoneal injection of antineoplastic drugs.

chemotropism (kē-mōt'ō-rō-pizm) [*trōpos*, a turning] The growth or movement of an organism in response to a chemical stimulus, such as the movement of bacteria toward nutrients.

CHEMTREC The Chemical Transportation Emergency Center, which provides a 24-hr hotline with product information and emergency advice to rescue personnel at the scene of a hazardous materials incident.

cherubism (chēr'ū-bīzm) A swollen appearance of the face of a child due to infiltration of the jaw, esp. the mandible, with masses of vascular fibrous tissue containing giant cells.

CHESS *Comprehensive Health Enhancement Support System.*

chest (chĕst) [AS. *cest*, a box] The tho-

rax, including all the organs (e.g., heart, great vessels, esophagus, trachea, lungs) and tissues (bone, muscle, fat) that lie between the base of the neck and the diaphragm.

PHYSICAL EXAMINATION: *Inspection:* The practitioner inspects the chest to determine the respiratory rate and whether the right and left sides of the chest move symmetrically during breathing. In pneumonia, pleurisy, or rib fracture, for example, the affected side of the chest may have reduced movement as a result of lung consolidation or pain ("splinting" of the chest). Increased movements may be seen in extensive trauma ("flail" chest). The patient in respiratory distress uses accessory muscles of the chest to breathe; retractions of the spaces between the ribs are also seen when patients labor to breathe.

Percussion: The chest wall is tapped with the fingers (sometimes with a reflex hammer) to determine whether it has a normally hollow, or resonant, sound and feel. Dullness perceived during percussion may indicate a pleural effusion or underlying pneumonia. Abnormal tympany may be present in conditions such as emphysema, cavitory lung diseases, or pneumothorax.

Palpation: By pressing or squeezing the soft tissues of the chest, bony instability (fractures), abnormal masses (lipomas or other tumors), edema, or subcutaneous air may be detected.

Auscultation: Chest sounds are assessed using the stethoscope. Abnormal friction sounds may indicate pleurisy, pericarditis, or pulmonary embolism; crackles may be detected in pulmonary edema, pneumonia, or interstitial fibrosis; and wheezes may be heard in reactive airway disease. Intestinal sounds heard in the chest may point to diaphragmatic hernias. Heart sounds are diminished in obesity and pericardial effusion; they are best heard near the xiphoid process in emphysema. Lung sounds may be decreased in patients with chronic obstructive lung diseases, pleural effusion, and other conditions.

barrel c. An increased anteroposterior chest diameter caused by increased functional residual capacity, which in turn results from airway narrowing and a loss of lung elasticity. It is most often seen in patients with chronic obstructive pulmonary disease (i.e., chronic bronchitis and emphysema).

emphysematous c. A misnomer for the barrel-shaped appearance of the chest in emphysema. The thorax is short and round, the anteroposterior diameter is often as long as the transverse diameter, the ribs are horizontal, and the angle formed by divergence of the

costal margin from the sternum is obtuse or obliterated.

flail c. A condition of the chest wall due to two or more fractures on each affected rib resulting in a segment of rib not attached on either end; the flail segment moves paradoxically in with inspiration and out during expiration.

flat c. A deformity of the chest in which the anteroposterior diameter is short, the thorax long and flat, and the ribs oblique. The scapula is prominent; the spaces above and below the clavicles are depressed. The angle formed by divergence of the costal margins from the sternum is very acute.

funnel c. Pectus excavatum.

pigeon c. A condition in which the sides of the chest are considerably flattened and the sternum is prominent. The sternal ends of the ribs are enlarged or beaded. Often there is a circular construction of the thorax at the level of the xiphoid cartilage. The condition is often congenital and present in mucopolysaccharidoses.

chest compression Forcible depression of the thorax during cardiopulmonary resuscitation. This technique is used to circulate the blood of a patient whose heart is no longer beating effectively enough to sustain life.

chest physical therapy, chest physiotherapy ABBR: CPT, Chest PT. A type of respiratory care usually incorporating postural drainage, cough facilitation, and breathing exercises used for loosening and removing lung secretions. It may include percussion (clapping) and vibration over the affected areas of the lungs, simultaneous with postural drainage to remove secretions. Auscultation of breath sounds is done before and after the procedure.

chest PT *chest physical therapy.*

chest regions SEE: under *region*.

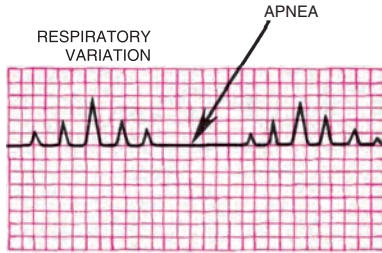
chest thump Precordial thump.

Cheyne-Stokes respiration (chān'stōks') [John Cheyne, Scot. physician, 1777–1836; William Stokes, Irish physician, 1804–1878] A breathing pattern marked by a period of apnea lasting 10 to 60 sec, followed by gradually increasing depth and frequency of respirations (hyperventilation). It occurs in dysfunction or depression of the cerebral hemispheres (e.g., in coma), in basal ganglia disease, and occasionally in congestive heart failure. It often indicates a grave prognosis in adults but may be a normal finding in children. SEE: *illius*.

CHF *congestive heart failure.*

chi In biochemistry, a regulatory sequence of base pairs that participate in the repair or recombination of nucleic acid strands.

ch'i, Qi (chē) In traditional Chinese medicine, the "vital force" or "energy of life."



GRAPH OF RESPIRATORY MOVEMENTS
IN CHEYNE-STOKES BREATHING

Chiari's deformity (kē-ār'ēz dī-fawr'mī-tē) SEE: *Arnold-Chiari deformity*.

Chiari-Frommel syndrome (kē-ār'ē-frōm'mēl) [Hans Chiari, Austrian pathologist, 1851–1916; Richard Julius Ernst Frommel, Ger. gynecologist, 1854–1912] Persistent lactation and amenorrhea following childbirth, caused by continued prolactin secretion and decreased gonadotropin production. A pituitary adenoma may be present.

chiasm, chiasma (kī'āzm, kī-āz'mā) [Gr. *khiasma*, cross] A crossing or decussation.

optic c. An X-shaped crossing of the optic nerve fibers in the brain. Past this point, the fibers travel in optic tracts. Fibers that originate in the outer half of the retina end on the same side of the brain; those from the inner half cross over to the opposite, or *contralateral*, side.

chickenpox (chik'ēn-pōks") Varicella.

chiggers (chig'ērs) The harvest mite; also known as "mower's mite," trombiculid mite, or red bug. During summer months, hikers, outdoor enthusiasts, and field hands may become infested with these noncarnivorous mites, which tend to attach to the skin, causing an intensely itchy rash. The skin irritation results from an allergic reaction to the injected saliva of the insect; unlike some other insects, the mites do not feed on human blood. Occasionally chiggers act as vectors for rickettsial diseases, such as scrub typhus. Infestation can be prevented by applying insect repellents to outdoor clothing. SEE: *Tunga*.

TREATMENT: Proprietary preparations are available to kill chiggers. They are applied topically to affected skin. One of these, Kwell, contains hexachlorohexane. Benzyl benzoate ointment and gamma benzene hexachloride are also effective.

chi kung (chē-gōng) Qi gong.

chikungunya virus An alphavirus, typically found in Africa or Southeast Asia, that can be transmitted to humans by the bite of *Aedes* mosquitoes. After an incubation period of about a week, the virus produces high fevers, headache,

nausea, vomiting, and severe joint pain, usually in the wrists or ankles.

chil- SEE: *chilo-*.

chilblain (chil'blān) [AS. *cele*, cold, + *blegen*, to puff] A mild form of cold injury marked by localized redness, burning, and swelling on exposed body parts, esp. in cool, damp climates. The affected skin sometimes blisters or ulcerates. Insufficient blood flow into small blood vessels in the skin may contribute to the formation of chilblains. SYN: *pernio*.

PREVENTION: Patients with a history of chilblains should wear warm, loose-fitting clothing when outdoors in the cold.

child (child) [AS. *cild*, child] Any human between infancy and puberty. SEE: *pediatrics*.

child abuse SEE: under *abuse*.

childbearing (child'bar'ing) The act of carrying and being delivered of a child.

delayed c. SEE: *elderly primigravida*.

childbearing period The period in the life of the female during which she is capable of procreation; puberty to menopause.

childbed Historically, the period of parturition during which women remained in bed for labor, delivery, and the traditional 6 weeks' recovery time after childbirth. SYN: *puerperium*. SEE: *childbed fever*.

childbirth The process of giving birth to a child. SYN: *parturition*. SEE: *delivery*; *labor*.

natural c. The delivery of a fetus without the use of analgesics, sedatives, or anesthesia and less reliance on technology (and more reliance on emotional support during labor and delivery) than may be practical during standard obstetrical care. The woman, and often her partner, go through a training period beginning months before the actual delivery. This training is called psychoprophylactic preparation for childbirth. SEE: *Lamaze technique*; *psychoprophylactic preparation for childbirth*.

prepared c. Childbirth in which the mother, and often also the father, of the baby has been educated about childbirth, anesthesia, and analgesia during labor. The mother may choose to have natural childbirth or to receive medications or regional anesthesia. SEE: *natural c.*; *Lamaze technique*; *psychoprophylactic preparation for childbirth*.

childhood (child'hood) [AS] **1.** That stage of life that begins after infancy and ends at adolescence; physiologically, from age 1 until the onset of puberty. **2.** The stage of life that begins with the end of infancy and ends with the onset of independent living; psychologically and socially, from age 1 until a person leaves the parental home to make his or her own way in life.

childhood disintegrative disorder Disintegrative disorder.

child life specialist A health care specialist who helps children and their families cope with illnesses and injuries. Disease or injury poses unique stresses for children, their siblings, and their parents. Child life specialists help reduce these stresses and promote healthy coping skills and development through interventions that include therapeutic play, support and counseling, and patient orientation and education.

child neglect Failure by those responsible for caring for a child to provide for the child's nutritional, emotional, or physical needs.

childproof Designed to prevent injury to children; used esp. of medicine containers that children cannot open.

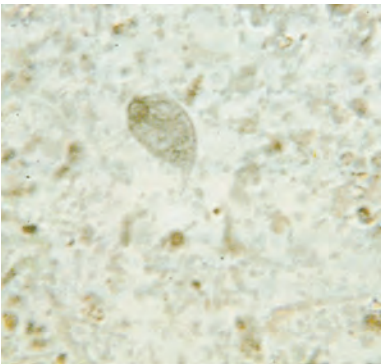
chilectropion (kī-'lĕk-trō'pē-ōn) Cheilectropion.

chilitis (kī-lī'tīs) Cheilitis.

chill (chil) [AS. *cele*, cold] Involuntary, rapid contraction of muscle groups (shivering) accompanied by the sensation of cold, or the sensation of being cold without shivering. It may be caused by a rising fever associated with an infection, a hypersensitivity reaction to drugs or blood transfusions, exposure to cold temperatures, or a neuroendocrine disturbance in the temperature-regulating centers of the hypothalamus. Severe chills accompanied by violent shaking of the body are called rigors.

chilo-, chil- [Gr. *cheilos*, lip] Combining forms meaning lip.

Chilomastix mesnili (kī'lō-mās'tiks mēs-nīl'ē) A species of Mastigophora, a protozoan that may cause diarrhea in humans. SEE: *illius*.



CHILOMASTIX MESNILI

In fecal debris (orig. mag. $\times 1000$)

chimera (kī-mē'ră) **1.** A tissue in which two distinct forms of DNA are present. **2.** The conjugation of two different

drugs, cells, proteins, or organisms. **3.** A double-egg twin whose blood and blast cells have been mixed in embryo with those of the other twin. Therefore, although each twin originally had a different blood group, each now has a mixed group.

chimpanzee (chĭm-păn'zē) An intelligent ape (*Pan troglodytes*) native to parts of Africa. The DNA of humans and chimps is closely matched.

chin (chin) [AS. *cin*, chin] The point of the lower jaw; the region below the lower lip. SYN: *mentum*.

chin jerk Chin reflex.

chin-lift airway technique, head-tilt A method of opening the airway of an unconscious patient by elevating the chin and tilting the head. This provides the maximum opening, esp. in an unconscious patient whose tongue is blocking the airway. SEE: *airway*; *bag mask device*; *cardiopulmonary resuscitation*; *Standard Precautions Appendix*.



In a person whom health care providers suspect of having a cervical spinal injury, use a jaw thrust maneuver instead of the head tilt, chin lift technique.

The fingertips are used to bring the patient's chin forward and support the lower jaw, while the neck is extended slightly, by applying gentle pressure to the patient's forehead with the other hand. The patient's mouth must be kept open; however, the thumb must not be used for this purpose to avoid injury to the rescuer.

chiragra (kī-răg'ră) [Gr. *cheir*, hand, + *agra*, seizure] Pain in the hand.

chiralgia (kī-răl'jē-ă) [+ *algos*, pain] Nontraumatic or neuralgic pain in the hand.

c. paresthetica Numbness and pain in the hand, esp. in the region supplied by the radial nerve.

chirality (kī-răl'i-tē) [Gr. *cheir*, hand] The geometric distinctness of an object from its mirror image. Examples include chemicals with "left-" and "right-handed" structures.

chirokinesthesia (kī'rō-kīn'ēs-thē'zē-ă) [+ *kinesis*, movement, + *aisthesis*, sensation] A subjective sensation of hand motions.

chiromegaly (kī'rō-mēg'ă-lē) [+ *me-gas*, large] Enlargement of the hands, wrists, or ankles.

chiroplasty (kī'rō-plăs'tē) [+ *plassein*, to form] Plastic surgery on the hand.

chiropodist (kī-rōp'ō-dĭst, kī-) [+ *pous*, foot] An obsolete term for podiatrist. SEE: *podiatrist*.

chiropody (kī-rōp'ō-dē) Obsolete term for treatment of foot disorders. SEE: *podiatry*.

chiropractic (kī'rō-prāk'tik) [Gr. *cheir*, hand, + *prattein*, to do] A system of health care in which diseases are treated predominantly with manipulation or massage of spinal and musculoskeletal structures, nutritional therapies, and emotional support. Treatment is based on the premise that some illnesses are caused by misalignments of the vertebrae and that correcting vertebral subluxations helps to maintain healthy nervous and musculoskeletal systems. Prescription drugs and surgeries are not used. Chiropractic was founded in the U.S. in 1895 by Daniel D. Palmer.



Although chiropractic manipulation is usually safe, it may occasionally pose a risk of fracture or paralysis to patients with some bone or joint diseases (e.g., osteoporosis or inflammatory arthritis), metastatic cancer, or spinal infections. Manipulation of the neck has also resulted in rare instances of carotid and vertebral artery dissection, stroke, or nerve injury.

Chiropractors are the fourth largest group of health practitioners in the U.S. (at 50,000), after physicians, dentists, and nurses. Chiropractic is 1 of the 10 most commonly used complementary or alternative medicine (CAM) therapies.

PATIENT CARE: Common problems treated with chiropractic are neck and shoulder pain, headaches, sports injuries, and work-related injuries such as carpal tunnel syndrome. Spinal manipulation is either performed manually, or with mechanical devices to control the force and direction of adjustments. Adjunctive therapies include massage, hot or cold applications, ultrasound, and nutrition. When manipulation is considered appropriate, a specific type of adjustment is done, depending on the patient's condition. The most common technique is the high-velocity, low-amplitude thrust (osseous adjustment), performed by moving a joint to the end point of its current normal range of motion and then imparting a swift, low-amplitude, specifically directed thrust.

chiropractor (kī'rō-prāk'tōr) A person certified and licensed to provide chiropractic care.

chirospasm (kī'rō-spāzm) [ʰ + *spasmos*, spasm] A spasm of the hand muscles; writer's cramp. SYN: *cheirospasm*.

Chirurgiae Magister ABBR: ChM. Master of Surgery. A degree offered to a student who makes a significant contribution to the theory or practice of surgery.

chisel (chīs'l) A beveled-edge steel cutting instrument used in dentistry and orthopedics.

chi-square (kī-skwār) A statistical test

to determine the correlation between the number of actual occurrences and the expected occurrences. The symbol for chi-square is χ^2 .

chitin (kī'tin) [Gr. *chiton*, tunic] A polysaccharide that forms the hard exoskeleton of arthropods such as insects and crustaceans. It is also present in the cell walls of some fungi. **chitinous** (-nūs), *adj.*

chitosan (kī'tō-sān) A polysaccharide made of glucosamine, naturally present in the exoskeleton of crustaceans. It resists digestion in the stomach but degrades in the colon. It is used to protect drugs and oral vaccines for controlled release into the gastrointestinal tract.

Chlamydia (klā-mīd'ē-ā) [Gr. *chlamys*, cloak] A bacterial genus of intracellular parasites of the family Chlamydiaceae with several recognized species, of which only *C. trachomatis* infects humans. The organisms are characterized as bacteria because of the composition of their cell walls and their reproduction by binary fission, but they reproduce only within cells. These species cause a variety of diseases. SEE: *Chlamydo-phila*.

C. trachomatis A species that causes a great variety of diseases, including genital infections in men and women. The diseases caused by *C. trachomatis* include conjunctivitis, epididymitis, lymphogranuloma venereum, pelvic inflammatory disease, pneumonia, trachoma, tubal scarring, and infertility.

In industrialized nations *C. trachomatis* is a commonly sexually transmitted pathogen (causing an estimated 3 to 4 million new infections each year in the U.S.). Men with chlamydial infection experience penile discharge and discomfort while urinating. Women may be asymptomatic or may experience urethral or vaginal discharge, painful or frequent urination, lower abdominal pain, or acute pelvic inflammatory disease, which may result in infertility.

Transmission of the disease can be prevented by avoiding contact with infected people and by using condoms during intimate sex. A pregnant woman with a chlamydial infection can transmit the disease to her newborn during birth. In newborns, ophthalmic antibiotic solution should be instilled in the conjunctival sac of each eye to prevent neonatal conjunctivitis and blindness caused by *Chlamydia*.

DIAGNOSIS: Several tests are available, including cultures, antigen detection assays, ligase chain reactions, polymerase chain reactions, and enzyme-linked immunoassays.

TREATMENT: Erythromycin, azithromycin, or tetracycline is effective.



Tetracyclines are generally not recommended for pregnant women or children under 8 years old.

Chlamydophilia (klă-mī-dōf'i-lă) [Gr. *chlamys*, cloak + "'] A bacterial genus of intracellular parasites of the family Chlamydiaceae, comprising six species, of which *C. pneumoniae* and *C. psittaci* infect humans. The organisms are characterized as bacteria because of the composition of their cell walls and their reproduction by binary fission, but they reproduce only within cells. These species cause a variety of diseases. SEE: *Chlamydia*.

C. pneumoniae A species of *Chlamydomphila* that is an important cause of pneumonia, bronchitis, and sinusitis. It is believed to be transmitted from person to person by respiratory tract secretions (e.g., by airborne droplets). Most cases are mild and rarely require hospitalization. It is possible that this organism is a factor in the development of coronary artery disease.

TREATMENT: Treatment consists of daily tetracycline, macrolide, or fluoroquinolone for 14 to 21 days.

C. psittaci A species of *Chlamydomphila* common in birds and animals. Pet owners, pet shop employees, poultry workers, and workers in meat-processing plants are frequently exposed to *C. psittaci*.

SYMPTOMS: After an incubation period of 5 to 15 days, nonspecific symptoms (e.g., malaise, headache, fever) develop; progression to pneumonia is serious and may be fatal. Alternatively, the disease may resemble infectious mononucleosis with fever, pharyngitis, hepatosplenomegaly, and adenopathy. Severity may vary from inapparent to mild to fatal systemic disease.

PROGNOSIS: The fatality rate is approx. 20% in untreated patients.

TREATMENT: Treatment consists of tetracycline or doxycycline for 10 to 21 days.

chloasma (klō-ăz'mă) [Gr. *chloazein*, to be green] Tan to brown, sharply defined patches of skin pigment, usually found symmetrically on the forehead, temples, cheeks, or upper lip. The excess pigmentation often occurs in pregnant women, in women using oral contraceptives, or in patients with underlying liver disease. Women are affected more often than men. Sun exposure tends to worsen the condition. SYN: *melasma*.

c. gravidarum Brownish pigmentation of the face, often occurring in pregnancy. It usually disappears after delivery. It is also seen in some women who take progestational oral contraceptives. SYN: *mask of pregnancy*. SEE: *illius*.



CHLOASMA GRAVIDARUM

c. hepaticum Liver spot.

idiopathic c. Chloasma caused by external agents such as sun, heat, mechanical means, and x-rays.

c. traumaticum Skin discoloration following trauma.

chloracone (klor-ăk'nē) Generalized acne that usually occurs after industrial exposure to chemicals such as polychlorinated biphenyls (PCBs) or dioxin.

chloral (klō'răl) [Gr. *chloras*, green]

1. An oily liquid having a bitter taste.

2. Chloral hydrate.

chlorate (klō'răt) A salt of chloric acid. SEE: *Poisons and Poisoning Appendix*.

chlordane (klor'dăn) An organochlorine used as an insecticide. In humans it causes neurological toxicities (such as alterations in memory and motor function) among other problems. SEE: *Poisons and Poisoning Appendix*.

chlordiazepoxide hydrochloride (klor'di-ăz"ē-pōk'sid) A benzodiazepine derivative used to treat anxiety, alcohol withdrawal syndrome, and insomnia, and occasionally as a premedication in anesthesia.

chloremia (klō-rē'mē-ă) [Gr. *chloros*, green, + *haima*, blood] Increased chloride in the blood.

chlorhexidine (klor-hék'si-dên) A bisbiguanide used as a topical disinfectant and as an oral treatment for plaque and gingivitis. Oral rinses have side effects that include staining, bitter taste, transient loss of taste, and soft tissue ulceration. Rarely, systemic anaphylaxis can occur after exposure of the skin to this agent.

PATIENT CARE: Chlorhexidine rinses should be performed after meals to minimize taste alteration. Patients should not rinse with water following a chlorhexidine rinse. The agent is also used to prevent skin colonization and infection, e.g. in the Intensive Care Unit (ICU). Cleansing patients' skin in the ICU with chlorhexidine gluconate (2%) lowers the rate of vancomycin-resistant

enterococci (VRE) colonization and reduces VRE environmental contamination, leading to less frequent acquisition of infection with this nosocomial pathogen.

chlorhexidine gluconate (klŏr-hĕk'sī-dīn, dĕn' gloo'kă-năt") A topical disinfectant.

chlorhydria (klor-hī'drĕ-ă) [*"* + *hydor*, water] An excess of hydrochloric acid in the stomach.

chloride (klŏ'rīd) [Gr. *chloros*, green] A binary compound of chlorine; a salt of hydrochloric acid. In health, blood serum contains 100 to 110 mmol/L of chloride ions.

FUNCTION: Chloride is the major extracellular anion and contributes to many body functions including the maintenance of osmotic pressure, acid-base balance, muscular activity, and the movement of water between fluid compartments. It is associated with sodium in the blood and was the first electrolyte to be routinely measured in the blood. Chloride ion is secreted in the gastric juice as hydrochloric acid.

chloridemia (klŏ'rī-dĕ-mĕ-ă) [*"* + *haima*, blood] Chlorides in the blood.

chloridimeter (klor-ī-dim'ĕ-tur) An instrument for determining the amount of chloride in a body fluid.

chloriduria (klŏ'rī-dū-rĕ-ă) [*"* + *ouron*, urine] Excess of chlorides in the urine.

chlorinated (klŏ'rĭn-ă-tĕd) Impregnated or treated with chlorine.

chlorination (klŏ'rī-nă'shŭn) The addition of chlorine or one of its derivatives to water, to kill microorganisms. For effective disinfection, a concentration of 0.5 to 1 part chlorine per million parts water is necessary. Some studies have suggested an association (but not a causal link) between the chlorination of drinking water and the incidence of cancers and birth defects.

chlorine (klŏ'rĕn) [Gr. *chloros*, green] **SYMB:** Cl. A highly irritating, very poisonous gas; atomic weight 35.453, atomic number 17. It is destructive to the mucous membranes of the respiratory passages, and excessive inhalation may cause death. Chlorine is an active bleaching agent and germicide, owing to its oxidizing powers. It is used extensively to disinfect water supplies and treat sewage.

chlorite (klŏ'rīt) A salt of chlorous acid; used as a disinfectant and bleaching agent.

chloroacetophenone, w-chloroacetophenone (klŏ'rŏ-ăs'ī-tŏ-fĕ-nŏn") A toxic chemical compound, C₈H₇ClO, released as an aerosol or mist in riot control. It irritates the eyes, lungs, nose, and skin, and is a form of tear gas.

chlorobenzylidene malononitrile, o-chlorobenzylidenemalononitrile (klŏ'rŏ-

bĕn-zil'ī-dĕn măl-ŏ-nī'trĭl) A toxic white powder, C₁₀H₅ClN₂/ClC₆H₄CH=C(CN)₂, released as an aerosol or mist in riot control. It irritates the eyes, lungs, nose, and skin, and is a form of tear gas.

chlorofluorocarbon **ABBR:** CFC. A fluorinated hydrocarbon, formerly used in metered dose inhalers as a propellant gas, that is, a gas that delivers aerosolized medications to the bronchi and lungs. CFCs were removed from the market after they were found to accumulate in the ozone layer of the stratosphere and to have a destructive effect on the upper atmosphere.

chloroform (klŏ'rŏ-form) [Gr. *chloros*, green, + *L. forma*, form] CHCl₃; a heavy, clear, colorless liquid with a strong ether-like odor, formed by the action of chlorinated lime on methyl alcohol. At one time chloroform was administered by inhalation to produce anesthesia, but this use is obsolete.

chloroformism (klŏ'rŏ-form'ĭz-m) The habit of inhaling chloroform for pleasure.

chloroleukemia (klŏ'rŏ-loo-kĕ'mĕ-ă) [*"* + *leukos*, white, + *haima*, blood] Leukemia with chlorosis.

chloroma (klŏ-rŏ-mă) [*"* + *oma*, growth] A tumor composed of leukemic cells that may metastasize to the brain, bones, skin, or other locations. Chloromas often have a green appearance due to an abundance of the fluorescent chemical myeloperoxidase.

chloronychia (klŏ'rŏ-nĭk-ĕ-ă) Green nail syndrome.

chloropenia (klŏ'rŏ-pĕ'nĕ-ă) Hypochlorremia. **chloropenic** (-nĭk), *adj.*

chlorophane (klŏ'rŏ-făn) [*"* + *phainein*, to show] A green-yellow pigment in the retina.

chlorophenothane (klŏ'rŏ-fĕn'ŏ-thăn) An insecticide, better known as DDT, not used in the U.S. since the 1970s because of its toxic effects on animals and the environment.

chlorophyll, chlorophyl (klŏ'rŏ-fĭl) [*"* + *phyllon*, leaf] The green pigment in plants that accomplishes photosynthesis. In this process, carbon dioxide and water are combined to form glucose and oxygen according to the following equation: 6 CO₂ + 6 H₂O + light → C₆H₁₂O₆ + 6 O₂. The primary energy source for our planet is the sunlight absorbed by chlorophyll. Four forms of chlorophyll (a, b, c, and d) occur in nature. Magnesium is an important component of chlorophyll, and green vegetables are an important dietary source of this mineral.

chloropia, chloropsia (klŏ-rŏ'pĕ-ă, klŏ-rŏp'sĕ-ă) [*"* + *opsis*, vision] A sign of digitalis toxicity in which viewed objects appear green.

chloroplast, chloroplastid (klŏ'rŏ-plăst,

klō"rō-plās'tid) [" + *plastos*, formed] A small green cell organelle found in the leaves and some stems of plants. Chloroplasts are the sites of photosynthesis. They possess a stroma and contain four pigments: chlorophyll a, chlorophyll b, carotene, and xanthophyll.

chloroquine hydrochloride (klō'rō-kwīn) A white crystalline powder used to treat both malaria and amebic dysentery. SEE: *malaria*.

chlorosis (klō-rō'sis) [" + *osis*, condition] A form of iron-deficiency anemia. SEE: *anemia*, *iron-deficiency*. **chlorotic** (-rōt'ik), *adj.*

chlorpheniramine maleate (klor'fēn-īr'ā-mēn) An antihistamine that may be used orally or by injection. It is available under several trade names, including Chlor-Trimeton and Teldrin.

chlorpromazine (klawr-prō'mā-zēn) A tranquilizing agent used primarily in its hydrochloride form to treat schizophrenia. Its side effects may include sedation, slurred speech, and tardive dyskinesia.

ChM *chirurgiae magister*, Master of Surgery.

choana (kō'ā-nā) *pl.* **choanae** [Gr. *choane*, funnel] A funnel-shaped opening, esp. of the posterior nares; one of the communicating passageways between the nasal fossae and the pharynx.

choke (chōk) [ME. *choken*] To prevent respiration by compressing or obstructing the larynx or trachea.

chokes (chōkz) Respiratory symptoms such as substernal distress, paroxysmal cough, tachypnea, or asphyxia. These may occur in decompression illness, esp. in cases of aeroembolism resulting from exposure to pressure lower than atmospheric.

choking (chōk'ing) [ME. *choken*, to suffocate] Upper airway obstruction caused, for example, by a foreign body in the trachea or oropharynx, laryngeal edema or spasm, or external compression of the neck. The choking patient may have gasping or stridorous respirations, repetitive ineffective coughing, an inability to speak, or hypersalivation. Intense agitation may be present. If the airway is not rapidly cleared, asphyxia and hypoxia may produce loss of consciousness or death. SEE: *Heimlich maneuver*.

chol- SEE: *chole-*.

cholagogue (kō'lā-gōg) [Gr. *chole*, bile, + *agein*, to lead forth] An agent that increases the flow of bile into the intestine (i.e., a choleric or cholecystagogue).

cholangi- SEE: *cholango-*.

cholangiectasis (kō-lānj'ē-ēk'tā-sis) [" + *angeion*, vessel, + *ektasis*, dilatation] Dilation of the bile ducts.

cholango-, cholangi- [*chole* + Gr. *an-*

geion, vessel] Combining forms meaning *bile vessel*.

cholangiocarcinoma (kō-lānj'ē-ō-kār'sī-nō'mā) [" + " + *karkinos*, crab, + *oma*, tumor] Carcinoma of the bile ducts.

cholangioenterostomy (kō-lānj'ē-ō-ēn'tēr-ōs'tō-mē) [" + " + *enteron*, intestine, + *stoma*, mouth] Surgical formation of a passage between a bile duct and the intestine.

cholangiogastrostomy (kō-lānj'ē-ō-gās-trōs'tō-mē) [" + " + *gaster*, stomach, + *stoma*, mouth] Surgical formation of a passage between a bile duct and the stomach.

cholangiography (kō-lānj'ē-ōg'rā-fē) [" + " + *graphein*, to write] Radiography of the bile ducts, a procedure replaced by ultrasonography.

percutaneous transhepatic c. ABBR: PTC. Direct percutaneous puncture of an intrahepatic duct by a needle inserted through the eighth or ninth intercostal space into the center of the liver. Radiopaque material is injected into the dilated intrahepatic biliary tree. The procedure is useful in determining the cause of obstructive jaundice. SEE: *endoscopic retrograde cholangiopancreatography*; *jaundice*.

cholangiole (kō-lānj'ē-ōl) [" + " + *ole*, dim. suffix] The small terminal portion of the bile duct.

cholangiolitis (kō-lānj'ē-ō-lī'tis) [" + " + " + Gr. *itis*, inflammation] Inflammation of the bile ducts, occurring in various forms of hepatitis.

cholangioma (kō-lānj'ē-ō'mā) [" + *angeion*, vessel, + *oma*, tumor] A tumor of the bile ducts.

cholangiostomy (kō'lānj'ē-ōs'tō-mē) [" + " + *stoma*, mouth] Surgical formation of a fistula into the bile duct.

cholangiotomy (kō'lānj'ē-ōt'ō-mē) [" + " + *tome*, incision] Incision of an intrahepatic or extrahepatic bile duct for removal of gallstones.

cholangitis (kō'lānj'ī'tis) [" + *angeion*, vessel, + *itis*, inflammation] Inflammation of the bile ducts.

primary sclerosing c. A chronic liver disease of unknown origin marked by inflammation and obliteration of the intrahepatic and extrahepatic bile ducts. The disease progresses silently and steadily and in most patients leads to cirrhosis, portal hypertension, and liver failure. Seventy percent of patients are men and the mean age at diagnosis is 39. Liver transplantation can be used to treat patients who develop cirrhosis from this disease.

cholanopoesis (kō'lā-nō-poy-ē'sis) [Gr. *chole*, bile, + *ano*, upward, + *poiesis*, making] Synthesis of cholic acid in the liver.

cholate (kō'lāt) Any salt or ester of cholic acid.

chole-, chol- [Gr. *chole*, bile] Combining forms meaning *bile* or *gall*.

cholecalciferol (kō'lē-kāl-sīf'ēr-ōl) Vitamin D₃; an antirachitic, oil-soluble vitamin occurring as white, odorless crystals.

cholecyst- SEE: *cholecysto-*.

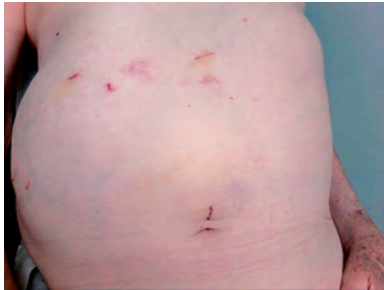
cholecystagogue (kō'lē-sīs'tā-gōg) [" + " + *agogos*, leader] A drug or action that empties the gallbladder.

cholecystalgia (kō'lē-sīs-tāl'jē-ā) [" + " + *algos*, pain] Biliary colic.

cholecystangiography (kō'lē-sīs'tān-jē-ōg'rā-fē) [" + " + *angeion*, vessel, + *graphein*, to write] Radiographic examination of the gallbladder and bile ducts after injection of a contrast medium, a procedure replaced by ultrasonography.

cholecystectasia (kō'lē-sīs-tēk-tā'zē-ā) [" + " + *ektasis*, dilatation] Dilatation of the gallbladder.

cholecystectomy (kō'lē-sīs-tēk'tō-mē) [" + " + *ektome*, excision] Removal of the gallbladder by laparoscopic or abdominal surgery. The procedure is performed for symptomatic gallbladder and bile duct disease. In the U.S. alone, more than half a million operations are performed annually, but some hospitals have reported a 20% increase in this number since the introduction of laparoscopic surgery. Surgical complications, including wound infections, adverse reactions to anesthetics, and injury to the liver, gallbladder, bile ducts, or neighboring organs, occur about 5% of the time. SEE: *illus.*



LAPAROSCOPIC CHOLECYSTECTOMY SCARS

Acute, chronic, or acalculous cholecystitis (i.e., biliary inflammation that is not caused by gallstones), repeated episodes of biliary colic, biliary dyskinesia, gallstone pancreatitis, and occasionally cholangitis are indications for the procedure. The gallbladder does not usually need to be removed for asymptomatic gallstone disease.

PATIENT CARE: *Preoperative:* The patient is informed about the procedure, including the need for drains, catheter, nasogastric tubes, etc., and taught

about incentive spirometry, leg exercises, incision splinting, analgesia use, and other postoperative concerns.

Postoperative: General patient care concerns apply. Vital signs are monitored and dressings are inspected. The patient is assessed for pain and for gastrointestinal and urinary function; analgesics and antiemetics are provided as needed. Fluid and electrolyte balance is monitored, and prescribed fluid replacement therapy is administered until the patient is permitted oral intake. The patient is encouraged to breathe deeply and to perform incentive spirometry to prevent atelectasis and impaired gas exchange. The patient is assisted with early ambulation and with splinting the abdomen when moving about or coughing. Peripheral circulation is evaluated, and venous return is promoted with leg exercises and elastic stockings or pneumatic hose as prescribed.

If a laparoscopic approach is used, the patient will typically be discharged the day of or the day after surgery. Clear liquids are offered after recovery from general anesthesia, and the patient resumes a normal diet within a few days. If an open incision is used, the patient is placed in a position of comfort; a nasogastric (NG) tube is frequently required to prevent abdominal distention and ileus, and is attached to low intermittent suction; and the volume and characteristics of drainage from the NG tube and any abdominal drains or T-tube are documented. Skin care and appropriate dressings are provided around any drain site.

When peristalsis returns, the NG tube is removed as directed. Oral intake, beginning with clear liquids, is initiated. The T-tube may be clamped before and after each meal to allow additional bile to enter the intestine. Signs and symptoms of postcholecystectomy syndrome (e.g., fever, abdominal pain, and jaundice) and other complications involving obstructed bile drainage are reported; urine and stool samples are collected for analysis of bile content should any such complications occur.

Discharge teaching for the patient and family includes wound care and T-tube care if appropriate (the T-tube may remain in place up to 2 weeks); the need to report any signs of biliary obstruction (e.g., fever, jaundice, pruritus, pain, dark urine, and clay-colored stools); the importance of daily exercise such as walking; avoidance of heavy lifting or straining for the prescribed period; and any restrictions on motor vehicle operation. Although diet is not restricted, the patient may be more comfortable avoiding excessive intake of fats and gas-forming foods for 4 to 6 weeks. Ar-

rangements for home health follow-up or care may be necessary. The patient should return to the surgeon for a postoperative evaluation visit as scheduled. If gallstones were present, the patient is taught to reduce the risk of recurrence by maintaining normal body weight, exercising regularly, and eating three well-balanced meals daily, including fiber and calcium and avoiding alcohol and foods high in saturated fat. Weight loss, if needed, should be carried out gradually, and crash dieting discouraged. SEE: *Nursing Diagnoses Appendix*.

laparoscopic laser c. Removal of the gallbladder using a laser as a cutting tool, applied laparoscopically. This procedure may be inappropriate for patients with severe acute cholecystitis, a palpable gallbladder, or evidence of a stone in the common bile duct. The use of a laser vs. endoscopic electrosurgical instrument is according to the preference of the surgeon.

PATIENT CARE: The nurse or surgeon explains to the patient that this type of surgery will not be used if the patient is pregnant or has had extensive abdominal surgery (because of concern for adhesions), severe acute cholecystitis, a palpable gallbladder, evidence of a stone in the common bile duct, or a bleeding problem. The patient also is told that, using the endoscopic technique, the surgeon will be able to remove the gallbladder without unsightly scarring, as there will be only four small punctures, reducing the risk for wound complications (e.g., infection, hematoma, separation). Risks for other complications such as pneumonia, thrombophlebitis, urinary retention, and paralytic ileus also are decreased, because the procedure enables early mobility and avoids use of parenteral analgesia. Patients usually are happy to hear that they will experience less pain and immobility, require less narcotic analgesia, be discharged the same or the following day, and be able to return to their usual activities (including work) within 3 to 7 days. Preoperative preparation, which usually is similar to that for any other abdominal surgery, is explained.

Postoperatively, the patient is stabilized during a brief stay in postanesthesia, then is transported to a surgical observation unit. The patient is offered clear liquids; carbonated beverages are avoided because they may cause distension and abdominal pressure. If the patient tolerates liquids, the IV is removed, and the patient is offered a regular diet. Analgesics are administered orally as prescribed as soon as the patient can take liquids. A parenteral narcotic (which may result in drowsi-

ness, reduced intestinal motility, and/or vomiting) is given only if the patient continues to experience pain after taking an analgesic. Once the patient is comfortable, he or she is assisted to walk, as early ambulation speeds recovery. Usually, the patient is fully awake and walking within 3 to 4 hr of arrival on the unit. If he or she experiences shoulder pain, a heating pad may be applied to the area; however, the surgeon usually removes the carbon dioxide at the end of the procedure to prevent this problem. The nurse evaluates readiness for discharge, which usually can occur if the patient is afebrile, walking, eating, and voiding, and has stable vital signs with no evidence of bleeding or bile leakage. To assess for the latter risks, the patient is observed for severe pain and tenderness in the right upper quadrant, an increase in abdominal girth, leakage of bile-colored drainage from the puncture site, a fall in blood pressure, and increased heart rate.

The patient is taught to keep the adhesive bandages covering the puncture site clean and dry. He or she may remove them the next day and bathe or shower as usual. The patient most likely will require little analgesia, but is given a prescription for use as needed. He or she is reminded to pace activity according to energy level. While no special diet is required, the patient may wish to avoid excessive fat intake and gas-forming foods for 4 to 6 weeks. He or she should return to the surgeon for follow-up evaluation as directed, and report any vomiting, abdominal distention, signs of infection, and new or worsening pain.

cholecystenterorrhaphy (kō'lē-sīs-tēn'tēr-or'ā-fē) [*"* + *"* + *enteron*, intestine, + *rhaphe*, seam, ridge] Suture of the gallbladder to the intestinal wall.

cholecystenterostomy (kō'lē-sīs-tēn'tēr-ōs'tō-mē) [*"* + *"* + *enteron*, intestine, + *stoma*, mouth] Surgical formation of a passage between the gallbladder and the small intestine.

cholecyctic (kō'lē-sīs'tik) Pert. to the gallbladder.

cholecystitis (kō'lē-sīs-tī'tis) [Gr. *chole*, bile, + *kystis*, bladder, + *itis*, inflammation] Inflammation of the gallbladder, usually caused by obstruction of the biliary ducts by gallstones. Cholecystitis caused by gallstones occurs commonly, esp. in women, the obese, and those who have been dieting, and can occur following pregnancy. Its acute form is more common during middle age, the chronic form occurring more frequently in the elderly. The disease is marked by colicky pain developing shortly after a meal in the right upper quadrant of the abdomen.

Acalculous cholecystitis (biliary inflammation not caused by gallstones) is a disease of the critically ill. It is associated with a high likelihood of abscess formation, gallbladder perforation, gangrene, and death.

ETIOLOGY: Acute cholecystitis is usually caused by obstruction of the biliary ducts, with chemical irritation and often infection of the gallbladder.

SYMPTOMS: Cholecystitis due to gallstones causes right upper quadrant pain that occurs after a fatty meal, as well as fever, chills, nausea, and vomiting. The pain of cholecystitis often radiates into the right shoulder or right side of the back. Jaundice is present in about 20% of patients, usually related to obstruction of the common bile duct by a gallstone. In patients in intensive care units, acalculous cholecystitis may present with fever and few other easily identified symptoms.

DIAGNOSIS: Ultrasonography of the right upper quadrant, the diagnostic procedure of choice, reveals cholecystitis in about 90% of patients. Oral cholecystograms, computed tomography of the abdomen, and other diagnostic tests are sometimes used when the disease is suspected clinically but ultrasonography is not diagnostic.

TREATMENT: Cholecystectomy is the usual treatment. Gallbladder drainage (cholecystostomy) is sometimes used as a temporizing procedure in unstable patients. Gallstones lodged in the ampulla of Vater can sometimes be removed with endoscopic retrograde cholangiopancreatography.

PATIENT CARE: During an acute attack, the patient's vital signs and fluid balance are monitored, oral intake is withheld, prescribed antiemetics are administered as necessary, and intravenous fluid and electrolyte therapy is maintained as prescribed. A nasogastric tube may be employed. The patient's comfort is ensured, and prescribed narcotic analgesics and anticholinergics are administered to relieve pain.

Diagnostic tests including pretest instructions and aftercare are explained; the surgeon's explanation of any prescribed surgical interventions, including possible complications, is reinforced; and the patient is prepared physically and emotionally for such procedures.

emphysematous c. Inflammation of the gallbladder resulting from infection with a gas-producing microorganism, such as *Clostridium perfringens*.

cholecystnephrostomy (kō'lē-sīs'tō-nē-frōs'tō-mē) [" + *kystis*, bladder, + *nephros*, kidney, + *stoma*, mouth] Surgical formation of a passage between the gallbladder and the renal pelvis.

cholecysto-, cholecyst- [chole + Gr.

kystis, bladder] Combining forms meaning *gallbladder*.

cholecystocolostomy (kō'lē-sīs'tō-kō-lōs'tō-mē) [" + " + *kolon*, colon, + *stoma*, mouth] Surgical formation of a passage between the gallbladder and the colon.

cholecystocolotomy (kō'lē-sīs'tō-kō-lōt'ō-mē) [" + " + " + *tome*, incision] A surgical incision into the gallbladder and colon.

cholecystoduodenostomy (kō'lē-sīs'tō-dū'ō-dē-nōs'tō-mē) [" + " + L. *duodeni*, twelve, + Gr. *stoma*, mouth] Surgical formation of a passage between the gallbladder and the duodenum.

cholecystogastrostomy (kō'lē-sīs'tō-gās-trōs'tō-mē) [" + " + *gaster*, belly, + *stoma*, mouth] Surgical formation of a passage between the gallbladder and the stomach.

cholecystogram (kō'lē-sīs'tō-grām) [" + " + *gramma*, something written] A radiograph of the gallbladder. This procedure is being replaced by ultrasonography.

cholecystography (kō'lē-sīs-tōg'rā-fē) [" + " + *graphein*, to write] Radiography of the gallbladder, a procedure replaced by ultrasonography.

cholecystojejunostomy (kō'lē-sīs'tō-jē-jū-nōs'tō-mē) [" + " + L. *jejunum*, empty, + Gr. *stoma*, mouth] Surgical formation of a passage between the gallbladder and the jejunum.

cholecystokinin (kō'lē-sīs'tō-kīn'īn) ABBR: CCK. A hormone secreted into the blood by the mucosa of the upper small intestine. It stimulates contraction of the gallbladder and pancreatic secretion.

cholecystokinin-secretin test A direct test of pancreatic function that assesses both the endocrine and exocrine functions of the pancreas. A double-lumen tube is inserted into the patient's gastrointestinal tract. One lumen samples the duodenal juices, the other removes gastric secretions. First secretin and then cholecystokinin are given to the patient intravenously; then the duodenal juices are analyzed to determine whether adequate levels of bicarbonate and trypsin are secreted. SYN: *secretin injection test*.

cholecystolithiasis (kō'lē-sīs'tō-lī-thī'ās-sīs) [" + " + *lithos*, stone, + *-iasis*, condition] Gallstones in the gallbladder.

cholecystolithotripsy (kō'lē-sīs'tō-līth'ō-trīp'sē) [" + " + " + *tripsis*, a rubbing] Crushing of a gallstone in the unopened gallbladder with an extracorporeal shock-wave lithotripter; its use is primarily investigational.

cholecystomy (kō'lē-sīs'tō-mē) [Gr. *chole*, bile, + *kystis*, bladder, + *tome*, incision] Cholecystotomy.

cholecystopathy (kō'lē-sīs-tōp'ā-thē) ["

+ " + *pathos*, disease, suffering] Any gallbladder disorder.

cholecystopexy (kō"lē-sīs'tō-pěk"sē) [" + " + *pexis*, fixation] Suturing of the gallbladder to the abdominal wall, in conjunction with cholecystostomy.

cholecystoptosis (kō"lē-sīs-tōp-tō'sis) [" + " + *ptosis*, a dropping] Downward displacement of the gallbladder.

cholecystorrhaphy (kō"lē-sīs-tor'ā-fē) [" + *kystis*, bladder, + *rhaphe*, seam, ridge] Suturing of the gallbladder.

cholecystostomy (kō"lē-sīs-tōs'tō-mē) [" + " + *stoma*, mouth] Surgical formation of an opening into the gallbladder through the abdominal wall.

cholecystotomy (kō"lē-sīs-tōt'ō-mē) [" + " + *tome*, incision] Incision of the gallbladder through the abdominal wall for removal of gallstones.

choledoch- SEE: *choledoch-*.

choledochal (kō-lē-dōk'āl) [" + *dochos*, receptacle] Pert. to the common bile duct.

choledochectasia (kō-lēd"ō-kēk-tā'zē-ā) [" + " + *ektasis*, distention] Distention of the common bile duct.

choledochectomy (kō-lēd"ō-kēk'tō-mē) [" + " + *ektome*, excision] Excision of a portion of the common bile duct.

choledochitis (kō"lē-dō-kī'tis) [" + " + *itis*, inflammation] Inflammation of the common bile duct.

choledoch-, **choledoch-** [Gr. *choledochos*, containing bile fr. *chole*, bile + *dechomai*, receptacle, to receive] Combining forms meaning *bile duct*.

choledochoduodenostomy (kō-lēd"ō-kō-dū-ō-dē-nōs'tō-mē) [" + " + L. *duodeni*, twelve, + Gr. *stoma*, mouth] Surgical formation of a passage between the common bile duct and the duodenum.

choledochointerostomy (kō-lēd"ō-kō-ēn-tēr-ōs'tō-mē) [" + " + *enteron*, intestine, + *stoma*, mouth] Surgical formation of a passage between the common bile duct and the intestine.

choledochography (kō-lēd"ō-kōg'rā-fē) [" + *dochos*, receptacle, + *graphein*, to write] Radiography of the bile duct following administration of a radiopaque contrast medium, a procedure replaced by ultrasonography.

choledochojejunostomy (kā-lēd"ā-kō-jē-joo-nōs'tā-mē) [" + " + L. *jejunum*, empty, + Gr. *stoma*, mouth] Surgical joining of the common bile duct to the jejunum of the small intestine.

choledocholith (kō-lēd'ō-kō-lith") [" + " + *lithos*, stone] A calculus, or stone, in the common bile duct.

choledocholithiasis (kō-lēd"ō-kō-lī-thī'ā-sīs) [" + " + *lithos*, stone, + *-iasis*, condition] Calculi in the common bile duct.

choledocholithotomy (kō-lēd"ō-kō-lith-ōt'ō-mē) [" + " + " + *tome*, inci-

sion] Removal of a gallstone through an incision of the bile duct.

choledocholithotripsy (kō-lēd'ō-kō-lith"ō-trīp-sē) [" + " + " + *tripsis*, a crushing] Crushing of a gallstone in the common bile duct.

choledochoplasty (kō-lēd'ō-kō-plās'tē) [Gr. *chole*, bile, + *dochos*, receptacle, + *plassein*, to form] Surgical repair of the common bile duct.

choledochorrhaphy (kō-lēd"ō-kor'ā-fē) [" + " + *rhaphe*, seam, ridge] Suture repair of the common bile duct.

choledochostomy (kō-lēd"ō-kōs'tō-mē) [" + " + *stoma*, mouth] Surgical drainage of the common bile duct by T-tube or catheter exiting the abdominal wall.

choledochotomy (kō"lēd-ō-kōt'ō-mē) [" + " + *tome*, incision] Surgical incision of the common bile duct.

cholelith (kōl'i-lith") Gallstone.

cholelithiasis (kō"lē-lī-thī'ā-sīs) [" + " + *-iasis*, condition] The presence or formation of gallstones. SEE: *cholecystectomy*; *cholecystitis*; *colic (1)*; *gallstone*; *lithotripsy*.

cholelithic (kō"lē-līth'ik) Pert. to or caused by biliary calculus.

cholelitholytic (kō"lē-līth"ō-līt'ik) [" + "] Able to dissolve or destroy gallstones.

cholelithotomy (kō"lē-lī-thōt'ō-mē) [" + *lithos*, stone, + *tome*, incision] Removal of gallstones through a surgical incision.

cholelithotripsy, **cholelithotripsy** (kōl"ā-līth'ā-trīp'sē, kō"lē-lī-thōt'rī-tē) [" + " + *tripsis*, a crushing] Crushing of a gallstone.

cholemesis (kō-lēm'ē-sīs) [" + *emein*, to vomit] Bile in the vomitus.

choleperitoneum (kō"lē-pēr'ī-tō-nē'ūm) [" + *peri*, around, + *teinein*, to stretch] Bile in the peritoneum.

cholera (kōl'ēr-ā) [L. *cholera*, bilious diarrhea] An acute infection involving the entire small intestine, marked by profuse, watery, secretory diarrhea. Without treatment the severe loss of fluids and electrolytes can cause dehydration and vascular collapse. The incubation period is from a few hours to 4 or 5 days. Cholera is endemic in India, parts of Asia, and sub-Saharan Africa where it is a major cause of loss of life, especially after natural disasters. **choleraic**, *adj.* SYN: *Asiatic cholera*.

ETIOLOGY: The causative organism, *Vibrio cholerae*, is a short, curved, motile gram-negative rod. Two serotypes have been identified, 01 and 0139 (Bengal). The bacteria do not invade the bowel wall, but produce a potent enterotoxin that causes increased secretion of chloride, bicarbonate, and water into the small intestine, which overwhelms the large intestine's ability to reabsorb. Transmission is through water and food

contaminated with excreta of infected persons.

SYMPTOMS: Approximately 80% of patients have mild disease marked by diarrhea and malaise. Severe attacks are characterized by periodic voluminous "rice water" diarrhea, vomiting, and muscle cramps. Without treatment severe dehydration develops, characterized by loss of skin turgor, dizziness, increased heart rate and respirations, decreased urinary output, and, ultimately, circulatory collapse and hypovolemic shock. Hypoglycemia may be a problem in very young children.

TREATMENT: The use of oral solutions to replace the lost water, sodium, chloride, and bicarbonate has decreased the death rate from cholera by preventing death due to dehydration. A commercial or over-the-counter oral rehydration solution can be used or a solution made by adding 1 level tsp of salt and 1 heaping tsp of sugar to 1 L of water; patients should replace 5% to 7% of body weight (e.g., a 20-kg child would receive 1 to 1.4 L of fluid per day). Hospitalization and intravenous fluid replacement are required if the patient is already dehydrated. Quinolone antibiotics decrease the duration and severity of the disease.

PREVENTION: Several different cholera vaccines are available, including oral vaccines made with recombinant DNA technology. To avoid infection with cholera, travelers to developing countries should not drink unboiled water or add ice to beverages, and should not eat raw or partially cooked shellfish, uncooked vegetables or salads, or fruits they have not peeled themselves. They should not assume bottled water is safe, and should swim only in chlorinated swimming pools.

choleresis (kōl'ēr-ē'sis, kō-lēr'ē-sis) [Gr. *chole*, bile, + *hairesis*, removal] The secretion of bile by the liver.

choloretic (kōl'ēr-ēt'ik) **1.** Stimulating excretion of bile by the liver. **2.** Any agent that increases excretion of bile by the liver.

choleric (kōl'ēr-ik) Irritable; quick-tempered without apparent cause.

cholericform (kōl'ēr'ī-form) [L. *cholera*, + *forma*, shape] Resembling cholera.

choleroïd (kōl'ēr-oyd) [ʹ + Gr. *eidos*, form, shape] Resembling cholera.

cholescintigraphy (kōl'ī-sīn-tīg' rä-fē) Imaging of the biliary tree by means of a nuclear medicine scanning examination, a HIDA scan. SEE: *HIDA scan*.

cholestatia (kō'lē-stā'zē-ā) [Gr. *chole*, bile, + *stasis*, stoppage] Cholestasis. **cholestatic** (-stāt'ik), *adj.*

cholestasis (kō'lē-stā'sis) Arrest of the flow of bile. This may be due to intrahepatic causes, obstruction of the bile duct by gallstones, or any process that

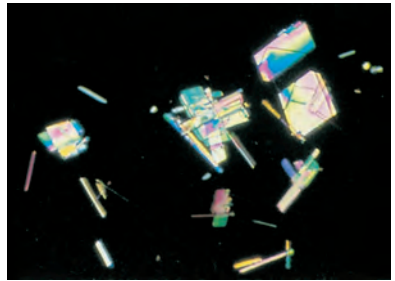
blocks the bile duct (e.g., cancer). SYN: *cholestatia*.

progressive familial intrahepatic c. Byler's disease.

cholesteatoma (kō'lē-stē'ä-tō'mä) [ʹ + *steatos*, fat, + *oma*, tumor] An epithelial pocket or cystlike sac filled with keratin debris. It can occur in the meninges, central nervous system, and skull, but is most common in the middle ear and mastoid area. The cyst, which is filled with a combination of epithelial cells and cholesterol, most commonly enlarges to occlude the middle ear. Enzymes formed within the sac cause erosion of adjacent bones, including the ossicles, and destroy them. Cholesteatomas are classified as congenital, primary acquired, and secondary acquired. They are common causes of conductive hearing loss and can be treated surgically.

cholesteremia, cholesterolemia (kō-lēs'tē-rē'mē-ä, kō-lēs'tēr-öl-ē'mē-ä) [ʹ + *stereos*, solid, + *haima*, blood] Hypercholesterolemia.

cholesterol (kō-lēs'tēr-öl) [ʹ + *stereos*, solid] C₂₇H₄₆OH, a monohydric alcohol; a sterol widely distributed in animal tissues and occurring in egg yolks, various oils, fats, myelin in brain, spinal cord and axons, liver, kidneys, and adrenal glands. It is synthesized in the liver and is a normal constituent of bile. It is the principal constituent of most gallstones and of atherosclerotic plaques found in arteries. It is important in metabolism, serving as a precursor to various steroid hormones (e.g., sex hormones, adrenal corticoids). SEE: *illus.*



CHOLESTEROL CRYSTALS, POLARIZED

(Orig. mag. ×400)

An elevated blood level of cholesterol increases a person's risks of developing coronary heart disease (CHD). Lowering elevated total blood cholesterol levels and the levels of low-density lipoprotein cholesterol reduces the risk of heart attacks both in persons with a prior history of coronary disease and in asymptomatic individuals. Risk categories and recommended actions are included in the accompanying table. SEE: table.

Lipid Level Management for Cholesterol Level Reduction

Suggested Management of Patients with Raised Lipid Levels

- LDL cholesterol is the primary key to treatment. Diet is first-line therapy and drug intervention is reserved for patients considered to be at a higher risk. Continue diet for at least 6 months before initiating drug therapy; use drug therapy in conjunction with diet, not in place of diet. The greater the risk the more aggressive the intervention.
- If there is evidence of coronary heart disease (CHD), do lipoprotein analysis.
- Initially measure total cholesterol and HDL cholesterol levels; based on these results and the presence or absence of other risk factors, determine course of action or proceed to lipoprotein analysis.
- See American Heart Association (AHA) diet, Step I, and AHA diet, Step II.
- Risk factors for atherosclerosis: advanced age, diabetes mellitus, family history, hypertension, male gender, obesity, sedentary lifestyle, tobacco use.

TOTAL AND HDL CHOLESTEROL

| Status and Total Cholesterol | HDL Cholesterol | ≥2 Positive Risk Factors | Recommendations |
|------------------------------------|-----------------|--------------------------|--|
| Desirable (200 mg/dL) | ≥35 mg/dL | N/A* | <ul style="list-style-type: none"> ● Reassess total and HDL levels in 5 yr. ● Provide information on diet, physical activity, and risk factor reduction. ● Do lipoprotein analysis (see below). |
| | ≤35 mg/dL | N/A | |
| Borderline high (200–239 mg/dL) | ≥35 mg/dL | No | <ul style="list-style-type: none"> ● Reassess total and HDL levels in 1–2 yr. ● Reinforce diet, physical activity, and other risk factor reduction activities. ● Do lipoprotein analysis (see below). |
| | ≤35 mg/dL | Yes | |
| High (≥240 mg/dL) | | | <ul style="list-style-type: none"> ● Do lipoprotein analysis (see below). |

LIPOPROTEIN ANALYSIS

LDL cholesterol = (total cholesterol – HDL) – (triglycerides ÷ 5)

| Status and LDL Cholesterol | ≥2 Positive Risk Factors | Recommendations |
|---|--------------------------|--|
| Desirable (130 mg/dL) | N/A | <ul style="list-style-type: none"> ● Reassess total and HDL in 5 yr. ● Provide information on diet, physical activity, and risk factor reduction. |
| Borderline high-risk (130–159 mg/dL) | No | <ul style="list-style-type: none"> ● Reassess total, HDL, and LDL annually. ● Provide information on Step I diet and physical activity. |
| High-risk (≥160 mg/dL) | Yes | <ul style="list-style-type: none"> ● Clinical workup (history, physical exam, and lab tests) to check for secondary causes or familial disorders. ● Consider risk factors that can be changed. ● Initiate Step I diet; if diet fails, proceed to Step II diet. ● Consider drug therapy if diet fails to obtain desired levels. ● Goal for borderline high-risk patients with ≥2 negative risk factors is LDL 130 mg/dL. ● Goal for high-risk patients with no other risk factors is LDL 160 mg/dL. |

Table continued on following page

Lipid Level Management for Cholesterol Level Reduction (Continued)

- When there is **evidence of CHD**, the **goal** of therapy is to reduce LDL to ≤ 100 mg/dL.
 - LDL > 100 —Do clinical workup and initiate diet or drug therapy.
 - LDL ≤ 100 —Individualize instruction on diet and physical activity and repeat lipoprotein analysis annually.

*N/A = not applicable.

SOURCE: <http://www.nhlbi.nih.gov/guidelines/cholesterol/atp3full.pdf>, from the Third Report of the Expert Panel on Detection, Evaluation and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III); National Cholesterol Education Program; National Heart, Lung, and Blood Institute; National Institutes of Health, NIH Pub. No. 02-5215, September 2002.

Cholesterol levels may be decreased by eating a diet that is low in cholesterol and fat and high in fiber; exercising regularly; and taking medications. Drugs used to control cholesterol levels include lovastatin (and other "statin" drugs); niacin; bile-acid resins (e.g., cholestyramine); and others.

high-density lipoprotein c. SEE: *lipoprotein, high-density*.

low-density lipoprotein c. SEE: *lipoprotein, low-density*.

total c. The sum of low- and high-density lipoproteins.

cholesterol embolization syndrome The systemic consequences that result from the splintering of cholesterol-containing plaques from the aorta; when this occurs fragments of cholesterol crystals may travel to and obstruct blood vessels throughout the body. The renal, mesenteric, and femoral arteries are most often affected; involvement of the cerebral vessels is unusual. This condition may arise after trauma to the aorta (e.g., during catheterization or cardiac surgery). It may produce renal failure, and ischemia or infarction of the bowel, toes, or skin. It may ultimately result in death in about half of all affected patients. There is no effective treatment.

cholesterosis (kō-lēs'tēr-ō-lō'sis) The abnormal accumulation of cholesterol in tissues.

cholesterdin (kō'lē-vēr'din) SEE: *biliverdin*.

choline (kō'līn, -lēn) [Gr. *chole*, bile] An amine, $C_5H_{15}NO_2$, widely distributed in plant and animal tissues. It is a constituent of lecithin and other phospholipids. It is essential in normal fat and carbohydrate metabolism. A deficiency leads to fatty liver. Choline is also involved in protein metabolism, serving as a methylating agent, and is a precursor of acetylcholine.

Choline contains six metabolites: betaine; glycerophosphocholine; phosphocholine; phosphatidylcholine; sphingomyelin; and total choline.

cholinergic (kō'līn-ēr'jik) [" + *ergon*, work] **1.** Liberating acetylcholine; used

of nerve endings. **2.** An agent that produces the effect of acetylcholine.

cholinergic blocking agent Anticholinergic (2).

cholinesterase (kō'līn-ēs'tēr-ās) Any enzyme that catalyzes the hydrolysis of choline esters, such as acetylcholinesterase, which catalyzes the breakdown of acetylcholine to acetic acid and choline. Cholinesterases are inhibited by physostigmine (eserine).

cholinoceptive (kō'līn-ō-sēp'tiv) [" + *L. receptor*, receiver] Pert. to sites on cells that are acted on by cholinergic transmitters.

chololytic (kō'līn-ō-līt'ik) [" + *lysis*, dissolution] Anticholinergic (2).

cholinomimetic (kō'lī-nō-mī-mēt'ik) [" + *mimetikos*, imitating] Acting in the same way as acetylcholine.

chologenic (kō'lō-jēn'ik) [" + *gennan*, to produce] Promoting or stimulating bile production.

chololith (kōl'ō-līth) [" + "] Obsolete term for gallstone. SEE: *cholelith*.

chololithiasis (kōl'ō-līth-ī'ās-īs) [" + " + *-iasis*, state] Cholelithiasis.

cholorrhoea (kōl'ō-rē'ā) [" + *rhoia*, flow] Excessive secretion of bile.

chondr- SEE: *chondro-*.

chondral (kōn'drāl) [Gr. *chondros*, cartilage] Pert. to cartilage.

chondralgia (kōn-drāl'jē-ā) [" + *algos*, pain] Pain in or around a cartilage.

chondralloplasia (kōn'drāl-ō-plā'zē-ā) [" + *allos*, other, + *plassein*, to form] Cartilage in abnormal places.

chondrectomy (kōn-drēk'tō-mē) [" + *ektome*, excision] Surgical excision of a cartilage.

chondric (kōn'drīk) [Gr. *chondros*, cartilage] Pert. to cartilage.

chondrification (kōn-drī-fī-kā'shūn) [" + *L. facere*, to make] Conversion into cartilage.

chondritis (kōn-drī'tīs) [" + *itis*, inflammation] Inflammation of cartilage.

chondro-, chondr- [Gr. *chondros*, cartilage] meaning *cartilage*.

chondroadenoma (kōn'drō-ād-ē-nō'mā) [" + *aden*, gland, + *oma*, tumor] An

adenoma comprised of cartilaginous tissue.

chondroangioma (kõn"drõ-än-jë-õ'ma) [" + *angeion*, vessel, + *oma*, tumor] An angioma containing cartilaginous elements.

chondroblast (kõn"drõ-bläst) [" + *blastos*, germ] A cell that forms cartilage. SYN: *chondroplast*.

chondroblastoma (kõn"drõ-bläs-tõ'mä) [" + " + *oma*, tumor] A benign neoplasm in which the cells resemble cartilage cells and the tumor appears to be cartilaginous.

chondrocalcinosis (kõn"drõ-käl"sîn-õ'sis) [" + L. *calx*, lime, + Gr. *osis*, condition] Pseudogout; chronic, recurrent arthritis with some features that suggest gout. The crystals found in the synovial fluid are calcium pyrophosphate dihydrate and not urate crystals. The most commonly involved joint is the knee.

chondroclast (kõn"drõ-kläst) [" + *klas-tos*, broken into bits] A giant cell involved in the absorption of cartilage.

chondrocostal (kõn"drõ-kõs'täl) [" + L. *costa*, rib] Pert. to the ribs and costal cartilages.

chondrocranium (kõn-drõ-krä'në-üm) [" + *cranium*, head] The cartilaginous embryonic cranium before ossification.

chondrocyte (kõn"drõ-sit) [" + *kytos*, cell] A cartilage cell.

chondrodermatitis nodularis chronica helicis (kõn"drõ-der"mä-ti'tis) Growth of nodules on the helix of the ear.

chondrodynia (kõn"drõ-din'ë-ä) [" + *odyne*, pain] Pain in or about a cartilage.

chondrodysplasia (kõn"drõ-dis-plä'zë-ä) [" + Gr. *dys*, bad, + *plasis*, a molding] A disease, usually hereditary, resulting in disordered growth. It is marked by multiple exostoses of the epiphyses, esp. of the long bones, metacarpals, and phalanges. SYN: *dyschondroplasia*.

chondrodystrophy (kõn"drõ-dis'trõ-fë) [" + " + *trophe*, nourishment] Achondroplasia.

chondroendothelioma (kõn"drõ-ën"dõ-thë'lë-õ'mä) [" + *endon*, within, + *thele*, nipple, + *oma*, tumor] An endothelioma that contains cartilage.

chondroepiphysitis (kõn"drõ-ëp'i-fiz-i'tis) [" + *epiphysis*, a growing on, + *itis*, inflammation] Inflammation of the epiphyseal portion of the bone and the attached cartilage.

chondrofibroma (kõn"drõ-fi-brõ'mä) [" + L. *fibra*, fiber, + Gr. *oma*, tumor] A mixed tumor with elements of chondroma and fibroma.

chondrogenesis (kõn"drõ-jën'ë-sis) [" + *genesis*, generation, birth] Formation of cartilage. **chondrogenic** (-jën'ik), *adj.*

chondroid (kõn'droyd) [" + *eidōs*, form,

shape] Resembling cartilage; cartilaginous.

chondroitin (kõn-drõ'i-tin) A glycosaminoglycan (complex polysaccharide) present in connective tissue, including the cornea and cartilage. It is promoted as a dietary supplement for use in the treatment of joint pain, usually with glucosamine.

chondrolipoma (kõn-drõ-lip-õ'mä) [" + *lipos*, fat, + *oma*, tumor] A tumor made of cartilaginous and fatty tissue.

chondrolysis (kõn-drõ'l'i-sis) [" + *lysis*, dissolution] The breaking down and absorption of cartilage.

chondroma (kõn-drõ'mä) [" + *oma*, tumor] A slow-growing, painless cartilaginous tumor. It may occur wherever there is cartilage. **chondromatous** (-ä-tüs), *adj.*

chondromalacia (kõn-drõ-mäl-ä'shë-ä) [" + *malakia*, softness] Softening of the articular cartilage, usually involving the patella.

chondromatosis (kõn"drõ-mä-tõ'sis) [" + *oma*, tumor, + *osis*, condition] Formation of multiple chondromas of the hands and feet; often occurs in joint spaces.

chondromucoprotein (kõn"drõ-mū'kõ-prõ'të-in) [" + " + *protos*, first] The ground substance (the fluid or solid material) that occupies the space between the cells and fibers of cartilage.

chondromyoma (kõn"drõ-mi-õ'mä) [" + *mys*, muscle, + *oma*, tumor] A combined myoma and cartilaginous neoplasm.

chondromyxoma (kõn"drõ-miks-õ'mä) [" + *myxa*, mucus, + *oma*, tumor] A chondroma with myxomatous elements.

chondromyxosarcoma (kõn-drõ-mik"sõ-sär-kõ'mä) [" + " + *sarx*, flesh, + *oma*, tumor] A cartilaginous and sarcomatous tumor.

chondro-osseus (kõn"drõ-õs'ë-üs) [" + L. *osseus*, bony] Composed of cartilage and bone.

chondro-osteodystrophy (kõn"drõ-õs"të-õ-dis'trõ-fë) [" + *osteon*, bone, + *dys*, bad, + *trophe*, nourishment] Mucopolysaccharidosis IV.

chondropathology (kõn"drõ-pä-thõl'õ-jë) [Gr. *chondros*, cartilage, + *pathos*, disease, + *logos*, word, reason] The pathology of cartilage disease.

chondropathy (kõn-drõp'ä-thë) Any disease of cartilage.

chondroplasia (kõn"drõ-plä'zë-ä) [" + *plassein*, to mold] The formation of cartilage.

chondroplast (kõn"drõ-pläst) Chondroblast.

chondroplasty (kõn"drõ-pläs'të) [" + *plassein*, to mold] Plastic or reparative surgery on cartilage.

chondroporosis (kõn"drõ-põ-rõ'sis) [" + *poros*, passage] The porous condition of

pathological or normal cartilage during ossification.

chondroprotection (kõn-drõ-prõ-ték'shũn) **1.** Cartilage preservation.

2. The potential of some drugs or nutrients to prevent the degradation of cartilage that occurs with various forms of arthritis.

chondroprotein (kõn-drõ-prõ'tē-in) [" + *protos*, first] Any of a group of glycoproteins found in cartilage, tendons, and connective tissue.

chondrosarcoma (kõn-drõ-sär-kõ'mã) [" + *sarx*, flesh, + *oma*, tumor] A cartilaginous sarcoma.

chondrosis (kõn-drõ'sis) [" + *osis*, condition] The development of cartilage.

chondrosternal (kõn'drõ-stër'nãl) [" + *sternon*, chest] **1.** Pert. to sternal cartilage. **2.** Pert. to both costal cartilage and the sternum.

chondrosteronoplasty (kõn'drõ-stër'nõ-plãs'tē) [" + " + *plassein*, to mold] Surgical correction of a deformed sternum.

chondrotome (kõn'drõ-tõm) [" + *tome*, incision] A device for cutting cartilage.

chondrotomy (kõn-drõt'õ-mē) Dissection or surgical division of cartilage.

Chondrus (kõn'drũs) [L., cartilage] A genus of red algae that includes *Chondrus crispus*, the source of carrageenan, a mucilaginous substance used as an emulsifying agent. *Chondrus* is commonly called Irish moss or carrageen.

choosing death Deciding to die. In particular, an individual may choose to withdraw from chronic kidney dialysis with no medical reason for withdrawing. In one study, stopping dialysis in this situation was three times more common in patients treated at home than in those treated at dialysis centers. SEE: *death*; *death with dignity*; *do not attempt resuscitation*; *suicide*.

Chopart's amputation (shõ-pãrz') [François Chopart, Fr. surgeon, 1743–1795] Disarticulation at the midtarsal joint.

chorda (kor'dã) *pl.* **chordae** [Gr. *chorde*, cord] A cord or tendon.

c. dorsalis Notochord.

c. gubernaculum An embryonic structure forming a part of the gubernaculum testis in males and the round ligament in females.

c. tendinea One of several small tendinous cords that connect the free edges of the atrioventricular valves to the papillary muscles and prevent inversion of these valves during ventricular systole.

c. tympani A branch of the facial nerve (CN VII) that leaves the cranium through the stylomastoid foramen, traverses the tympanic cavity, and joins a branch of the lingual nerve. Efferent fibers innervate the submandibular and sublingual glands; afferent fibers con-

vey taste impulses from the anterior two thirds of the tongue.

c. vocalis The vocal folds of the larynx.

chordal (kor'dãl) Pert. to chorda, esp. the notochord.

Chordata (kor-dã'tã) [LL., notochord] A phylum of the animal kingdom including all animals that have a notochord during their development (i.e., all vertebrates).

chordee (kor-dē') [Fr., corded] Painful downward curvature of the penis during erection. It occurs in congenital anomaly (hypospadias) or in urethral infection such as gonorrhea. SEE: *Peyronie's disease*.

chorditis (kor-dĩ'tis) [Gr. *chorde*, cord, + *itis*, inflammation] Inflammation of the spermatic or vocal cord.

c. nodosa Singer's node.

chordoma (kor-dõ'mã) [" + *oma*, tumor] A rare type of tumor that occurs at any place along the vertebral column. It is composed of embryonic nerve tissue and vacuolated physaliform cells. The neoplasm may cause death because of its surgical inaccessibility and the damage caused by the expanding tissue.

chordotomy (kor-dõt'õ-mē) Cordotomy.

chorea (kõ-rē'ã) [Gr. *choreia*, dance] Involuntary dancing or writhing of the limbs or facial muscles. **choreal** (kõ-rē'al, kõ-rē-ãl), *adj.*

acute c. Sydenham's chorea.

Bergeron's c. Electric chorea.

chronic c. Huntington's c.

electric c. A rare form of chorea marked by sudden involuntary contraction of a muscle group. This causes violent movements as if the patient had been stimulated by an electric current. SYN: *Bergeron's chorea*; *Dubini's disease*.

epidemic c. Dancing mania; uncontrolled dancing. It was manifested in the 14th century in Europe. SYN: *dancing mania*.

c. gravidarum A form of Sydenham's chorea seen in some pregnant women, usually in those who have had chorea before, esp. in their first pregnancy. SEE: *Sydenham's chorea*.

Henoch's c. SEE: *Henoch's chorea*.

hereditary c. Huntington's chorea.

Huntington's c. SEE: *Huntington's chorea*.

hyoscine c. Movements simulating chorea and sometimes accompanied by delirium, seen in acute scopolamine intoxication.

hysterical c. A form of hysteria with choreiform movements.

mimetic c. Choreia caused by imitative movements.

c. minor Sydenham's chorea.

posthemiplegic c. Choreia affecting partially paralyzed muscles subsequent to a hemiplegic attack.

sporadic c. of the elderly A mild, usually benign disorder of adults marked by chorea-like movements and mild cognitive deficits. It may be related to Huntington's chorea. SEE: *Huntington's chorea*.

Sydenham's c. SEE: *Sydenham's chorea*.

choreatic disorder (kō'rē-ō-āt'ik) ['] Any disease whose symptoms include rapid, involuntary body movements.

choreiform (kō-rē-ō-i-form) [Gr. *choreia*, dance, + L. *forma*, form] Of the nature of chorea.

choreoathetoid (kō'rē-ō-āth'ē-toyd) ['] + *athetos*, not fixed, + *eidōs*, form, shape] Pert. to choreoathetosis.

choreoathetosis (kō'rē-ō-āth'ē-tō'sis) ['] + " + *osis*, condition] A type of athetosis frequently seen in cerebral palsy, marked by extreme range of motion, jerky involuntary movements that are more proximal than distal, and muscle tone fluctuating from hypotonia to hypertonia.

chorioadenoma (kō'rē-ō-ād'ēn-ō-mā) [Gr. *chorion*, outer membrane enclosing an embryo, + *aden*, gland, + *oma*, tumor] A rare glandular tumor of the outermost embryonic membrane.

c. destruens A type of hydatidiform mole in which the chorionic villi penetrate the myometrium.

chorioallantois (kō'rē-ō-āl-lān'tō-is) In embryology, the membrane formed by the union of the chorion and allantois. In the human embryo, this develops into the placenta.

chorioamnionitis (kō'rē-ō-ām'nē-ō-nī'tis) ['] + *amnion*, lamb, + *itis*, inflammation] Inflammation of the amnion, usually secondary to bacterial infection. This condition is an obstetric emergency that may cause conditions such as pneumonia, meningitis, or sepsis in the neonate, and bacteremia or sepsis in the mother.

ETIOLOGY: The most common infectious agents are *Bacteroides* species, *Escherichia coli*, streptococci, and *Prevotella* species.

TREATMENT: Intravenous antibiotics active against the most commonly implicated organisms are given. Typically, these include ampicillin and gentamicin, vancomycin, clindamycin, or metronidazole. SYN: *amnionitis*.

chorioangioma (kō'rē-ō-ānj-ē-ō-mā) ['] + *angeion*, vessel, + *oma*, tumor] A vascular tumor of the chorion.

choriocapillaris (kō'rē-ō-kāp-īl-lā'rīs) [Gr. *chorooides*, resembling a membrane, + L. *capillaris*, hairlike] The capillary layer of choroid.

choriocarcinoma (kō'rē-ō-kār'sī-nō-mā) [Gr. *chorion*, + *karkinos*, cancer] An extremely rare, very malignant neoplasm, usually of the uterus but sometimes at the site of an ectopic preg-

nancy. Although the actual cause is unknown, it may occur following a hydatid mole, a normal pregnancy, or an abortion. This cancer may respond dramatically to combined modality therapy using surgery and chemotherapy. SYN: *chorioepithelioma*; *gestational trophoblastic disease*; *syncytioma malignum*.

choriocele (kō'rē-ō-sēl) [Gr. *chorooides*, resembling a membrane, + *kele*, tumor, swelling] A protrusion of the choroid coat of the eye through a defective sclera.

chorioepithelioma (kō'rē-ō-ēp'i-thē'lē-ō-mā) Choriocarcinoma.

choriogenesis (kō'rē-ō-jēn'ē-sis) [Gr. *chorion*, chorion, + *genesis*, generation, birth] Formation of the chorion.

chorioid (kō'rē-ōyd) Choroid.

choriomeningitis (kō'rē-ō-mēn'in-jī'tis) ['] + *meninx*, membrane, + *itis*, inflammation] Inflammation of the brain, meninges, and often the choroid plexuses.

lymphocytic c. An acute viral infection of the central nervous system marked by flu-like symptoms (fever, malaise, headache). The disease is transmitted to humans from house mice.

chorion (kō'rē-ōn) [Gr.] An extraembryonic membrane that, in early development, forms the outer wall of the blastocyst. It is formed from the trophoblast and its lining of mesoderm. From it develop the chorionic villi, which grow into the endometrium and will become the fetal portion of the placenta. SEE: *embryo*, *placenta*, and *umbilical cord* for illu.; *trophoblast*. **chorionic** (kō'rē-ōn'ik), *adj.*

c. frondosum The outer surface of the chorion. Its villi contact the decidua basalis. This is the placental portion of the chorion.

c. laeve The smooth, nonvillous portion of the chorion.

chorioneplithelioma (kō'rē-ōn-ēp'i-thē'lē-ō-mā) ['] + *epi*, on, + *thele*, nipple, + *oma*, tumor] Choriocarcinoma.

chorionic plate The fetal surface of the placenta.

chorionic villi The vascular projections from the chorion, which will form the fetal portion of the placenta. SEE: *embryo* for illu.

chorionic villus sampling ABBR: CVS. A procedure for obtaining a sample of the chorionic villi. In one method, a catheter is inserted into the cervix and the outer portion of the membranes surrounding the fetus. Microscopic and chemical examination of the sample is useful in prenatal evaluation of the chromosomal, enzymatic, and DNA status of the fetus. CVS may be performed between gestational weeks 8 and 12 in women who are at high-risk

for serious fetal chromosomal abnormalities.

PATIENT CARE: Ultrasonography precedes the procedure to identify the location of the fetus and placenta and avoid injury. Based on ultrasonographic findings, the procedure is either performed through the vagina (using a speculum to visualize the cervix), or through the lower abdominal wall (using a needle). The patient is prepared in either case with sterile cleansing of the area. Her Rh status is determined, and Rh negative women are given Rh immunoglobulin after CVS. Many women experience cramping or pelvic pressure during the procedure. Potential complications include postprocedure bleeding, infection (chorioamnionitis), fetal injury, or miscarriage, a problem which occurs after roughly 1% to 2% of CVS procedures. After CVS a friend, partner, spouse, or family member should drive the patient home. Activities should be limited for about 24 hr. Women affected by symptoms suggestive of complications should return urgently for follow-up care.

chorionitis (kō'rē-ōn-ī'tīs) [ʹ + *itis*, inflammation] Inflammation of the chorion. SYN: *choroidoretinitis*; *retinochoroiditis*.

chorioretinal (kō'rē-ō-rēt'ī-nāl) Pert. to the choroid and retina. SYN: *retinochoroid*.

chorioretinitis (kō'rē-ō-rēt'īn-ī'tīs) [Gr. *chorioeides*, skinlike, + L. *rete*, network, + Gr. *itis*, inflammation] Inflammation of the choroid and retina, often caused by infections (such as toxoplasmosis, cytomegalovirus, or tuberculosis) or by multisystem diseases (such as sarcoidosis). SYN: *choroidoretinitis*.

chorista (kō-rīs'tā) [Gr. *choristos*, separated] An error of development in which tissues grow in a displaced position. These tissues are histologically normal.

choristoma (kō-rīs-tō'mā) [ʹ + *oma*, tumor] A neoplasm in which embryonic cells grow in parts of the body where they do not belong normally.

choroid (kō'royd) [Gr. *chorioeides*, skinlike] The dark blue vascular layer of the eye between the sclera and retina, extending from the ora serrata to the optic nerve. It consists of blood vessels united by connective tissue containing pigmented cells and contains five layers: the suprachoroid, the layer of large vessels, the layer of medium-sized vessels, the layer of capillaries, and the lamina vitrea (a homogeneous membrane next to the pigmented layer of the retina). It is a part of the uvea or vascular tunic of the eye. SYN: *choroid*.

choroideremia (kō-roy-dēr-ē'mē-ā) [ʹ + *eremia*, destitution] A hereditary pri-

mary choroidal degeneration transmitted as an X-linked trait. In males, the earliest symptom is night blindness followed by constricted visual field and eventual blindness. In females, the condition is nonprogressive and vision is usually normal.

choroiditis (kō'royd-ī'tīs) [ʹ + *itis*, inflammation] Inflammation of the choroid.

anterior c. Choroiditis in which outlets of exudation are at the choroidal periphery.

areolar c. Choroiditis in which inflammation spreads from around the macula lutea.

central c. Choroiditis in which exudation is limited to the macula.

diffuse c. Choroiditis in which the fundus is covered with spots.

exudative c. Choroiditis in which the choroid is covered with patches of inflammation.

metastatic c. Choroiditis due to embolism.

Tay's c. A familial condition marked by degeneration of the choroid, esp. in the region about the macula lutea. It occurs in aged persons.

choroidocyclitis (kō-roy'dō-sik-li'tīs) [Gr. *chorioeides*, skinlike, + *kyklos*, a circle, + *itis*, inflammation] Inflammation of the choroid coat and ciliary processes.

choroidoiritis (kō-royd'ō-ī-rī'tīs) [ʹ + *iris*, iris, + *itis*, inflammation] Inflammation of the choroid coat and iris.

choroidopathy (kō'roy-dōp'ā-thē) [ʹ + *pathos*, disease, suffering] Any disease of the choroid.

choroidoretinitis (kō-royd'ō-rēt'īn-ī'tīs) [ʹ + L. *rete*, network, + Gr. *itis*, inflammation] Chorioretinitis.

Christian Science A system of religious teaching based on Christian Scientists' interpretation of Scripture, founded in 1866 by Mary Baker Eddy. The system emphasizes healing of disease by mental and spiritual means.

Christian-Weber disease SEE: *Weber-Christian disease*.

Christmas disease (krīs'mīs) [*Christmas*, family name of the first patient with the disease who was studied] A form of hemophilia in males resulting from Factor IX deficiency. SYN: *hemophilia B*.

Christmas factor ABBR: CF. An obsolete term for coagulation factor IX.

Christ-Siemens-Touraine syndrome (krīst'sē'mīns-too-rēn') A rare congenital disease characterized by hairlessness, inability to sweat, and abnormal tooth formation.

chrom-, chromato-, chromo- Prefixes indicating *color*, *pigment*.

chromaffin (krō-māf'īn) [Gr. *chroma*, color, + L. *affinis*, having affinity for] 1. Staining readily with chromium

salts. **2.** Denoting the pigmented cells forming the medulla of the adrenal glands and the paraganglia. SYN: *chromaphil*.

chromaffin body One of a number of bodies composed principally of chromaffin cells, arranged serially along both sides of the dorsal aorta and in the kidney, liver, and gonads. They are ectodermal in origin, having the same origin as cells of the sympathetic ganglia. SYN: *paraganglion*.

chromaffinoma (krō'măf-ī-nō'mă) [l' + " + Gr. *oma*, tumor] A chromaffin cell tumor. SYN: *paraganglioma*.

chromaffinopathy (krō'măf-īn-ōp'ă-thē) [l' + " + Gr. *pathos*, disease] Any disease of chromaffin tissue.

chromaffin reaction Histological demonstration of cytoplasmic granules containing epinephrine when subjected to stains containing chromium salts. Such granules stain green with ferric chloride, yellow with iodine, and brown with osmic acid.

chromaffin system The mass of tissue forming paraganglia and medulla of suprarenal glands, which secretes epinephrine and stains readily with chromium salts. Similar tissue is found in the organs of Zuckerkandl and in the liver, testes, ovary, and heart. SYN: *chromaffin tissue*.

chromaphil (krō'mă-fil) [l' + *philein*, to love] Chromaffin.

chromate (krō'măt) [Gr. *chromatos*, color] A salt of chromic acid. SEE: *potassium chromate*.

chromatic (krō-măt'ik) Pert. to color.

chromatid (krō'mă-tid) One of the two potential chromosomes formed by DNA replication of each chromosome before mitosis and meiosis. They are joined together at the centromere and separate at the end of metaphase; then the new chromosomes migrate to opposite poles of the cell at anaphase.

chromatin (krō'mă-tin) [Gr. *chroma*, color] The deeply staining genetic material present in the nucleus of a cell that is not dividing. It is the largely uncoiled chromosomes, made of DNA and protein.

sex c. Barr body.

chromatin-negative Lacking visible chromatin. It is characteristic of cell nuclei of normal human males. SEE: *Barr body*.

chromatinolysis (krō'mă-tīn-ōl'ī-sīs) [l' + *lysis*, dissolution] **1.** Destruction of chromatin. **2.** The emptying of a cell, bacterial or other, by lysis.

chromatinorrhexis (krō'mă-tīn-or-rēk'sis) [l' + *rhexis*, rupture] Splitting of chromatin.

chromatin-positive Having the sex chromatin (the Barr body); characteristic of nuclei in cells of normal females.

chromatin test A test for genetic sex in

which blood or tissue cells are examined for the presence or absence of Barr bodies.

chromatism (krō'mă-tīzm) [l' + *-ismos*, condition] **1.** Unnatural pigmentation. **2.** A chromatic aberration.

chromatogenous (krō'mă-tōj'ēn-ūs) [l' + *gennan*, to produce] Causing pigmentation or color.

chromatogram (krō-măt'ō-grām) [l' + *gramma*, something written] A record produced by chromatography.

chromatographic analysis (krō-măt'ă-grăf'ik ā-năl'ī-sīs) Analysis of substances on the basis of the reaction of the constituents as they are differentially absorbed on one of a variety of materials such as filter paper.

chromatography (krō'mă-tōg'ră-fē) The separation of two or more chemical compounds in a liquid or gaseous mixture by their removal at different rates based on differential solubility and adsorption. This separation is often accomplished by letting the chemicals percolate through a column of a powdered adsorbent or by passing them across the surface of an adsorbent paper, among other techniques. **chromatographic** (-măt'ă-grăf'ik), *adj.*

adsorption c. Chromatography accomplished by applying the test material to one end of a sheet or column containing a solid. As the material moves, the various constituents adhere to the surface of the particles of the solid at different distances from the starting point according to their chemical characteristics.

column c. A form of adsorption chromatography in which the adsorptive material is packed into a column.

gas c. An analytical technique in which a sample is separated into its component parts between a gaseous mobile phase and a chemically active stationary phase.

gas-liquid c. ABBR: GLC. Chromatography in which a gas moves over a liquid, and chemical substances are separated on the liquid by their different adsorption rates.

gel filtration c. A type of column chromatography in which chemicals are separated via pores according to their molecular size.

high-performance liquid c. ABBR: HPLC. Application of high pressure to liquid chromatography technique to increase separation speed and enhance resolution. SYN: *high pressure liquid chromatography*.

high pressure liquid c. High-performance liquid c.

paper c. Chromatography in which paper strips are used as the porous solid medium.

partition c. Chromatography in which substances in solution are sepa-

rated by being exposed to two immiscible solvents. The immobile solvent is located between the spaces of an inert material such as starch, cellulose, or silica. The substances move with the mobile solvent as it passes down the column at a rate governed by their partition coefficient.

thin layer c. ABBR: TLC. Chromatography involving the differential adsorption of substances as they pass through a thin layer or sheet of cellulose or some other inert compound.

chromatoid (krō'mā-toyd) [Gr. *chroma*, color, + *eidōs*, form, shape] Staining in the same manner as chromatin.

chromatokinesis (krō'mā-tō-kī-nē'sīs) [" + *kinesis*, movement] The movement of chromatin during the division of a cell.

chromatolysis (krō'mā-tōl'ī-sīs) [" + *lysis*, dissolution] The dissolution of chromophil substance (Nissl bodies) in neurons in certain pathological conditions, or following injury to the cell body or axon. SYN: *chromolysis*; *karyolysis*.

chromatometer (krō-mā-tōm'ēt-ēr) [" + *metron*, measure] A scale of colors for testing color perception.

chromatophil, chromatophilic (krō'mā-tō-fil', krō'mā-tō-fil'ik) [" + *philein*, to love] Staining easily.

chromatophore (krō-māt'ō-for) [" + *phoros*, bearing] A pigment-bearing cell.

chromatopsia (krō'mā-tōp'sē-ā) [" + *opsis*, vision] Abnormally colored vision.

chromatometry (krō'māt-ōp-tōm'ēt-rē) [" + *optos*, visible, + *metron*, measure] Measurement of color perception.

chromatosis (krō'mā-tō'sīs) [" + *osis*, condition] 1. Pigmentation. 2. The pathological deposition of pigment in any part of the body where it is not normally present, or excessive deposition where it is normally present.

chromaturia (krō-mā-tū'rē-ā) [" + *ouron*, urine] Abnormal color of the urine.

chromesthesia (krō'mēs-thē'zē-ā) [" + *aisthesis*, sensation] The association of color sensations with words, taste, smell, or sounds.

chromidrosis, chromhidrosis (krō'mīd-rō'sīs) [" + *hidros*, sweat] Excretion of colored sweat. Red sweat may be caused by an exudation of blood into the sweat glands or by color-producing microorganisms in those glands. This disorder is treated by relief of the underlying condition.

ETIOLOGY: Colored sweat may be due to ingestion or absorption of certain substances, such as pigment-producing bacteria. It may also be caused by certain metabolic disorders.

SYMPTOMS: Colored sweat may be localized in the eyelids, breasts, axillae, and genitocrural regions, and occasionally on the hands and limbs. It may be grayish, bluish, violaceous, brownish, or reddish; it collects on skin, giving a greasy, powdery appearance to parts.

chromium (krō'mē-ūm) [L., color] SYMB: Cr. A very hard, metallic element; atomic weight 51.996, atomic number 24. It is an essential trace element required for normal uptake.

c. picolinate An essential nutrient involved in the metabolism of carbohydrates and lipids. It has been popularly promoted as a diet aid and to enhance lean body strength and mass.

chromium-51 A radioactive isotope of chromium. The half-life is 27.7 days. Red blood cells are labeled with this isotope in order to study their length of life in the body.

chromium poisoning SEE: under *poisoning*.

chromoblast (krō'mō-blāst) [Gr. *chroma*, color, + *blastos*, germ] An embryonic cell that becomes a pigment cell.

chromoblastomycosis (krō'mō-blās'tō-mī-kō'sīs) [" + "] Chromomycosis.

chromocenter (krō'mō-sēn'tēr) [" + *kentros*, middle] Karyosome.

chromocyte (krō'mō-sīt) [" + *kytos*, cell] Any colored cell.

chromodacryorrhea (krō'mō-dāk'rē-ō-rē-ā) [" + *dacryon*, tear, + *rhoia*, flow] A flow of blood-stained tears.

chromoendoscopy (krō'mō-ēn-dōs'kā-pē) [" + "] The use of tissue-staining dyes, such as methylene blue, to aid in the identification of abnormal or precancerous lesions seen inside the body during endoscopy.

chromogen (krō'mō-jēn) [" + *gennan*, to produce] Any chemical that may be changed into a colored material.

chromogenesis (krō'mō-jēn'ē-sīs) [" + *genesis*, generation, birth] Production of pigment.

chromolipoid (krō'mō-līp'oyd) [" + *lipos*, fat, + *eidōs*, form, shape] Lipochrome.

chromolysis (krō-mōl'ī-sīs) Chromatolysis.

chromomere (krō'mō-mēr) [Gr. *chroma*, color, + *meros*, part] One of a series of chromatin granules found in a chromosome.

chromomycosis (krō'mō-mī-kō'sīs) [" + *myxa*, mucus, + *osis*, condition] A chronic fungal skin infection marked by itching and warty plaques on the skin and subcutaneous swellings of the feet, legs, and other exposed areas. Various fungi have been implicated, including *Phialophora verrucosa*, *P. pedrosoi*, *P. compacta*, and *Cladosporium carrionii*. Some of these are also called *Fonsecaea*

pedrosoi and *F. compacta*. SYN: *chromoblastomycosis*.

chromopexic, chromoplectic (krō"mō-pēk'sik, -pēk'tik) [*+* + *pexis*, fixation] Pert. to fixation of coloring matter, as the liver function in forming bilirubin.

chromophane (krō'mō-fān) [*+* + *phainein*, to show] Retinal pigment of some animal species.

chromophil(e) (krō'mō-fil, -fil) [*+* + *philein*, to love] **1.** Any structure that stains easily. **2.** One of two types of cells present in the pars distalis of the pituitary gland. It is considered a secretory cell.

chromophilic, chromophilous (krō-mō-fil'ik, krō-mōf'il-ūs) Staining readily.

chromophobe (krō'mō-fōb) [*+* + *phobos*, fear] Any cell or tissue that stains either poorly or not at all; a type of cell found in the pars distalis of the pituitary gland.

chromophobia (krō'mō-fō'bē-ā) The condition of staining poorly. **chromophobic** (-bik), *adj.*

chromophore (krō'mō-for) [*+* + *pherein*, to bear] Any chemical that displays color when present in a cell that has been prepared properly. **chromophoric** (-for'ik), *adj.*

chromophose (krō'mō-fōz) [*+* + *phos*, light] A subjective sensation of a spot of color in the eye.

chromoprotein (krō'mō-prō'tē-īn) [*+* + *protos*, first] One of a group of conjugated proteins consisting of a protein combined with hematin or another colored, metal-containing, prosthetic group (e.g., hemoglobin, hemocyanin, chlorophyll, flavoproteins, cytochromes).

chromosomal inversion A rearrangement of genetic material in which a sequence of DNA reads backward instead of forward. In human beings chromosomal inversions may result in fetal anomalies, miscarriage, or other conditions.

chromosomal map (krō'mō-sō'māl) SEE: *gene mapping*.

chromosome (krō'mō-sōm) [Gr. *chroma*, color, + *soma*, body] A linear strand made of DNA (and associated proteins in eukaryotic cells) that carries genetic information. Chromosomes stain deeply with basic dyes and are esp. conspicuous during mitosis. The normal diploid number of chromosomes is constant for each species. For humans, the diploid number is 46 (23 pairs in all somatic cells). In the formation of gametes (ovum and spermatozoon), the number is reduced to one half (haploid number); i.e., the ovum and sperm each contain 23 chromosomes. Of these, 22 are autosomes and one is the sex chromosome (X or Y). At fertilization, the chromosomes from the sperm unite with the chromosomes from the ovum. The

sex of the embryo is determined by the sperm. The ovum always contributes an X chromosome. The sperm may contribute an X or a Y chromosome. An embryo with XX chromosomes will be female; an embryo with XY chromosomes will be male. SEE: *Barr body*; *centromere*; *chromatid*; *cytogenetics*; *dominant*; *gene*; *heredity*; *karyotype*; *mutation*; *recessive*; *telomere*.

accessory c. An unpaired sex chromosome. SEE: *sex chromosome*.

banded c. A chromosome specially stained to delineate bands of various widths on its regions or loci. This facilitates analysis and investigation of genes and gene-related illnesses.

bivalent c. A double chromosome resulting from the conjugation of two homologous chromosomes in synapsis, which occurs during the first meiotic division.

homologous c. One of a pair of chromosomes that contain genes for the same traits; one is maternal in origin, the other paternal.

Philadelphia c. An abnormal chromosome 22 in which there is translocation of the distal portion of its long arm to chromosome 9. It is found in leukocyte cultures of many patients with chronic myelocytic leukemia. The Philadelphia chromosome was the first chromosomal change found to be characteristic of a human disease.

sex c. One of two chromosomes, the X and Y chromosomes, that determine sex in humans and that carry the genes for sex-linked characteristics.

somatic c. Autosome.

X c. One of the sex chromosomes; women have two (XX) present in all somatic cells, and men have one (XY). Characteristics transmitted on the X chromosome are said to be X-linked or sex-linked. The human X chromosome, sequenced in 2005, has approximately 1100 genes.

Y c. The male-determining member of a pair of human chromosomes (XY) present in the somatic cells of all male humans.

chromotherapy (krō'mō-thēr'ā-pē) [Gr. *chroma*, color, + *therapeia*, treatment] The use of colored light to treat disease.

chromotrichia (krō'mō-trik'ē-ā) [*+* + *thrix*, hair] Coloration of the hair.

chromotropic (krō'mō-trōp'ik) [*+* + *tropikos*, turning] **1.** Being attracted to color. **2.** Attracting color.

chron- SEE: *chrono-*.

chronaxie (krō'nāk-sē) [Gr. *chronos*, time, + *axia*, value] A number expressing the sensitivity of a nerve to electrical stimulation. It is the minimum duration, in milliseconds, during which a current of prescribed strength must pass through a motor nerve to cause contraction in the associated mus-

cle. The strength of direct current (rheobasic voltage) that will just suffice if given an indefinite time is first determined, and exactly double this strength is used for the final determinations.

chronic (krŏn'ik) [Gr. *chronos*, time]

1. Of long duration. 2. Denoting a disease showing little change or of slow progression; the opposite of acute.

chronic airflow obstruction ABBR: CAO.

Chronic obstructive pulmonary disease.

chronically neurologically impaired

ABBR: CNI. Having a general level of intellectual function that is significantly below average and that exists concurrently with deficits in adaptive behavior. These behavioral changes may first appear in childhood or may develop after head trauma or stroke. This condition is sometimes called "organic brain syndrome" in adults or "mental retardation" in children. Chronically neurologically impaired children are often grouped epidemiologically with persons who have other developmental disabilities including chronic epilepsy, autism, and cerebral palsy.

chronic desquamating eosinophilic bronchitis Asthma.

chronic effect A consequence (of a toxic agent or of radiation) that develops slowly and/or has a long lasting course.

chronic exposure Continued exposure(s) to a toxic agent or radiation over an extended period of time.

chronic fatigue syndrome ABBR: CFS.

A syndrome marked by incapacitating fatigue that rest does not relieve, and decreased physical, cognitive, and social function. It affects men and women of all ages and races. It is frequently associated with decreased concentration, irritability, sleep disturbances, recurrent sore throats, low-grade temperatures, swollen glands, and bone or muscle aches. In the past, this condition has been called (without justification) chronic Epstein-Barr virus infection, myalgic encephalomyelitis, "yuppie flu," and chronic fatigue immunodeficiency syndrome (CFIDS).

ETIOLOGY: The cause of CFS is unknown. According to the Centers for Disease Control and Prevention (CDC), CFS may have many precipitating causes, all of which produce a common endpoint. These causes may include viral infection or disruptions in neurological, endocrine, or immune system function.

SYMPTOMS: The CDC has established criteria for diagnosis: the patient must have 2 major criteria and either 8 of 11 symptom criteria or 6 symptom criteria and 2 of 3 physical criteria. No definitive test exists for this disorder. Diagnostic studies should include tests to rule out other similar clinical illnesses. Data from studies suggest that approx-

imately 50% of patients recover, although not all symptoms disappear. SEE: table.

TREATMENT: Because there is no known cause, treatment focuses on supportive care. Nonsteroidal anti-inflammatory drugs (NSAIDs) may be useful for myalgia or arthralgias; low doses of tricyclic and some other antidepressants sometimes enhance pain control and also may be useful for patients having trouble sleeping. Complex immunological or metabolic therapies have not proved effective on a consistent basis. Cognitive behavioral therapies have been helpful in some patients.

PATIENT CARE: Activity level and degree of fatigue during activities of daily living are assessed. The patient's emotional response to the illness and coping abilities are evaluated. Emotional support is provided through the long period of diagnostic testing and the protracted, sometimes discouraging course of the illness. Patients are referred for mental health or career counseling as needed and to the CFS Association and/or a local support group if available, to help them lead as normal a life as possible. Activities should be reduced when fatigue is greatest, but bedrest other than that required for sleep should be avoided because it does not relieve disability. The patient should participate in a graded exercise program, which may be difficult to initiate and maintain but may help him or her feel better. Exercise should be carried out for short periods and slowly increased, to avoid increasing fatigue.

chronic granulomatous disease ABBR:

CGD. A rare, congenital, and often fatal immunodeficiency marked by recurrent infections caused by a defect in white blood cells. The polymorphonuclear leukocytes of affected children are able to ingest but not kill certain bacteria. Chronic granulomatous disease occurs mostly in boys with X-linked (i.e., sex-linked) inheritance, although an autosomal recessive variant of the disease is also known. Twenty percent of reported cases occur in girls. Manifestations of this disease include widespread granulomatous lesions of the skin, lungs, and lymph nodes. Also present are hypergammaglobulinemia, anemia, and leukocytosis.

SCREENING: The nitroblue tetrazolium test is used for screening high-risk persons (e.g., family members).

SYMPTOMS: Symptoms include chronic and acute infections of the skin, liver, lymph nodes, intestinal tract, and bone, often involving bacteria or other microorganisms that usually do not cause infections in patients with normal immune function. SEE: *phagocytosis*.

TREATMENT: The course of the dis-

Criteria for Diagnosing CFS

| | |
|--------------------------|---|
| Major Criteria | <ul style="list-style-type: none"> ● New onset of persistent or relapsing debilitating fatigue in a person without a history of similar symptoms ● Fatigue doesn't resolve with bed rest and is severe enough to reduce or impair average daily activity by 50% for 6 months. ● Exclusion of other disorders after evaluation through history, physical examination, laboratory findings |
| Symptom Criteria | <ul style="list-style-type: none"> ● The initial development of the main symptom complex over a few hours or days ● Profound or prolonged fatigue, especially after exercise levels that would have been easily tolerated before ● Low-grade fever ● Painful lymph nodes ● Muscle weakness ● Muscle discomfort or myalgia ● Sleep disturbances (insomnia or hypersomnia) ● Headaches of a new type, severity or pattern ● Migratory arthralgia without joint swelling or redness ● Photophobia, forgetfulness, irritability, confusion, depression, transient visual scotoma, difficulty thinking, and inability to concentrate |
| Physical Criteria | <p>These criteria must be recorded on at least two occasions, at least 1 month apart:</p> <ul style="list-style-type: none"> ● Low-grade fever ● Nonexudative pharyngitis, palpable or tender nodes |

ease has improved owing to continual or intermittent antibiotic use and the advent of bone marrow transplantation. Interferon therapy and gene therapy are being investigated as possible cures.

chronicity (krōn-īs'īt-ē) The condition of being long lasting or of showing little or slow progress.

chronic kidney disease ABBR: CKD. Any illness in which kidney function remains diminished for a long period of time. CKD includes both end-stage renal disease and improper functioning of kidney transplants.

chronic lung disease of the newborn The need for supplemental oxygen in an infant born prematurely, esp. when that need is present after 36 weeks' gestation. This condition was formerly called bronchopulmonary dysplasia.

chronic obstructive lung disease ABBR: COL. Chronic obstructive pulmonary disease.

chronic obstructive pulmonary disease ABBR: COPD. Any of a group of debilitating, progressive, and potentially fatal lung diseases that have in common increased resistance to air movement, prolongation of the expiratory phase of respiration, and loss of the normal elasticity of the lung. The chronic obstructive lung diseases include emphysema, chronic obstructive bronchitis, chronic bronchitis, and asthmatic bronchitis. Taken together, they make up the fourth most common cause of death in the U.S. SYN: *chronic airflow obstruction*.

ETIOLOGY: Most patients with

chronic airflow limitations are or were smokers, and their lung disease is a direct consequence of the toxic effects of tobacco smoke on the lung. A smaller number have been exposed to environmental tobacco smoke (second-hand smoke) or to dusts, chemicals, or smoke at work, or to environmental pollution. People who genetically lack the enzyme α -1 antitrypsin also develop COPD, typically at an earlier age than smokers (in their 40s instead of their 50s or 60s).

In the U.S. millions of people have COPD. About a half million Americans are admitted to hospitals each year with exacerbations of the disease.

SYMPTOMS: Diseases in this group are typically marked by difficulty breathing during exertion, as well as chronic cough and sputum.

TREATMENT: Acute exacerbations of COPD should be managed with inhaled bronchodilators (such as ipratropium [an anticholinergic] with or without albuterol [a beta agonist]), low flow oxygen (to raise the oxygen saturation to about 90% to 92%), antibiotics (if patients have more productive mucus than normal), and corticosteroids. For most patients who smoke, exacerbations occur several times a year. Between exacerbations, disease management relies on smoking cessation because stopping smoking slows the deterioration of lung function in COPD. Additional preventive therapies include influenza and pneumococcal vaccinations. Drugs for COPD include anticholinergic agents such as ipratropium. Pulmonary reha-

bilitation programs are also helpful. Aminophylline and corticosteroids have less benefit in chronic management and can occasionally cause significant side effects.

PATIENT CARE: The respiratory therapist teaches breathing and coughing exercises and postural drainage to strengthen respiratory muscles and to mobilize secretions. Breathing retraining (e.g. pursed lip breathing) slows the respiratory rate, decreases airway resistance, and decreases dyspnea. Prolonging expiration to 2 or 3 times the length of inspiration reduces air-trapping and improves ventilation. The patient is encouraged to participate in a pulmonary rehabilitation program, as well as to stop smoking and avoid other respiratory irritants. Patients are instructed to avoid contact with other people with respiratory infections and taught the use of prescribed prophylactic antibiotics and bronchodilator therapy. Good oral and hand hygiene helps prevent infections. Frequent small meals of easily digested foods and adequate fluid intake are encouraged and are taken with oxygen by nasal cannula because eating may tire the patient. The patient's schedule alternates periods of activity with rest. The patient and family are assisted with disease-related lifestyle changes and are encouraged to express their feelings and concerns about the illness and its treatment.

The respiratory therapist monitors arterial blood gases and pulmonary function studies to determine the extent of the disease and proper treatment in consultation with the attending physician. Acute exacerbation occurs when the patient acquires a respiratory infection or other complication that must be recognized and treated promptly. Aerosol and humidity therapy is useful to thin and mobilize thick sputum and promote bronchial hygiene. Low-concentration oxygen therapy (usually no more than 2 to 3L/m) is applied as needed to keep the PAO₂ between 60 and 80 mm Hg. Because COPD patients gradually develop high PaCO₂ levels, the chemoreceptors in their brains become less sensitive to carbon dioxide as a trigger for ventilation and more dependent on hypoxemia as their ventilatory driver. Excessive oxygen may eliminate that hypoxic drive, resulting in decreased ventilatory rate and effort, confusion, drowsiness, and other signs of carbon dioxide narcosis, leading to death. Aerosolized bronchodilators are used to reduce dyspnea and promote improved cough. Mechanical ventilation is reserved for the patient in acute respiratory failure due to a superimposed condition that is reversible and not responding to initial therapy.



- 1 In hypoxic patients, oxygen therapy must be adjusted carefully to optimize arterial oxygen saturation.
- 2 Before traveling on airplanes, patients with COPD should consult their health care providers about special oxygen needs.

Some COPD patients (mainly emphysema patients) benefit from lung volume reduction surgery. Removal of diseased tissue, which provides little ventilation, allows the more functional tissue to expand and become useful in gas exchange.

chronic pelvic pain syndrome Chronic bacterial prostatitis.

chronic sorrow A cyclical, recurring, and potentially progressive pattern of pervasive sadness that is experienced by a parent or caregiver, or individual with chronic illness or disability in response to continual loss, throughout the trajectory of an illness or disability. SEE: *Nursing Diagnoses Appendix*.

chronic wasting disease A prion disease of deer and elk that resembles mad cow disease (bovine spongiform encephalitis). SEE: *prion disease*.

chrono-, chron- [Gr. *chronos*, time] Combining forms meaning *time* or *timing*.

chronobiology (krŏn"ŏ-bī-ŏl'ŏ-jē) [Gr. *chronos*, time, + *bios*, life, + *logos*, word, reason] The study of the effects of time on biochemistry, the release of hormones, sleeping and waking cycles, and related aspects of plant and animal life. SEE: *circadian*; *clock*, *biological*.

chronognosis (krŏn"ŏg-nŏ'sīs) ["/ + *gnosis*, knowledge] The subjective realization of the passage of time.

chronograph (krŏn'ŏ-grăf) ["/ + *graph-ein*, to write] A device for recording intervals of time.

chronological (krŏn"ŏ-lŏj'ī-kăl) ["/ + *logos*, word, reason] Occurring in natural sequence according to time.

chronopharmacology (krŏn"ŏ-făr"mă-kŏl'ŏ-jē) A method used in pharmacokinetics to describe the diurnal changes in plasma drug concentrations.

chronophobia (krŏn"ă-fŏ'bē-ă, krŏn") [Gr. *chronos*, time + ""] Fear of time or its perceived duration, esp. in prisoners.

chronotaxis (krŏ-nŏ-tăr-ăk'sīs) ["/ + *taxis*, without order] Being unable to orient oneself with respect to time.

chronotherapy (krŏn"ŏ-thēr'ă-pē) ["/ + ""] 1. The timing of treatments for specific disorders (e.g., cancer, hypertension) with drugs given to coincide with circadian body rhythms. 2. A treatment for sleep disorders in which a person goes to bed later and later until the desired bedtime hour is reached.

chronotropic (krŏn"ŏ-trŏp'īk) ["/ + *tro-*

pikos, turning] Influencing the rate of occurrence of an event, such as the heartbeat. SEE: *inotropic*.

chronotropism (krón"ō-trō'pizm) [" + " + *-ismos*, condition] Interference with periodic events such as the heartbeat.

negative c. Deceleration of the rate of an event such as the heartbeat.

positive c. Acceleration of the rate of an event such as the heartbeat.

chrysoarobin (krís"ā-rō'bīn) [Gr. *chrysos*, gold, + Brazilian *araroba*, bark] A mixture of neutral principles obtained from goa powder, which is deposited in the wood of *Araroba*, a leguminous tree of South America. It is used topically as an ointment for treatment of certain skin disorders. It promotes the growth of skin tumors in laboratory animals.

chrysiasis (krī-sī'ā-sīs) **1.** Gray patches of skin discoloration after therapeutic administration of gold. **2.** Deposition of gold in tissues. SYN: *auriasis*.

chrysochroma (krís"ō-dēr'mā) [" + *derma*, skin] Discoloration of the skin due to deposition of gold.

chrysotherapy (krís"ō-thēr'ā-pē) [" + *therapeia*, treatment] The medical use of gold compounds, e.g., in rheumatoid arthritis.

chunk (chŭnk) In neurology, informatics, and psychology, a single unit of memory. A chunk is typically a number, name, fact, or other discrete informational element.

chunking (chŭngk'ing) A strategy for improving memory and learning, in which information is arranged into manageable clusters ("chunks") of data.

Churg-Strauss syndrome (chŭrg-strōws) [Jacob Churg, U.S. pathologist, 1910–2005; Lotte Strauss, U.S. pathologist, 1913–1985] A rare systemic vasculitis affecting the respiratory, musculoskeletal, cardiac, and peripheral nervous systems. It typically develops in patients with a history of asthma or allergy and is marked by hypereosinophilia.

Chvostek's sign (vōs'tēks) [Franz Chvostek, Austrian surgeon, 1835–1884] A spasm of the facial muscles following a tap on the facial nerve; seen in hypocalcemic tetany.

chylangioma (kī'lān-jē-ō'mā) [Gr. *chylos*, juice, + *angeion*, vessel, + *oma*, tumor] A tumor of the intestinal lymph vessels containing chyle.

chyle (kīl) [Gr. *chylos*, juice] The milk-like, alkaline contents of the lacteals and lymphatic vessels of the intestine, consisting of digestive products and principally absorbed fats. It is carried by the lymphatic vessels to the cisterna chyli, then through the thoracic duct to the left subclavian vein, where it enters the bloodstream. A large amount forms in 24 hr.

chylemia (kī-lē'mē-ā) [" + *haima*,

blood] Chyle in the peripheral circulation.

chylifacient, chylifactive (kī'lī-fā'shēnt, kī-lī-fāk'tiv) [" + L. *facere*, to make] Forming chyle.

chylification, chylification (kī-lī-fāk'shŭn, kī-lī-fī-kā'shŭn) Chylopoiesis.

chyliferous (kī-lī'ēr-ŭs) [" + L. *ferre*, to carry] Carrying chyle.

chyliform (kī'lī-form) [" + L. *forma*, shape] Resembling chyle.

chylocele (kī'lō-sēl) [" + *cele*, tumor, swelling] Distention of the tunica vaginalis testis with chyle.

chyloderma (kī'lō-dēr'mā) [" + *derma*, skin] Lymph accumulated in the enlarged lymphatic vessels and thickened skin of the scrotum. SYN: *elephantiasis, scrotal*.

chylomediastinum (kī'lō-mē'dē-ās-tī'nŭm) [" + L. *mediastinum*, median] Chyle in the mediastinum.

chylomicron (kī'lō-mī'krōn) [" + *mikros*, small] A lipoprotein molecule formed in the small intestine from digested fats for transport of fats to other tissues.

chylomicronemia syndrome (kī'lō-mī'krō-nēm'ē-ā) [" + " + "] A disorder of lipid metabolism in which massively elevated levels of triglycerides are accompanied by the presence of chylomicrons in the blood, even after a fast. It results in abdominal pain, eruptive xanthomas, hepatosplenomegaly, memory loss, and occasionally, life-threatening pancreatitis. The syndrome may result from congenital deficiencies or inhibition of lipoprotein lipase; from apolipoprotein deficiency; or from diseases or conditions that elevate plasma triglyceride levels (poorly controlled diabetes mellitus; excessive ingestion of alcohol; the use of some drugs).

chylopericardium (kī'lō-pēr'ī-kār'dē-ŭm) [" + L. *peri*, around, + Gr. *kardia*, heart] Chyle in the pericardium.

chyloperitoneum (kī'lō-pēr'ī-tō-nē'ŭm) [" + *peritoneion*, peritoneum] Chyle in the peritoneal cavity.

chylopleurothorax (kī'lō-nŭ'mō-thō'rāks) [" + *pneumon*, air, + *thorax*, chest] Chyle and air in the pleural space.

chylopoiesis (kī'lō-poy-ē'sīs) [" + *poiesis*, production] Formation of chyle and its absorption by lacteals in the intestines. SYN: *chylifaction; chylification*.

chylorrhoea (kī'lō-rē'ā) [Gr. *chylos*, juice, + *rhoia*, flow] Escape of chyle resulting from rupture of the thoracic duct.

chylothorax (kī'lō-thō'rāks) [" + *thorax*, chest] Chyle in the pleural cavities.

chylous (kī'lŭs) Pert. to or of the nature of chyle.

chyluria (kī-lŭ'rē-ā) [" + *ouron*, urine] The presence of chyle in the urine, giv-

ing it a milky appearance. SYN: *galacturia*.

chymase (kī'mās) An enzyme in gastric juice that accelerates the action of the pancreatic enzymes.

chyme (kīm) [Gr. *chymos*, juice] The mixture of partly digested food and digestive secretions found in the stomach and small intestine during digestion of a meal. It is a varicolored, thick, nearly liquid mass.

chymopapain (kī-mō-pā'pā-in) An enzyme related to papain.

chymosin (kī'mō-sīn) [Gr. *chymos*, juice] An enzyme that curdles milk; present in the gastric juice of young ruminants. It is the preferred term for rennin because of possible confusion with the term renin.

chymotrypsin (kī'mō-trīp'sīn) [" + *tryein*, to rub, + *pepsis*, digestion] A digestive enzyme produced by the pancreas and functioning in the small intestine that, with trypsin, hydrolyzes proteins to peptones or amino acids. It can be synthesized and given orally to patients with pancreatic insufficiency.

Ci *chemotherapeutic index* (parasitology); *color index*.

Ci *curie*.

CI *Complicated intraabdominal infections*.

cib Abbreviation for L. *cibus*, food.

cibophobia (sī'bō-fō'bē-ā) [L. *cibus*, food, + Gr. *phobos*, fear] A morbid aversion to or fear of food.

cicatricotomy (sīk'ā-trīk-ōt'ō-mē) [" + Gr. *tome*, incision] Incision of a cicatrix or scar.

cicatrix (sīk'ā-trīks, sīk-ā'trīks) [L.] A scar left by a healed wound. Lack of color is due to an absence of pigmentation. Cicatricial tissue is less elastic than normal tissue, so it usually appears contracted. SEE: *keloid*. **cicatricial** (-trish'āl), *adj.*

cicatrizant (sīk-āt'rī-zānt) [L. *cicatrix*, scar] Favoring or causing cicatrization; an agent that aids in scar formation.

cicatrization (sīk'ā-trī-zā'shūn) Healing by scar formation.

cicatrize (sīk'ā-trīz) To heal by scar tissue.

cicutism (sīk'ū-tīzm) Poisoning resulting from ingestion of *Cicuta maculata* or *C. virosa*, water hemlock.

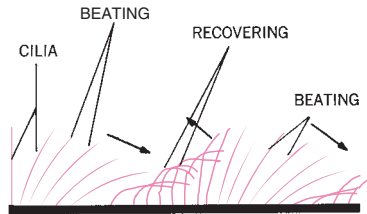
CID *cervical immobilization device*. SEE: *under device*.

-cide [L. *-cidere*, to kill] Suffix meaning *killing* or *destroying*.

ciguatoxin (sē'gwā-tōk'sīn) The toxic substance (acyclic polyether) that causes ciguatera poisoning. The toxin interferes with nerve impulse transmission by altering cell membrane sodium channel polarization.

cilia (sīl'ē-ā) *sing.*, **cilium** [L. eyelid] 1. Eyelashes. 2. Threadlike projections from the free surface of certain epithe-

lial cells such as those lining the trachea, bronchi, and some reproductive ducts (e.g., the fallopian tubes). They propel or sweep materials, such as mucus or dust, across a surface, such as the respiratory tract. SEE: *illus.*



ACTION OF CILIA

ciliarotomy (sīl'ē-ā-rōt'ō-mē) [" + Gr. *tome*, incision] Surgical section of the ciliary zone in glaucoma.

ciliary (sīl'ē-ēr'ē) [L. *ciliaris*, pert. to eyelid] Pertaining to any hairlike processes, esp. the eyelashes, and to eye structures such as the ciliary body.

ciliary apparatus Ciliary body.

ciliary body A structure directly behind the iris of the eye. It secretes the aqueous humor and contains the ciliary muscle that changes the shape, and thus the refractive power, of the lens by tightening and relaxing the tension on the lens zonule. SYN: *ciliary apparatus*. SEE: *eye* for *illus.*

ciliary nerve, long One of the two or three branches of the nasal nerves supplying the ciliary muscle, iris, and cornea.

ciliary nerve, short One of the several branches of the ciliary ganglion supplying the ciliary muscle, iris, and tunics of the eyeball.

Ciliata (sīl'ē-ā'tā) Formerly a class of protozoa characterized by locomotion by cilia. Now called Ciliophora, a phylum of the kingdom Protista.

ciliate (sīl'ē-āt) [L. *cilia*, eyelids] Ciliated.

ciliated (sīl'ē-ā-tēd) Possessing cilia.

cillectomy (sīl'ē-ēk'tō-mē) [" + Gr. *ektome*, excision] Excision of a portion of the ciliary body or ciliary border of the eyelid.

ciliogenesis (sīl'ē-ō-jēn'ē-sīs) Formation of cilia.

Ciliophora (sīl'ē-ō-fōr'ā) A phylum of the kingdom Protista that includes unicellular and colonial forms possessing cilia for locomotion. Some are free living and others are parasitic species such as *Balantidium coli*.

ciliospinal (sīl'ē-ō-spī'nāl) [" + *spinalis*, pert. to a spine] Pert. to the ciliary body and spinal cord.

ciliostatic (sīl'ē-ō-stāt'īk) [" + Gr. *statos*, placed] Interfering with or preventing movement of the cilia.

ciliotomy (sīl'ē-ōt'ō-mē) [" + Gr. *tome*,

incision.] Surgical cutting of the ciliary nerve.

ciliotoxicity (sīl'ē-ō-tōks-īs'ī-tē) The action of anything that interferes with ciliary motion.

cilium (sīl'ē-ūm) [L.] Sing. of cilia.

-cillin (sīl'in) [Fr. (*peni*)*cillin*] A suffix used in pharmacology to designate an antibiotic related to penicillin.

ciliosis (sīl-ō'sīs) [L.] Spasmodic twitching of the eyelid.

cimetidine (sī-mēt'ī-dēn") An H₂-receptor antagonist that inhibits the secretion of stomach acid. It is primarily used to treat peptic ulcers and gastroesophageal reflux disease. SEE: *peptic ulcer*.

Cimex lectularius (sī'mēks lēk-tū-lā'rē-ūs) The bedbug; an insect belonging to the order Hemiptera. SYN: *Acanthia lectularia*. SEE: *bedbug*.

Cimicifuga racemosa (sī-mī-sīf'ū-gā rā-sē-mō-sā) [NL., clustering bug-repellent] The scientific name for black cohosh.

cinicosis (sīm'ī-kō'sīs) Itching due to the bite of a bedbug.

CIN *cervical intraepithelial neoplasia*.

CINAHL *Cumulative Index to Nursing and Allied Health Literature*

CINAHL-CD A computer-accessible index to nursing and allied health literature. SEE: *CINAHL*.

cinchona (sīn-kō'nā, -chō'nā) [Sp. *cinchon*, Countess of Cinchon] The dried bark of the tree from which the antimalarial quinine is derived. SEE: *quinine*.

cinchonism (sīn'kōn-izm) [+ Gr. *-ismos*, condition] Poisoning from cinchona or its alkaloids. SYN: *quininism*.

cinclisis (sīn'kli-sīs) [Gr. *kinklisis*, a wagging] Swift spasmodic movement of any part of the body.

cine- [Gr. *kinesis*, movement] Combining form indicating a relationship to movement.

cinangiocardiology (sīn'ē-ān'jē-ō-kār'dē-ōg'rā-fē) [Gr. *kinesis*, movement, + *angeion*, vessel, + *kardia*, heart, + *graphein*, to write] Cinefluorographic imaging of the heart chambers or coronary vessels after injection of a radiopaque contrast medium. SEE: *cardiac catheterization*.

radionuclide c. The use of a scintillation camera to record and project the image of a radioisotope as it travels through the heart and great vessels.

cinematics (sīn'ē-māt'iks) [Gr. *kinema*, motion] The science of motion; kinematics.

cinematography (sīn'ē-māt-ō-rā'dē-ōg'rā-fē) [+ *L. radius*, ray, + *Gr. graphein*, to write] Radiography of an organ in motion.

cinemicrography (sīn'ē-mī-krōg'rā-fē) [Gr. *kinesis*, movement, + *mikros*, small, + *graphein*, to write] A motion

picture record of an object seen through a microscope.

cineplastics (sīn'ē-plās'tiks) [+ *plassein*, to form] The arrangement of muscles and tendons in a stump after amputation so that it is possible to impart motion and direction to an artificial limb.

cineradiography (sīn'ē-rā'dē-ōg'rā-fē) [+ *L. radius*, ray, + *Gr. graphein*, to write] A motion picture record of images produced during fluoroscopic examination.

cingulotomy (sīn'gū-lōt'ō-mē) [L. *cingulum*, girdle, + *Gr. tome*, incision] Surgical excision of the anterior half of the cingulate gyrus of the brain. It may be done to alleviate intractable pain.

cingulum (sīn'gū-lūm) *pl. cingula* [L., girdle] **1.** A band of association fibers in the cingulate gyrus extending from the anterior perforated substance posteriorly to the hippocampal gyrus. **2.** A convexity on the cervical third of the lingual aspect of incisors and canines. SYN: *basal ridge*.

cinnamic acid (sī-nām'ik) A white insoluble powder derived from cinnamon. It is used as a flavoring agent in cooking and in the preparation of perfumes and medicines.

cinnamon (sīn'nā-mōn) A volatile oil derived from the bark of *Cinnamomum zeylanicum*. It is used as a flavoring agent in cooking and in preparing pharmaceutical products.

Cipro SEE: *ciprofloxacin*.

ciprofloxacin (sīp'rō-flōk'sā-sīn) A fluoroquinolone and anti-infective, administered orally or intravenously to treat urinary tract and gynecological infections; gonorrhea; prostatitis; infectious diarrhea; and infections of the respiratory tract, abdomen, skin, bones, and joints.

circa (sīr'kā) [L.] ABBR: c. About; used before dates or figures that are approximate.

circadian (sīr'kā-dē'ān, sīr-kā'dē-ān) [L. *circa*, about, + *dies*, day] Pert. to events that occur at approx. 24-hr intervals, such as certain physiological phenomena. SEE: *biological clock*; *desynchronosis*; *night work*, *maladaptation to*.

circinate (sēr'sī-nāt) [L. *circinatus*, made round] Circular.

circle [L. *circulus*, a little ring] Any ring-shaped structure.

c. of diffusion One or more circles on the projection plane of an image not in focus of the lens of the eye.

c. of Willis SEE: *Willis, circle of*.

circuit (sēr'kit) [L. *circuire*, to go around] **1.** The course or path of an electric current. **2.** The path followed by a fluid circulating in a system of tubes or cavities. **3.** The path followed by nerve impulses in a reflex arc from sensory receptor to effector organ.

ventilator c. The external or internal pneumatic delivery component of a mechanical ventilator.

circular (sîr'kû-lar) [L. *circularis*]

1. Shaped like a circle. 2. Recurrent.

circulation (sîr'kû-lâ'-shùn) [L. *circulatio*] Movement in a regular or circular course.



arterial c. Movement of blood through the arteries. It is maintained by the pumping of the heart and influenced by the elasticity and extensibility of arterial walls, peripheral resistance in the areas of small arteries, and the quantity of blood in the body.

assisted c. Use of a mechanical device to augment or replace the action of the heart in pumping blood.

bile salt c. Secretion and reuptake of the sodium glycocholate and taurocholate found in hepatic bile. Bile salts enter the duodenum and emulsify fats in the small intestine. They are resorbed in the terminal ileum and returned to the liver in portal blood.

blood c. The movement of blood through the circulatory system. SEE: *artery; heart; circulatory system; vein.*

collateral c. Circulation established through an anastomosis between two vessels supplying or draining two adjacent vascular areas. This enables blood to bypass an obstruction in the larger vessel that supplies or drains both areas or enables blood to flow to or from a tissue when the principal vessel involved is obstructed.

coronary c. Movement of blood through the vessels of the heart, specifically from the ascending aorta to the epicardial coronary arteries to the penetrating arteries of the myocardium, the coronary arterioles, capillaries, veins, coronary sinus, and into the right atrium. A few of the small veins open directly into the atria and ventricles.

SEE: *illus.*

enterohepatic c. Circulation in which substances secreted by the liver pass into the intestines where some are absorbed into the bloodstream and returned to the liver and re-secreted. Bile and bile salts follow this pathway.

extracorporeal c. Circulation of blood outside the body. This may be through an artificial kidney or a heart-lung device.

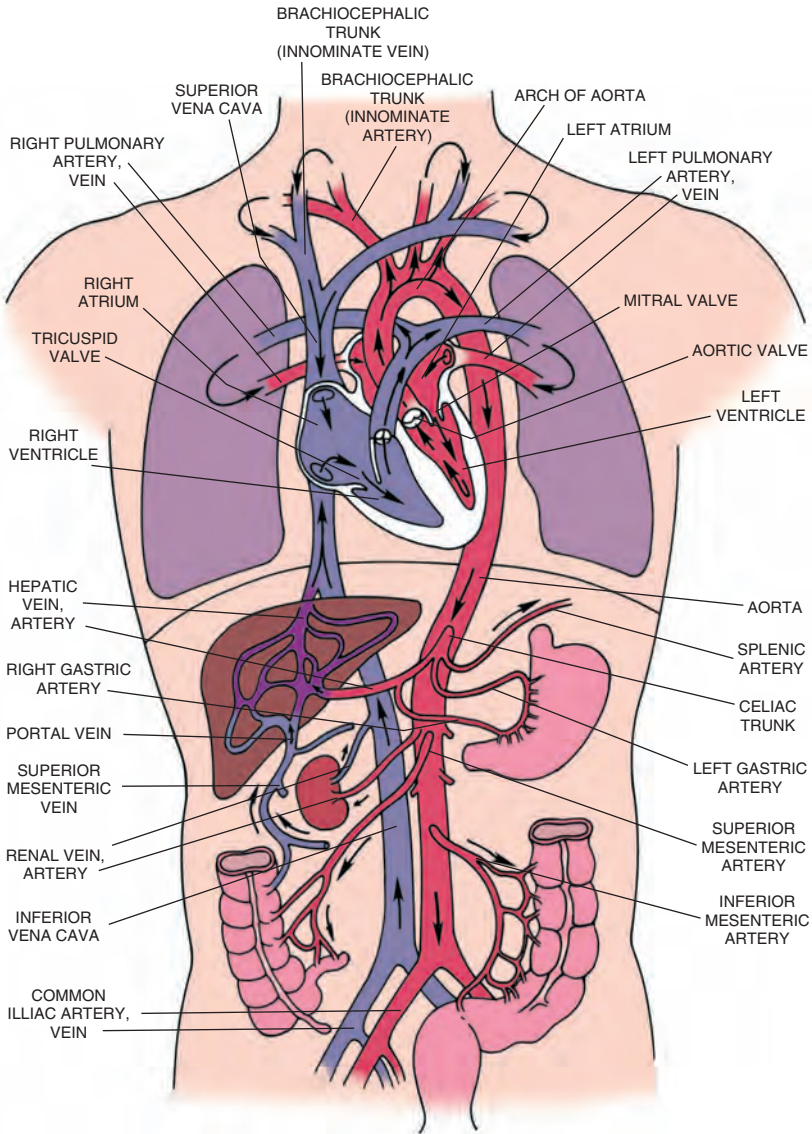
fetal c. The course of the flow of blood in a fetus. Oxygenated in the placenta, blood passes through the umbilical vein and ductus venosus to the inferior vena cava and thence to the right atrium. It then follows one of two courses: through the foramen ovale to the left atrium and thence through the aorta to the tissues, or through the right ventricle, pulmonary artery, and ductus arteriosus to the aorta and thence to the tissues. In either case the blood bypasses the

lungs, which do not function before birth. Blood returns to the placenta through the umbilical arteries, which are continuations of the hypogastric arteries. At birth or shortly after, the ductus arteriosus and the foramen ovale close, establishing the postpartum circulation. If either fails to close, the baby may be hypoxemic. SEE: *illus.; patent ductus arteriosus.*

hypophyseal c. Superior and inferior hypophyseal arteries (slender branches from arteries of the circle of Willis) that provide blood to the pituitary gland and adjacent regions of the hypothalamus. Venous blood from the pituitary gland drains into the cavernous sinuses and, from there, into the internal jugular veins. Some of the superior hypophyseal arteries form primary capillary beds in the hypothalamus and the veins draining those beds ramify again to form secondary capillary beds in the adenohypophysis (anterior lobe of the pituitary), thus forming a portal circulation (the hypothalamic-pituitary portal circulation). Releasing factors secreted from the hypothalamus into the primary capillary beds reach the adenohypophysis via the secondary capillary beds.

lymph c. The flow of lymph from the tissues into the lymphatic collecting system. Lymph is formed from the tissue fluid that fills the interstitial spaces of the body. It is collected into lymph capillaries, which carry the lymph to the larger lymph vessels. These converge to form one of two main trunks, the right lymphatic duct and the thoracic duct. The right lymphatic duct drains the right side of the head, neck, and trunk and the right upper extremity; the thoracic duct drains the rest of the body. The thoracic duct originates at the cisterna chyli, which receives the lymphatics from the abdominal organs and legs. It courses upward through the diaphragm and thorax and empties into the left subclavian vein near its junction with the left interior jugular vein. The right lymphatic duct empties into the right subclavian vein. Along the course of lymph vessels are lymph nodes, which remove bacteria and other foreign materials, thus preventing their entrance into the bloodstream. Lymph flow is maintained by a difference in pressure at the two ends of the system. Important accessory factors aiding lymph flow are breathing movements and muscular activity.

persistent fetal c. ABBR: PFC. A condition of newborns in which unoxygenated blood is shunted from the right to the left side of the heart through the ductus arteriosus and the foramen ovale, resulting in hypoxemia. It is caused by pulmonary hypertension and occurs most frequently in small-for-



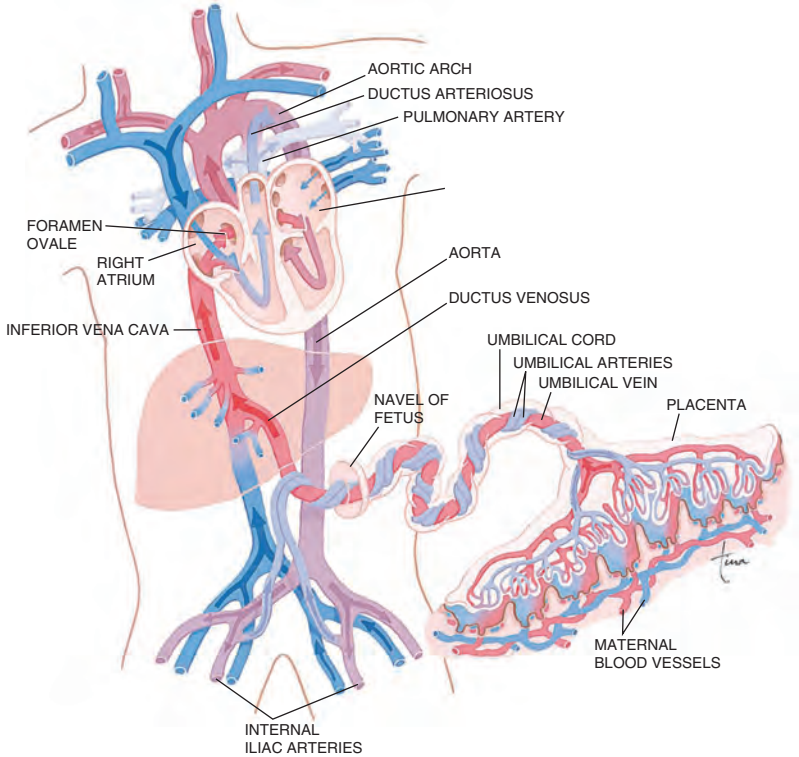
CIRCULATION OF BLOOD THROUGH HEART AND MAJOR VESSELS

gestational-age infants and infants of diabetic mothers.

portal c. 1. Blood flow from the abdominal organs that passes through the portal vein, the sinusoids of the liver, and into the hepatic vein before returning to the heart from the inferior vena cava. This pathway permits the liver to process and to detoxify substances entering the body from the gastrointestinal tract. **SEE: illus. 2.** A portal system between the hypothalamus and the an-

terior pituitary gland. The hypothalamus secretes releasing or inhibiting hormones into the blood; they are carried directly to the anterior pituitary and stimulate or inhibit secretion of specific hormones. **SEE: illus.**

pulmonary c. The flow of blood from the right ventricle of the heart to the lungs for exchange of oxygen and carbon dioxide in the pulmonary capillaries, then through the pulmonary veins to the left atrium.



FETAL CIRCULATION

Vessels that carry oxygenated blood are red

systemic c. The blood flow from the left ventricle through the aorta and all its arteries to the capillaries of the tissues and its return to the heart through veins and the venae cavae, which empty into the right atrium.

venous c. Circulation via the veins.

vitelline c. The embryonic circulation of blood to the yolk sac via the vitelline arteries and its return to general circulation through the vitelline veins.

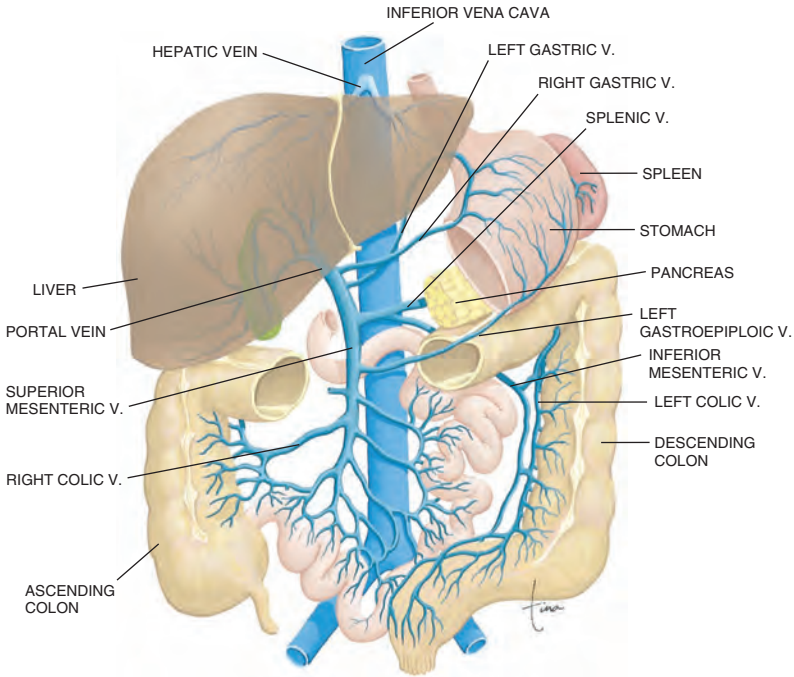
circulation, motion, sensation ABBR: CMS. An assessment of the neurological and vascular health of a body part; specifically, of its capillary refill, pulses, motor function, and sense of touch. Serial assessments of CMS are particularly important to perform in certain clinical settings, such as in patients with progressive or rapidly changing neurological diseases, or in patients who have had vascular or endovascular surgery. Patients with compromised arterial blood flow to a limb, for example, may have pale or dusky extremities with delayed return of color after pressure is applied to the skin. Another example: patients with diabetic neuropathy may

have diminished proprioception, or decreased awareness of vibration and light touch in their feet and sometimes their hands.

circulation path Access standards for designing the way of passage, whether exterior or interior, for pedestrians regardless of their ability.

circulation rate The minute volume or output of the heart per minute. In an average-sized adult with a pulse rate of 70, the amount is about 3 L/sq m of body surface each minute.

circulation time The time required for a drop of blood to make the complete circuit of both the systemic and pulmonary systems. Circulation time is determined by injecting a substance into a vein and timing its reappearance in arteries at the injection point. The blood with the contained substance must pass through veins to the heart and through the right atrium and ventricle, through the pulmonary circuit to the lungs, and back through the left atrium and ventricle, and then out through the aorta and arteries to the place of detection. Dyes such as fluorescein and methylene blue



HEPATIC PORTAL CIRCULATION

and substances such as potassium ferrocyanide and histamine have been used as tracers. Average circulation time is about 1 min.

Circulation time is reduced in anemia and hyperthyroidism and is increased in hypertension, myxedema, and cardiac failure. Circulation time may also be measured by injecting into a vein a substance that can be tasted when it is transported to the tongue. The normal circulation time from an arm vein to the tongue is 10 to 16 sec. In the aorta, the blood flows at a speed of approx. 30 cm/sec.

circulatory (sîr'kû-lâ-tôr'ê) Pert. to circulation.

circulatory failure Failure of the cardiovascular system to provide body tissues with enough blood for proper functioning. It may be caused by cardiac failure or peripheral circulatory failure, as occurs in shock, in which there is general peripheral vasodilation with "pooling" of blood in the expanded vascular space, resulting in decreased venous return.

circulatory overload Increased blood volume, usually caused by transfusions or excessive fluid infusions that increase the venous pressure, esp. in patients with heart disease. This can result in heart failure, pulmonary edema, and cyanosis.

circulatory system A system concerned

with circulation of body fluids. It includes the cardiovascular and lymphatic systems.

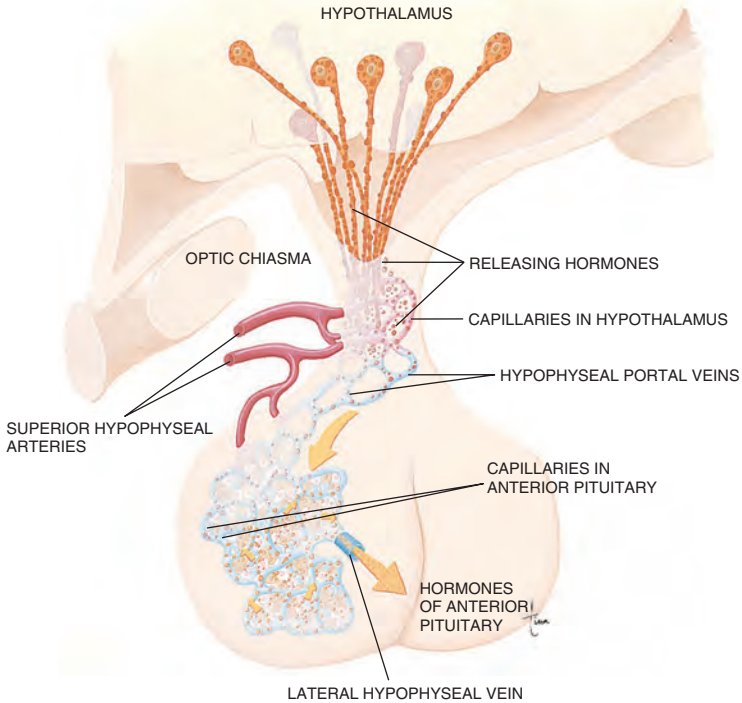
circum- [L.] Prefix meaning *around*.

circumanal (sîr'kûm-â'nâl) Around the anus.

circumarticular (sêr'kûm-âr-tîk'û-lâr) [L. *circum*, around, + *articularis*, small joint] Surrounding a joint. SYN: *periarticular*; *periarticular*.

circumcision (sêr'kûm-sî'zhûn) [L. *circumcisio*, a cutting around] Surgical removal of the end of the foreskin of the penis. Circumcision usually is performed at the request of the parents, in some cases for religious reasons. Considerable controversy exists over whether the procedure has medical benefits: some authorities suggest that circumcision is associated with a reduced risk of human immunodeficiency virus infection, urinary tract infections, sexually transmitted diseases, and penile carcinoma. Other authorities dispute these findings, suggesting that the procedure may have adverse effects on sexual, emotional, or psychological health. If the procedure is performed, anesthesia should always be used.

PATIENT CARE: *Preoperative:* The procedure and expected sensations are explained to the patient or his parents. Adult patients should be reassured that the procedure will not interfere with



PORTAL CIRCULATION OF HYPOTHALAMUS-PITUITARY

urinary, sexual, or reproductive function. Necessary equipment, including a restraining board for the newborn, and appropriate anesthetics are assembled. The newborn should not receive food within 1 hr before the procedure.

Postoperative: Vital signs are monitored, and the incision is inspected for bleeding every 15 min for the first hour, then hourly for 12 to 24 hr, as protocol directs. Bleeding is controlled by applying gentle pressure with sterile gauze sponges; any heavy or persistent bleeding should be reported, and preparations made for blood vessel ligation. A sterile petroleum gauze dressing is applied after circumcision, remains in place for 24 hr, and is replaced if it becomes dislodged during that period. The penis is gently washed at diaper change, and fresh sterile petroleum gauze is reapplied. The dressing, glans penis, and sutures, if present, are periodically examined for swelling, redness, or purulent exudate; any signs of infection are reported, and a specimen of the exudate is obtained. A plastic bell instead of petroleum gauze may be used to cover the glans and to prevent hemorrhage and contamination. The newborn is diapered loosely to avoid irritation and should not be positioned on the

abdomen for the first few hours after the procedure.

For the adult patient, analgesics are provided, and a topical anesthetic ointment or spray is applied as needed. If prescribed, a sedative is given to help prevent nocturnal penile tumescence and resulting pressure on the suture line. The patient is encouraged to void within 6 hr after the procedure. Either the patient or his family is instructed how to keep the area clean and how to change and apply dressings. They are also instructed to watch for and report renewed bleeding or signs of infection. Adult patients can resume normal sexual activity as soon as healing is complete, usually within a week or so. Use of prescribed analgesics is recommended to relieve discomfort during intercourse.

female c. Female genital cutting.

ritual c. The religious rite performed by Jews and Muslims at the time of removal of the prepuce.

circumclulsion (sēr'kūm-klū'zhūn) [L. *circumcludere*, to shut in] Occlusion by use of a pin under an artery and a wire loop over it attached to each end of the pin.

circumcorneal (sēr'kūm-kor'nē-āl) [L. *circum*, around, + *corneus*, horny] Around the cornea.

circumduction (sēr'kūm-dūk'shūn) [" + *ducere*, to lead] To revolve around an axis in such a way that the proximal end of a limb or organ is fixed, and the distal end traces a circle.

circumference (sēr'kūm'fēr-ēns) [" + *ferre*, to bear] The perimeter of an object or body.

circumferential (sēr'kūm-fēr-ēn'shāl) 1. Encircling. 2. Pert. to the periphery or circumference of an object or body.

circumflex (sēr'kūm-flēks) [" + *flectere*, to bend] Winding around, as a vessel.

circuminsular (sēr'kūm-īn'sū-lār) [" + *insula*, island] Surrounding the island of Reil in the cerebral cortex.

circumlental (sēr'kūm-lēn'tāl) [" + *lens*, lens] Surrounding the lens of the eye.

circumnuclear (sēr'kūm-nū'klē-ār) [" + *nucleus*, kernel] Surrounding the nucleus.

circumocular (sēr'kūm-ōk'ū-lār) [" + *oculus*, eye] Surrounding the eye.

circumoral (sēr'kūm-ō'rāl) [L. *circum*, around, + *os*, mouth] Encircling the mouth.

circumoral pallor A white area around the mouth, contrasting vividly with the color of the face, seen in scarlet fever and many other diseases.

circumorbital (sēr'kūm-or'bit-āl) [" + *orbita*, orbit] Around an orbit.

circumpolarization (sēr'kūm-pō'lār-ī-zā'shūn) [" + *polaris*, polar] The rotation of a ray of polarized light.

circumscribed (sēr'kūm-skribd) [" + *scribere*, to write] Limited in space by something drawn around or confining an area.

circumstantiality (sēr'kūm-stān'shē-āl'ī-tē) [L. *circum*, around, + *stare*, to stand] Disturbance of the associative thought and speech processes in which the patient digresses into unnecessary details and inappropriate thoughts before communicating the central idea. It is observed in schizophrenia, obsessional disturbances, and certain cases of dementia.

circumvallate (sēr'kūm-vāl'āt) [" + *vallare*, to wall] Surrounded by a wall or raised structure.

CIREN *Crash injury research and engineering network.*

cirrhosis (sī-rō'sis) [Gr. *kirrhos*, orange yellow, + *osis*, condition] A chronic liver disease characterized pathologically by liver scarring with loss of normal hepatic architecture and areas of ineffective regeneration. Clinical symptoms of the disease result from loss of functioning liver cells and increased resistance to blood flow through the liver (portal hypertension). SEE: *alcoholism; encephalopathy; esophageal varix; hepatic; liver.*

ETIOLOGY: In the U.S., alcoholism and chronic viral hepatitis are the most

common causes of the illness. Other causes are autoimmune (primary biliary cirrhosis), biliary (sclerosing cholangitis), cardiac (due to right-sided heart failure), nutritional (e.g., fatty liver), genetic (alpha-1-antitrypsin deficiency, hemochromatosis, Wilson's disease), or toxic (exposure to drugs or agents in excess such as vitamin A, carbon tetrachloride, and methotrexate).

SYMPTOMS: Fatigue and malaise are common but nonspecific symptoms of the illness. Anorexia, early satiety, dyspepsia, altered bowel habits, and easy bruising and bleeding also are reported often. Alterations in mental status, personality, or behavior ("hepatic encephalopathy") are common but vary in severity and may not be noticed initially. Pruritus is reported when significant jaundice is present. Signs of the illness may include ascites; asterixis; bleeding from gums, nose, or gastroesophageal varices; "mousy" breath odor; edema; jaundice; and an irregular liver edge with hepatic enlargement (the liver may shrink when complete loss of function is present). Multiple skin findings may include abnormal pigmentation, palmar erythema, spider angiomas, ecchymoses, and dilated abdominal veins. Limited thoracic expansion due to hepatomegaly or ascites and endocrine changes such as menstrual irregularities, testicular atrophy, gynecomastia, and loss of chest and axillary hair may also be present.

TREATMENT: Liver transplantation may be curative, but its use is limited by the number of donor organs available. Shunting procedures to divert blood flow from the hepatic to the systemic circulation may improve portal hypertension and its consequences.

PATIENT CARE: Daily weights are obtained, fluid and electrolyte balance is monitored, and abdominal girth is measured. The ankles, sacrum, and scrotum are also assessed for dependent edema. The stools are inspected for color, amount, and consistency. Stools and vomitus are tested for occult blood. Surface bleeding sites are monitored frequently, and direct pressure is applied to the site if bleeding occurs. The patient is observed for indications of internal bleeding, such as anxiety, epigastric fullness, weakness, and restlessness; and vital signs are monitored as appropriate. Dependent areas are exercised and elevated, and skin breakdown is prevented by eliminating soaps and by using lubricating oils and lotions for bathing. The patient is frequently repositioned. The patient should avoid straining at stool and should use stool softeners as necessary and prescribed. Violent sneezing and nose blowing should also be avoided. A soft tooth-

brush or sponge stick and an electric razor are used. Aspirin, acetaminophen, or other over-the-counter medications, should not be taken without the physician's knowledge. Alcohol or products containing alcohol are prohibited.

Both patient and family may require referral to alcohol cessation and related support groups. Prescribed therapies, including sodium and fluid restriction, dietary modifications, supplemental vitamin therapy, antiemetics, and diuretics, are administered. The patient's response to prescribed therapies is assessed, and the patient is instructed in their use and any adverse reactions. Care is taken to avoid drugs metabolized by the liver, as the cirrhotic liver is increasingly unable to detoxify such substances. A regimen of moderate exercise alternating with periods of rest is prescribed; energy conservation measures are explained; small, frequent, nutritious meals are recommended; and exposure to infections should be avoided. Appropriate safety measures are instituted, esp. if the patient demonstrates hepatic encephalopathy, and the patient is frequently reoriented to time and place. Salt-poor albumin is administered and paracentesis performed, if prescribed, to control ascites, and the patient is physically and psychologically prepared for required medical and surgical procedures. SEE: *Nursing Diagnoses Appendix*.

alcoholic c. Cirrhosis resulting from chronic liver damage by alcoholism. Approx. 20% of chronic alcoholics develop cirrhosis.

biliary c. Cirrhosis marked by prolonged jaundice due to chronic retention of bile and inflammation of bile ducts. SEE: *obstructive biliary c.*; *primary biliary c.*

cardiac c. Passive congestion of the liver due to congestive heart failure.

glissonian c. An inflammation of the peritoneal coat of the liver. SYN: *perihepatitis*.

hypertrophic c. Cirrhosis in which connective tissue hyperplasia causes the liver to be greatly enlarged.

infantile c. Cirrhosis occurring in childhood as a result of protein malnutrition. SEE: *kwashiorkor*.

metabolic c. Cirrhosis resulting from metabolic disease such as hemochromatosis, glycogen storage disease, or Wilson's disease.

obstructive biliary c. Cirrhosis resulting from obstruction of the common duct by a stone or tumor.

primary biliary c. A rare, progressive form of cirrhosis usually occurring in middle-aged women, marked by jaundice, pruritus, fatigue, and autoimmune destruction of the small bile ducts.

sphyllitic c. Cirrhosis occurring in

tertiary syphilis, in which gummas form in the liver and cause coarse lobulation on healing.

zooparasitic c. Cirrhosis resulting from infestation with hepatobiliary parasites, esp. blood flukes of the genus *Schistosoma* or liver flukes, *Clonorchis sinensis*.

cirrhotic (sī-rōt'ik) Pert. to or affected with cirrhosis.

cirsectomy (sēr-sēk'tō-mē) [Gr. *kirsos*, varix, + *ektome*, excision] Excision of a portion of a varicose vein.

cirroid (sēr'soyd) Varicose.

cirsotome (sēr'sō-tōm) [ʹ + *tome*, incision] An instrument for cutting varicose veins.

cirsotomy (sēr-sōt'ō-mē) Incision of a varicose vein.

CIS *central inhibitory state*.

cis (sīs) [L., on the same side] In organic chemistry, a form of isomerism in which similar atoms or radicals are on the same side. In genetics, a prefix meaning the location of two or more genes on the same chromosome of a homologous pair.

CISD *Critical incident stress debriefing; critical incident stress defusing*.

cisplatin, cis-platinum (sīs'plā-tīn) A drug used to treat cancers, esp. solid tumors such as testicular and ovarian carcinoma. Common side effects of this drug include severe nausea and vomiting and renal failure.

cis-retinal (sīs'rēt'ī-nāl, rēt'nāl) [L. prefix *cis*-, this side of + "'] The form of retinal combined with a glycoprotein opsin (rhodopsin in rods) during darkness. Light striking the retina changes it to *trans*-retinal and begins the generation of a nerve impulse.

cistern (sīs'tēr'n) A reservoir for storing fluid.

lumbar c. In the subarachnoid space of the vertebral column, the fluid-filled space between the end of the spinal cord (vertebral level L1-L2 in adults) and the end of the arachnoid-dural membrane (vertebral level S2).

subarachnoid c. Any of the spaces at the base of the brain where the arachnoid becomes widely separated from the pia, giving rise to large cavities.

cisterna (sīs-tēr'nā) [L.] A reservoir or cavity.

c. chyli A saclike lymphatic vessel that is anterior to the second lumbar vertebra and is the origin of the thoracic duct. Into it empty the intestinal and right and left lumbar lymphatic trunks.

c. magna The cranial subarachnoid space between the medulla and the cerebellum; the foramina of the fourth ventricle open into it. Cerebrospinal fluid flows from it into the spinal subarachnoid space.

cisternal (sīs-tēr'nāl) Concerning a cavity filled with fluid.

cisternography (sīs'tēr'nōg'rā-fē) Ra-

diographic evaluation of the basal cisterns of the brain and of the flow of cerebrospinal fluid, e.g., with magnetic resonance imaging or an injected radioisotope. It is used to detect cerebrospinal fluid leaks, to visualize aneurysms and tumors, and to assess the anatomy of the cranial nerves.

cistron (sis'trŏn) A DNA sequence that codes for a specific protein (i.e., a gene).

cisvestitism (sis-vēs'tī-tīzm) [L. *cis*, on the same side, + *vestitus*, dressed, + Gr. *-ismos*, condition] Wearing of clothes appropriate to one's sex but suitable for a calling or profession other than one's own. An example would be a civilian who dresses in a uniform of the armed services.

CIT *Center for Information Technology* (of the National Institutes of Health)

citalopram (sī-tāl'ō-prām) A selective serotonin reuptake inhibitor and antidepressant. It is administered orally and may be used as an adjunct to psychotherapy.

citation bias (sī-tā'shūn bī'is) **1.** The tendency for research investigations that show benefit to be quoted more often than those that are neutral or negative. **2.** The tendency for a scientist to cite research articles more frequently that are published in her or his preferred journals (i.e., in those journals that are familiar because they are published in the same country or the same language as that spoken by the scientist).

Citelli's syndrome (chē-tēl'ēz) [Salvatore Citelli, It. laryngologist, 1875–1947] Insomnia or drowsiness and lack of concentration associated with intelligence disorders, seen in children with infected adenoids or sphenoid sinusitis.

citrate (sīt'rāt, sī'trāt) A compound of citric acid and a base.

sildenafil c. SEE: *sildenafil*.

citrated (sīt'rāt-ēd) Combined or mixed with citric acid or a citrate.

citrate solution A solution used to prevent clotting of the blood. Its use permits whole blood to be stored in a refrigerator until it is needed for transfusion.

citric acid cycle Krebs cycle.

citronella (sīt'rŏn-ēl'ā) A volatile oil obtained from *Cymbopogon citratus*, or lemongrass, that contains geraniol and citronellal. It is used in perfumes and as an insect repellent.

citrovorum factor Leukovorin.

citruiline (sīt-rŭl'īn) An amino acid, $C_6H_{13}N_3O_3$, formed from ornithine. It is sometimes used to treat patients with urea cycle defects because citruiline is not taken up by the liver but is converted to arginine in the kidney.

citruilinemia (sīt-rŭl'ī-nē'mē-ā) A type of aminoaciduria accompanied by in-

creased amounts of citruiline in the blood, urine, and spinal fluid. Clinical findings include ammonia intoxication, liver disease, vomiting, mental retardation, convulsions, and failure to thrive.

CK *creatine kinase*.

Cl **1.** Symbol for the element chlorine.

2. *chloride; clavicle; Clostridium*.

clade (klād) [G. *klados*, branch] **1.** A group of related living organisms that share specific genetic material. **2.** A genetically distinct strain of a microorganism.

Cladophialophora (klād'ō-fr'ā-lŏf'ē-rā) [NL.] A genus of pigmented soil fungi that sometimes cause cutaneous, subcutaneous, or intracerebral infections in humans, often in those with immunosuppressive diseases and conditions. Species within the genus include *C. bantiana*, *C. boppii*, and *C. carrionii*.

cladosporiosis (klād'ō-spō-rē-ō'sis) [Gr. *klados*, branch, + *sporos*, seed, + *osis*, condition] An infection, usually of the central nervous system, caused by the fungus *Cladosporium*.

Cladosporium (klād'ā-spŏr'ē-ŭm) A genus of fungi. *Tinea nigra* is caused by either *C. werneckii* or *C. mansonii*. SEE: *illus.*



CLADOSPORIUM IN CULTURE

C. herbarum A mold that is a common cause of indoor and outdoor allergies. Its allergen designation is Cl.a.

claim (klām) **1.** An assertion of fact. **2.** A request or demand for reimbursement of medical care costs.

clairvoyance (klār-voy'āns) [Fr.] The alleged ability to be aware of events that occur at a distance without receiving any sensory information concerning those events.

clamp (klāmp) [MD. *klampe*, metal clasp] A device used in surgery to grasp, join, compress, or support an organ, tissue, or vessel. SEE: *forceps*.

rubber dam c. An attachment that fits on the cervical part of the tooth for retention of a rubber dam.

CLAMS *Clinical Linguistic and Auditory Milestone Scale*.

clang (kläng) [L. *clangere*, to peal] A loud, metallic sound.

clang association A speech disorder marked by the use of words grouped by their sound or rhyme, rather than their meaning.

clap (kläp) A colloquial term for gonorrhoea.

clapotage, clapotement (klä'pō-tāzh', klä-pōt-maw') [Fr.] Any splashing sound in succession of a dilated stomach.

clapping (kläp'ing) Percussion of the chest to loosen secretions. Also called *cupping* or *tapotement*. The hand is held in a cupped position.

Clapton's lines (kläp'tōnz) Green lines on the dental margin of the gums in copper poisoning.

Clara cell (klär'ä, klah'rä) [Max Clara, Austrian anatomist, 1899–1937] One of the secreting cells in the surface epithelium of the bronchioles. These cells, along with goblet cells, provide secretions for the respiratory tract. The secretion is a mucus-poor protein that coats the epithelium.

clarification (klär'i-fi-kä'shün) **1.** The removal of turbidity from a solution. **2.** In psychiatry, a technique used to help a patient recognize inconsistencies in his or her statements.

Claritin SEE: *loratadine*.

Clarke, Jacob A. L. (klahrk) British anatomist, 1817–1880.

C.'s column The dorsal nucleus of the spinal cord.

Clarke-Hadfield syndrome (klahrk'häd'fēld) [Cecil Clarke, 20th-century Brit. physician; Geoffrey John Hadfield, Brit. pathologist, 1899–1968] An infrequently used eponym for cystic fibrosis. SEE: *cystic fibrosis*.

Clark electrode (klahrk) Oxygen electrode.

Clark's rule (klahrks) A method of calculating pediatric drug dosages. The weight of the child in pounds is multiplied by the adult dose and the result is divided by 150. SEE: *dosage*.

-clasis, -clast Combining forms meaning *to break*.

clasmatodendrosis (kläz-mät'ō-dēndrō'sis) [Gr. *klasma*, fragment, + *dendron*, tree, + *osis*, condition] Breaking up of astrocytic protoplasmic expansions.

clasmatosis (kläz'mä-tō'sis) [' + *osis*, condition] Crumbling into small bits; fragmentation, as of cells.

clasp (kläsp) A device for holding objects or tissues together. In dentistry, a type of wire or metal retainer or attachment used to stabilize dentures or prosthetic devices in the mouth.

clasp-knife phenomenon Increased muscle resistance to passive movement of a joint followed by a sudden release of the

muscle; commonly seen in patients with spasticity.

class (kläs) [L. *classis*, division] **1.** In biology, a taxonomic group of clearly defined organisms classified below a phylum and above an order. **2.** In statistics, a group of variables that fall within certain value limits.

class effect A drug effect produced by all members of a class of medications and not only by a single drug from that class.

classification (kläs'si-fi-kä'shün) The orderly grouping of similar organisms, animals, individuals, diseases, or pathological findings according to traits or characteristics common to each group.

cavity c. Any method of arranging the cavities or lesions of teeth into groups that can be recognized and described. Carious lesions are usually named for the surface of the tooth affected (labial, buccal, or occlusal), the type of tooth surface involved (pit and fissure or smooth surface), and by an accepted numbering designation. SYN: *caries, classification of*.

Dukes c. A system of classifying the extent of spread of adenocarcinoma of the colon or rectum.

classification of living organisms A systematic method of assigning organisms to various groups. Living organisms are classified into five kingdoms: Monera (Prokaryota), Protista, Fungi, Plantae, and Animalia. Within a kingdom, the subdivisions usually are phylum, class, order, family, genus, and species. The genus and species names are referred to as binomial nomenclature, with the larger (genus) category first and the precise species name second. SEE: *taxonomy*.

class restriction The requirement of certain T lymphocytes for the presence of either class I or class II major histocompatibility complex markers on antigen-presenting cells. These markers enable the T cells to recognize and respond to foreign antigens. CD4+ T cells require class II antigens and CD8+ T cells require class I antigens. Class restriction is a type of clonal restriction. SEE: *antigen-presenting cell; clonal restriction*.

clastic (kläs'tik) [Gr. *klastos*, broken] Causing division into parts.

clastogen (kläs'tä-jēn') [Gr. *klastos*, broken + *gennan*, to produce] Any agent that can damage a chromosome. Examples of clastogens include chemotherapeutic agents (e.g., cyclophosphamide or nitrogen mustard), and many forms of electromagnetic radiation (e.g., ultraviolet light or x-rays).

clastogenic (kläs'tō-jēn'ic) [' + *gennan*, to produce] Capable of breaking chromosomes (e.g., able to cause chromosomal abnormalities).

Claude's syndrome (klawdz) [Henri Claude, Fr. psychiatrist, 1869–1945]

Paralysis of the third cranial nerve, contralateral ataxia, and tremor; caused by a lesion in the red nucleus of the brain.

claudication (klaw-dī-kā'shūn) [L. *claudicare*, to limp] Lameness.

intermittent c. Cramping or pain in leg muscles brought on by a predictable amount of walking (or other form of exercise) and relieved by rest. This symptom is a marker of peripheral vascular disease of the aortoiliac, femoral, or popliteal arteries. It may be present in patients with diffuse atherosclerosis, for example, with arterial insufficiency in the coronary or carotid circulations as well as the limbs. SEE: *peripheral vascular disease*.

PHYSICAL EXAMINATION: The patient often has thin or shiny skin over the parts of the limb with decreased blood flow. Diminished pulses and bruits (audible blood flow through partially blocked arteries) may also be present.

DIAGNOSIS: In patients with a suggestive history, the blood pressure (BP) is measured in the affected limb and divided by the BP in the arm on the same side of the body. This ratio is called the ankle-brachial index (ABI); patients with significant peripheral vascular disease have an ABI of less than 85%. If surgery is contemplated for the patient, angiography may be used to define anatomical obstructions more precisely.

TREATMENT: Affected patients are encouraged to begin a program of regular exercise, to try to maximize collateral blood flow to the legs. Oral pentoxifylline improves the distance patients can walk without pain. For severely limiting claudication, patients may require angioplasty or arterial bypass surgery to respectively open or bypass obstructed arteries.

jaw c. Fatigue or cramping pain felt in the jaw, esp. while eating meats or other tough foods. About half of all patients with giant cell arteritis report this symptom.

neurogenic c. Leg pain or numbness that occurs with standing or walking and is relieved by sitting or resting with the spine flexed. It is typically caused by lumbar disk disease.

venous c. Claudication resulting from inadequate venous drainage.

claustrophilia (klaws-trō-fil'ē-ā) [L. *claustrum*, a barrier, + Gr. *philein*, to love] Dread of being in an open space; a morbid desire to be shut in with doors and windows closed.

claustrophobia (klaws-trō-fō'bē-ā) [r + Gr. *phobos*, fear] Fear of being confined in small, closed spaces (e.g., a locked room or an enclosed MRI device).

claustrum (klōs'trūm) [L.] 1. Barrier. 2. The thin layer of gray matter separ-

ating the external capsule of the brain from the island of Reil.

clavate (klā'vāt) Club-shaped.

clavicle (klāv'ī-k'l) [L. *clavicula*, little key] A bone curved like the letter f that articulates with the sternum and the scapula. SYN: *collar bone*.

dislocation of c. Traumatic displacement of either end of the clavicle.

TREATMENT: Open or closed reduction is the treatment.

fracture of c. Physical injury of the clavicle sufficient to fracture it, often as a result of a fall (e.g., from a ladder or bicycle). Most clavicular fractures involve the distal one third of the bone.

SYMPTOMS: Symptoms include swelling, pain, and protuberance with a sharp depression over the injured bone. Palpable deformity and crepitus are commonly present.

TREATMENT: If indicated, an emergency care physician or an orthopedist will reduce the fracture. This usually is done by elevating the arm and lateral fragment so they line up with the medial fragment. The position is maintained by a clavicle strap, spica cast, immobilizing sling, or figure-of-eight wrap between the shoulders and over the back. Healing concludes in about 6 to 8 weeks.

FIRST AID: A ball of cloth or one or two handkerchiefs are tightly rolled and placed under the armpit. An arm sling is applied and the elbow bandaged to the side, with the hand and forearm extending across the chest. Alternatively, the patient may lie on his or her back on the floor with a rolled-up blanket under the shoulders until medical aid arrives. This position keeps the shoulders back and prevents the broken ends of the bone from rubbing.

clavicotomy (klāv'ī-kōt'ō-mē) [r + Gr. *tome*, incision] Surgical division of the clavicle.

clavicular (klā-vīk'ū-lār) Pert. to the clavicle.

clavus (klā'vūs) [L., nail] A corn, or callosity. SYN: *heloma*.

c. hystericus A sharp pain usually localized to the vertex of the skull; said to be of psychosomatic origin.

clawfoot (klaw' foot) A deformity of the foot marked by an excessively high longitudinal arch, usually accompanied by dorsal contracture of the toes.

clawhand (klaw' hānd) A hand marked by hyperextension of the proximal phalanges of the digits and extreme flexion of the middle and distal phalanges. Usually it is caused by injury to the ulnar and median nerves. SYN: *main en griffe*.

Clean Air Act A federal law, enacted in 1956 and amended many times since then, that empowers the administration to protect the public health and welfare by defining and attempting to control

atmospheric pollutants, including automotive and factory exhausts such as sulfur dioxide, nitrogen dioxide, carbon monoxide, particulates, and lead.

clean-catch method A procedure for obtaining a urine specimen that exposes the culture sample to minimal contamination. For females, the labia are held apart and the periurethral area is cleaned with a mild soap or antibacterial solution, rinsed with copious amounts of plain water, and dried from front to back with a dry gauze pad. The urine is then passed and the specimen collected in a sterile container. It is important that the labia be held apart and that the urine flow directly into the container without touching the skin. If possible, the sample should be obtained after the urine flow is well established (i.e., a midstream specimen). For males, the urethral meatus is cleaned and the midstream specimen is collected in a sterile container. If the male is uncircumcised, the foreskin is retracted before the penis is cleaned.

cleaning, ultrasonic (klén'íng) The use of high-frequency vibrations to clean instruments.

Clean Water Act An act originally passed by the federal government in 1972, and since amended several times, that gives the Environmental Protection Agency (EPA) responsibility for developing criteria for water-quality standards and controlling and regulating pollutants discharged into water sources.

clearance In medicine, the rate of removal of a substance from the body, e.g. in feces, the urine, sweat, or exhaled gases. SEE: *renal clearance test*.

estimated creatinine c. ABBR: CrCl. The rate of the removal of creatinine from the serum by the kidney. SEE: *creatinine clearance test*.

total c. 1. The sum of the clearances from each organ or tissue participating in the elimination of a substance from the body. **2.** The volume or mass of tissue cleared of a substance divided by the time it takes to eliminate the substance from the body.

clearing agent 1. A substance that increases the transparency of tissues prepared for microscopic examination. **2.** In radiographic film processing, the active agent in the fixer that clears undeveloped silver bromide crystals from the film. The most common agent is ammonium thiosulfate. SYN: *fixing agent*.

cleavage (klé'véj) [AS. *cleofian*, to cleave] **1.** Splitting a complex molecule into two or more simpler ones. **2.** Division of a fertilized egg into many smaller cells or blastomeres. SYN: *segmentation*. SEE: *blastomere*; *embryo*.

cleavage arrest In embryology, an obstruction to, or a halt in cell division.

cleft (kléft) [ME. *clift*, crevice] **1.** A fis-

sure or elongated opening. **2.** Divided or split.

alveolar c. An anomaly resulting from lack of fusion between the medial nasal process and the maxillary process. A cleft maxillary alveolar process is usually associated with a cleft lip or palate or both.

branchial c. An opening between the branchial arches of an embryo. In lower vertebrates it becomes a gill cleft.

facial c. An anomaly resulting from failure of the facial processes of the embryo to fuse. Common types are oblique facial cleft, an open nasolacrimal furrow extending from the eye to the lower portion of the nose that is sometimes continuous with a cleft in the upper lip, and transverse facial cleft, which extends laterally from the angle of the mouth.

pudendal c. In females, the slit between the labia majora.

synaptic c. The synapse of a neuromuscular junction (between the axon terminal of a motor neuron and the sarcolemma of a muscle fiber). Impulse transmission is accomplished by a neurotransmitter.

tonsillar c. Tonsillar fossa.

cleft cheek Transverse facial cleft.

cleft lip-cleft palate syndrome Van der Woude's syndrome.

cleido-, cleid- (klí'dō) [L. *clavis*, key] Combining form pert. to the clavicle.

cleidocostal (klí'dō-kōs'täl) [l' + *costa*, rib] Pertaining to the clavicle and ribs.

cleidorrhaxis (klí'dō-rèk'sís) [l' + Gr. *rhaxis*, rupture] Fracture or folding of the fetal clavicles to facilitate delivery.

cleidotomy (klí-dōt'ō-mē) [l' + Gr. *tome*, incision] Division of a fetal clavicle to facilitate delivery.

clenbuterol (klén-bū'tēr-ōl) A beta-2 agonist drug formerly used by veterinarians to promote animal growth. It has been used by athletes as a doping agent to increase muscle mass. It is also occasionally used to dilute illicit drugs such as heroin. Its toxicities include tachycardia, palpitations, hyperglycemia, hypokalemia, and chest pain.

clenching (klénch'íng) **1.** Forceful, repeated contraction of the jaw muscles with the teeth in contact. This causes pulsating, bilateral contractions of the temporalis and pterygomasseteric muscles. It may be done consciously, subconsciously while awake, or during sleep. SEE: *bruxism*. **2.** Tightly closing the fist.

CLIA (klé'ā) Abbreviation for Clinical Laboratory Improvement Amendments, the U.S. legal amendments regulating and overseeing privately run medical laboratories.

click (klik) **1.** An abrupt, brief sound heard in listening to the heart sounds. **2.** Any brief sound but esp. one heard during a joint movement. **3.** In den-

tristry, a noise associated with temporomandibular joint movement, sometimes accompanied by pain or joint dysfunction.

client (klī'ənt) The patient of a health care professional.

client-centered approach Emphasis on a patient's or client's autonomy and right to choose goals and/or interventions based on his or her identified needs for services. SYN: *client-centered therapy*. SEE: *Patient's Bill of Rights*.

client-centered therapy Client-centered approach.

client server Network architecture that places commonly used resources on centrally accessible computers for retrieval by any individual with access to the network.

climacteric (klī-māk'tēr-ik, klī-māk-tēr'ik) [Gr. *klimakter*, a rung of a ladder] The menopause (i.e., the period that marks cessation of a woman's reproductive ability) in women; the corresponding period of diminished sexual arousal and activity in males. SEE: *menopause*.

climatology, medical (klī'mă-tōl'ō-jē) [Gr. *klima*, sloping surface of the earth, + *logos*, word, reason] The branch of meteorology that includes the study of climate and its relationship to disease. SEE: *bioclimatology*.

climatotherapy (klī'mă-tō-thēr'ăp-ē) [" + *therapeia*, treatment] Treatment of disease by having the patient move to a specialized climate; historically used in the treatment of diseases like tuberculosis (cold, wintry air was thought to contribute to cure).

climax (klī'măks) [Gr. *klimax*, ladder]
1. The period of greatest intensity.
2. The sexual orgasm.

clinic (klīn'ik) [Gr. *klinikos*, pert. to a bed] 1. A center for physical examination and treatment of ambulatory patients. 2. Medical and dental instruction in which patients are observed directly, symptoms noted, and treatments discussed. 3. A center where preliminary diagnosis is made and treatment given (e.g., an x-ray clinic, dental clinic, or child-guidance clinic).

walk-in c. A general medical care clinic open to those who do not have an appointment.

clinical (klīn'ī-kāl) 1. Founded on actual observation and treatment of patients as distinguished from data or facts obtained from other sources. 2. Pert. to a clinic.

clinical data repository A computer platform that stores and consolidates data for real-time access to information about patients and patient care from a variety of internal systems.

clinical decision support system ABBR: CDSS. Interactive computer programs directly assisting physicians and other

health professionals with decision-making tasks. CDSS is either a rule-based or a normative automated system consisting of a variety of elements, ranging from simple alert systems to sophisticated longitudinal administrative and clinical reporting applications. It employs evidence-based or statistically significant best-practice guidelines and alerts to promote better clinical choices and outcomes.

clinical ecology A form of medical practice based on two concepts: that a broad range of environmental chemicals and foods can cause symptoms of illness (such as malaise, fatigue, dizziness, joint discomfort) and that the immune system is functionally depressed by exposure to many synthetic chemicals in the workplace, the home, or contemporary agricultural products. The premise of clinical ecology is that these exposures are toxic or that they trigger hypersensitivity reactions, or environmental illness.

clinical education Health care education conducted in care facilities, outpatient clinics, emergency centers, hospitals, or private offices, under the supervision of a qualified practitioner or teaching staff.

clinical incidence rate SEE: *incidence (1)*.
clinical information system ABBR: CIS. Large computerized database management systems that process patient data to support patient care. The systems are used by health care clinicians to access patient data to plan, implement, and evaluate care.

clinical judgment The exercise of the clinician's experience and knowledge in diagnosing and treating illness and disease. SEE: *decision analysis*.

Clinical Linguistic and Auditory Milestone Scale ABBR: CLAMS. An office test used to evaluate language development in children from birth to age 3. SEE: *Denver Developmental Screening Test*.

clinical nurse leader ABBR: CNL. A nurse who supervises and coordinates care for patients, using evidence-based methodologies to manage care plans. According to the American Association of Colleges of Nursing, the CNL requires educational preparation equal to or greater than a master's degree in nursing.

clinical reasoning The use of a patient's history, physical signs, symptoms, laboratory data, and radiological images to arrive at a diagnosis and formulate a plan of treatment.

clinical simulation An educational model of a phenomenon or activity that allows students to rehearse behaviors without placing clients or institutional resources at risk.

clinical target volume ABBR: CTV. In

radiation therapy the grossly detectable tumor volume plus any microscopic tumor that extends outward from the grossly involved margins. The objective in radiation oncology is to treat the visible tumor and the surrounding margins adequately to destroy as many malignant cells as possible.

clinical trial A carefully designed and executed investigation of the effects of a drug administered to human subjects. The goal is to define the clinical efficacy and pharmacological effects (toxicity, side effects, incompatibilities, or interactions). The U.S. government requires strict testing of all new drugs before their approval for use as therapeutic agents.

Clinical trials are research trials that address a wide variety of health care topics from treatment and diagnosis to prevention of disease. Trial investigators prove or disprove the value or safety of a particular drug or therapy thought to have a positive effect for patients. Thus, clinical trials are experiments, a quest for evidence. They help establish proof of effectiveness, but they do not imply that such proof already exists.

PATIENT CARE: The highest ethical standards must be practiced by investigators to ensure that patients who enroll in them know how the trial works, what the chances are of receiving active therapy (as opposed to a placebo), what the expected outcomes are, and what risks and complications trials may present to the participants. These standards are needed to protect patients, esp. those with chronic, poorly controlled, or potentially fatal illnesses from assuming that participation in the experiment guarantees an imminent cure. It does not. In many instances trials prove that the intervention tested does not work; in some, that the intervention is hazardous; and only in a few, that the intervention is as good as doing nothing or as good as the best contemporary therapy. Even when clinical outcomes are not positive, a trial usually illuminates some elements of pharmacology or pathophysiology that may be used in furthering the understanding of an illness.

Many human drug trials (esp. trials of new treatments for cancer) are conducted in four phases, three of them prior to approval for general use. An increasingly larger number of participants are signed up for each successive phase. Phase I trials test safety and maximum dosage, helping researchers discover the best way to administer a treatment (e.g., orally or by IV) as well as the most appropriate dosage; and helping to discover potentially harmful adverse effects of a new treatment.

While the trial is not designed to show whether the treatment is effective, because an experimental drug is chosen for its promise, the patient may still benefit. Only a small number of patients are included (15 to 25 who have not been helped by other treatments), and there usually is no control group.

Phase II trials test whether the experimental treatment is effective against a particular type of cancer. Generally, if at least 20% of the study subjects respond positively to it (e.g., achieve a 50% reduction in the total size of their measurable tumor) the new therapy will receive further testing. Another crucial statistic is the "response duration" (the length of time measured in weeks, months, or years that the anticancer effect seems to last). Short-term responses may mean little in terms of survival, while long-term responses indicate that the drug is truly benefiting some patients.

Phase III trials compare the new treatment's effectiveness to the best existing treatment for a particular type of cancer (the current standard of care). These trials often include thousands of patients. By law, all patients receive real cancer treatment; no placebos are given. But the trial is usually double-blinded, with patients divided randomly into two groups: an experimental group and a control group on standard treatment, with neither patients nor researchers knowing to which group the patient belongs.

Phase IV trials examine long-term effectiveness and adverse effects that might occur from a treatment after the Food and Drug Administration has approved its use by the public. These studies, involving thousands or tens of thousands of patients, are either mandated by regulatory authorities or undertaken voluntarily by a pharmaceutical manufacturer once the drug has gone to market. Often it is only in Phase IV trials that especially rare adverse effects emerge. Patients accepted to participate in a clinical trial should have the approval of their personal oncologist, and they should seek a second opinion (which is covered by insurance) to get more input on what trials to consider.

Many investigations offer a "cross-over phase" in which individuals initially assigned to an ineffective limb of a trial are provided with the more successful of two interventions once proof is established. Participants in clinical trials usually are under the care of a team of physicians and nurses and are closely monitored (often with testing and examinations on a weekly basis). The clinical trial nurse or nurse research specialist has a broad variety of

roles depending on the nature of the investigation. These include recruiting and introducing patients to the trial, coordinating their care, gathering data about side effects and tolerance, and in many instances serving as a principal or collaborative investigator. Trial planning and design, data interpretation and analysis, and assessments of toxicity are all elements of the work. Health insurers and managed care providers may place restrictions on clinical trial coverage. Many states have laws requiring insurers to pay for the routine costs of all or some clinical trials. Patient advocates work with researchers to make sure a clinical trial is relevant, as safe as possible, and accessible to the broadest variety of patients.

clinician (klīn-īsh'ān) [Gr. *klinikos*, pert. to a bed] A health professional with expertise in patient care rather than research or administration.

nonphysician c. Nonphysician provider.

cliniopathological (klīn'ī-kō-pā"thō-lōj'īk-āl) Concerning clinical and pathological disease manifestations.

cliniopathological conference ABBR: CPC. A teaching conference in which clinical findings are presented to a physician previously unfamiliar with a case, who then attempts to diagnose the disease that would explain the clinical findings. The exact diagnosis is then presented by the pathologist, who has either examined the tissue removed at surgery or has performed the autopsy.

clinocephaly (klī'nō-sēf'ā-lē) [Gr. *klinein*, to bend, + *kephale*, head] Congenital flatness or saddle shape of the top of the head, caused by bilateral premature closure of the sphenoparietal sutures.

clinodactyly (klī'nō-dāk'tī-lē) [" + *daktylos*, finger] Hypoplasia of the middle phalanx of one or more of the fingers resulting in inward curving of these fingers.

clinoid (klī'noyd) [Gr. *kline*, bed, + *eidōs*, form, shape] Shaped like a bed.

clinometer (klī-nōm'ē-tēr) [Gr. *klinein*, to slope, + *metron*, measure] An instrument formerly used for estimating torsional deviation of the eyes; used to measure ocular muscle paralysis.

clinoscope (klī'nō-skōp) Clinometer.

clip (klīp) A device for holding or compressing tissues or other material together, e.g., after surgery; available in a variety of metals and slowly absorbed materials (e.g., polyglycolic acid).

vascular c. Small titanium or polyglycolic acid vessel clamp used to occlude blood vessels or to perform vascular anastomoses. In the anastomotic application, the clips are used in place of sutures. Advocates believe that this everting technique allows for less en-

dothelial trauma and improved bonding of collagen molecules.

clithrophobia (klīth'rō-fō'bē-ā) [Gr. *kleithria*, keyhole, + *phobos*, fear] A morbid fear of being locked in.

clitoridectomy (klī'tō-rīd-ēk'tō-mē) [Gr. *kleitoris*, clitoris, + *ektome*, excision] Excision of the clitoris.

clitoriditis (klī'tō-rīd-ī'tīs) Clitoritis.

clitoridotomy (klī'tō-rīd-ōt'ō-mē) [" + *tome*, incision] Incision of the clitoris; female circumcision.

clitoris (klīt'ā-rīs, klī-tōr'īs) [Gr. *kleitoris*] One of the structures of the female genitalia; a small erectile body located beneath the anterior labial commissure and partially hidden by the anterior portion of the labia minora.

STRUCTURE: It consists of three parts: a body, two crura, and a glans. The body, about 1 in (2.5 cm) long, consists of two fused corpora cavernosa. It extends from the pubic arch above to the glans below. The two crura are continuations of the corpora cavernosa and attach them to the inferior rami of the pubic bones. They are covered by the ischiocavernosus muscles. The glans, which forms the free distal end, is a small rounded tubercle composed of erectile tissue. It is highly sensitive. The glans is usually covered by a hoodlike prepuce, and its ventral surface is attached to the frenulum of the labia.

clitorism (klī'tō-rīzm) **1.** The counterpart of priapism; a long-continued, painful condition with recurring erection of the clitoris. **2.** Clitoral enlargement.

clitoritis (klī'tō-rī'tīs) Inflammation of the clitoris. SYN: *clitoriditis*.

clitoromegaly (klī'tō-rō-mēg'ā-lē) [" + *megas*, large] Clitoral enlargement. This may be caused by an endocrine disease or by use of anabolic steroids.

clivus (klī'vūs) [L., a slope] A surface that slopes, as the sphenoid bone.

clo (klō) A unit for thermal insulation of clothing. It is the amount of insulation necessary to maintain comfort in a sitting-resting subject in a normally ventilated room (air movement at the rate of 10 cm/sec) at a temperature of 70°F (21°C) with relative humidity of less than 50%.

cloaca (klō-ā'kā) [L. *cloaca*, a sewer] **1.** A cavity lined with endoderm at the posterior end of the body that serves as a common passageway for urinary, digestive, and reproductive ducts. It exists in adult birds, reptiles, and amphibia, and in the embryos of all vertebrates. **2.** An opening in the sheath covering necrosed bone.

clock (klōk) A device for measuring time.

biological c. An internal system in organisms that influences behavior in a rhythmic manner. Functions such as growth, feeding, secretion of hormones, the rate of drug action, the wake-sleep

cycle, the menstrual cycle, and reproduction coincide with certain external events such as day and night, the tides, and the seasons. Biological clocks appear to be set by environmental conditions in some animals, but if these animals are isolated from their environment they continue to function according to the usual rhythm. A gradual change in environment does produce a gradual change in the timing of the biological clock. SEE: *circadian*; *maladaptation to night work*; *zeitgeber*.

clock drawing test One of the mental status tests that assesses a person's ability to draw a complex, but frequently used, object. Persons with normal cognitive function and a normal sense of time can draw a clock face, place the hours 1 through 12 in appropriate positions, and insert the hands of the clock to demonstrate a particular time of day (e.g., "10:25"). Demented patients make several characteristic errors: the clock face may be poorly drawn; the hours may be spaced unevenly; and the hour and minute hands misplaced or left off the clock face entirely.

clonal (klōn'āl) Pert. to a clone.

clonal restriction The occurrence of the same characteristics as the parent cell in all clones (offspring) of one B or T lymphocyte. For example, surface receptors are identical, so clones react to the same group of specific antigens as the parent cell does.

clonazepam (klō-nāz'ē-pām) A benzodiazepine used to treat anxiety, panic, and seizure disorders.

clone (klōn) [Gr. *klon*, a cutting used for propagation] **1.** In microbiology, the asexual progeny of a single cell. **2.** A group of plants propagated from one seedling or stock. Members of the group are identical but do not reproduce from seed. **3.** In tissue culture or in the body, a group of cells descended from a single cell. The term often refers to the descendants of lymphocytes and to those of malignant cells. **4.** In immunology, a group of lymphocytes descended from a single sensitized T or B lymphocyte; they all respond to the same foreign antigen. **5.** In biology, the creation of an embryo from an unfertilized egg and the diploid nucleus of a somatic cell. With the full diploid number of chromosomes, the egg cell begins dividing as if fertilization had taken place. Clones of sheep, cows, cats, and many other animals have been produced.

clonic (klōn'ik) [Gr. *klonos*, turmoil] Pert. to clonus; alternately contracting and relaxing the muscles.

clonicity (klōn-is'ī-tē) The condition of being clonic.

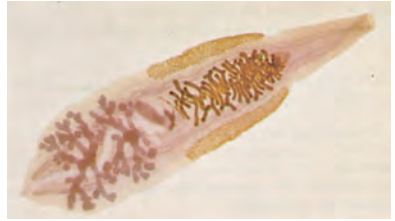
clonicotonic (klōn'ī-kō-tōn'ik) [Gr. *klonos*, turmoil, + *tonikos*, tonic]

Both clonic and tonic, as some forms of muscular spasm.

clonidine hydrochloride (klō'nī-dēn) A centrally acting alpha-agonist drug used to treat hypertension and opiate withdrawal.

clonorchiasis (klō'nor-kī'ā-sīs) A disease caused by the Chinese liver fluke, *Clonorchis sinensis*, which infects the bile ducts of humans. Infection is caused by eating uncooked freshwater fish containing encysted larvae. Early symptoms are loss of appetite and diarrhea; later there may be signs of cirrhosis. The disease may be prevented by cooking fish thoroughly or by freezing it at -10°C (14°F) for a minimum of 5 days. The disease rarely causes death.

Clonorchis sinensis (klō-nor'kis sī-nēn'sis) The Chinese liver fluke, an important cause of biliary disease, esp. in Asia. SEE: *illus.*; *clonorchiasis*.



CLONORCHIS SINENSIS

(Orig. mag. $\times 4$)

clonuspasm (klōn'ō-spāzm) [*r* + *spasmos*, spasm] Clonic spasm.

clonus (klō'nūs) Spasmodic alternation of muscular contractions between antagonistic muscle groups caused by a hyperactive stretch reflex from an upper motor neuron lesion. Usually, sustained pressure or stretch of one of the muscles inhibits the reflex.

clopidogrel (clō-pīd'ō-grēl) A platelet aggregation inhibitor, administered orally to reduce the risk for atherosclerotic events (e.g., myocardial infarction, stroke, vascular death). Its therapeutic class is antiplatelet agent.

closed record The completed medical chart of a patient, either after discharge from care or after the patient's death.

Clostridium (klō-strīd'ē-ūm) [Gr. *klostēr*, spindle] A genus of gram-positive, anaerobic, spore-forming bacilli in the family Bacillaceae. The genus comprises more than 250 species that are inhabitants of soil, water, and the intestinal tracts of humans and animals. Many species are pathogenic in humans, including those that colonize dead tissue, secrete numerous proteolytic enzymes, and cause gas gangrene.

C. baratii A species in which some strains produce a neurotoxin that causes botulism.

C. botulinum The species that causes most cases of botulism. Under anaerobic conditions, the bacteria produce a neurotoxin that causes paralysis by blocking the release of acetylcholine at neuromuscular junctions. SEE: *botulism*.

C. butyricum A species in which some strains produce a neurotoxin that causes botulism.

C. chauvoei The organism causing blackleg or symptomatic anthrax in cattle.

C. difficile ABBR: C. diff. A species that causes watery diarrhea, fever, anorexia, and abdominal pain, sometimes accompanied by pseudomembranous colitis, esp. in patients previously treated with antibiotics or confined in health care settings. Most antibiotics (except aminoglycosides) have been associated with the development of C. diff.-associated disease, which varies in clinical significance from a relatively mild diarrheal illness, to one complicated by dehydration, electrolyte disturbances, toxic megacolon, and death.

PATIENT CARE: Outbreaks of C. diff. are found in many health care institutions, including nursing homes and hospitals. To prevent the spread of the disease in these facilities, staff should practice scrupulous hand hygiene, and patients affected by diarrheal illnesses should be isolated. Gowns and gloves should be worn by personnel attending infected patients. Linens should be disinfected, and other infection control practices followed. Surfaces potentially contaminated by clostridial spores should be treated with hypochlorite bleaches as a disinfectant. Personal patient care items should not be shared or re-used. Mild to moderately infected patients typically improve with the oral administration of metronidazole or vancomycin, although more severely ill patients may need infusions of vancomycin directly into the gastrointestinal tract. Patients with toxic megacolon may need surgery to remove damaged bowel. Fluid support intravenously, and other elements of general supportive care also apply. SEE: *pseudomembranous colitis*.

C. histolyticum A species found in cases of gas gangrene.

C. novyi A species found in many cases of gas gangrene.

C. perfringens The most common causative agent of gas gangrene. SYN: *Clostridium welchii*; *gas bacillus*.

C. septicum A species found in cases of gangrene in humans, as well as in cattle, hogs, and other domestic animals.

C. sordellii A species that may cause anaerobic infections in bones, joints, soft tissues, the uterus, and elsewhere.

C. sporogenes A species frequently

associated with other organisms in mixed gangrenous infections.

C. tetani The species that causes tetanus. SEE: *tetanus*.

C. welchii *C. perfringens*.

closure (klō'shūr) **1.** Shutting or bringing together as in suturing together the edges of a laceration wound. **2.** In psychotherapy, the resolution of an issue that was a topic in therapy and a cause of distress for the patient.

clot (klōt) [AS. *clott*, lump] **1.** A mass with a jelly-like or semi-solid consistency. **2.** To coagulate.

agonal c. A clot formed in the heart when death follows prolonged heart failure.

antemortem c. A clot formed in the heart or its cavities before death.

blood c. A mass formed when blood solidifies into a gel. SEE: *blood coagulation*.

chicken fat c. A yellow blood clot appearing to contain no erythrocytes.

currant jelly c. A soft red postmortem blood clot found in the heart and vessels.

distal c. A clot formed in a vessel on the distal side of a ligation.

external c. A clot formed outside a blood vessel.

internal c. A clot formed by coagulation of blood within a vessel.

laminated c. A clot formed in a succession of layers filling an aneurysm.

muscle c. A clot formed in muscle tissue.

passive c. A clot formed in the sac of an aneurysm.

plastic c. A clot formed from the intima of an artery at the point of ligation.

postmortem c. A clot formed in the heart or in a blood vessel after death.

proximal c. A clot formed on the proximal side of a ligation.

stratified c. A clot consisting of layers of different colors. SEE: *coagulation*, *blood*; *factor*, *coagulation*; *thrombosis*.

CLO test *Campylobacter*-like organism test; an assay to determine the presence of urea-splitting organisms in the upper gastrointestinal tract. The test is one of several used to diagnose whether or not ulcers or gastritis are caused by *Helicobacter pylori*.

clothing [AS. *clath*, cloth] Wearing apparel; used both functionally and decoratively. From the medical standpoint, clothes conserve heat or protect the body (e.g., gloves, sunhelmets, and shoes). Air spaces in a fabric and its texture, rather than the material alone, conserve heat. In matted woolen fabrics, the air spaces are destroyed and insulation is lost. Wool and silk absorb more moisture than other fabrics, but silk loses it more readily. Cotton and linen come next, but linen loses moisture more quickly than cotton. Knitted fab-

rics absorb and dry more readily than woven fabrics of the same material. The temperature inside an individual's hat may vary from 13° to 20°F (7° to 11°C) warmer than the outside temperature.

adapted c. Garments designed with special features, such as Velcro closures, to enable persons with disabilities to dress themselves without assistance. SEE: *clo*; *hypothermia*.

clotting (klōt'ing) The formation of a jelly-like plug made of platelets and plasma proteins. The plug usually stops the flow of blood. SEE: *coagulation*, *blood*.

cloven spine Congenital defect of spinal canal walls caused by lack of union between laminae of the vertebrae. SYN: *spina bifida cystica*.

clove oil [L. *clavus*, a nail or spike] A volatile oil distilled from the dried flower buds of the clove tree, *Eugenia caryophyllus*. It is used as an antiseptic and an aromatic and is applied directly to relieve pain in teeth.

clozapine (klō'zā-pēn") A dopamine receptor-blocking drug used to treat psychosis.

cloze (klōz) [Abbrev. of *closure*] A sentence completion test used in speech and language pathology in which a word is deleted from a sentence and the person being tested is asked to fill in the blank with an appropriate term.

clubbing (klüb'ing) An enlarged terminal phalanx of the finger. Excessive growth of the soft tissues of the ends of the fingers gives the fingers a sausage or drumstick appearance when viewed from above, and a beaked appearance when viewed from the side. Increased soft tissue is deposited beneath the cuticle, resulting in a fingertip that is thinner at the distal interphalangeal joint than at the base of the nail. Clubbing may be present in chronic obstructive pulmonary disease, interstitial fibrosis of the lungs, cyanotic congenital heart disease, carcinoma of the lung, bacterial endocarditis, and many other illnesses. SYN: *clubbed finger*; *hippocratic finger*. SEE: *illus.*

club drug A colloquial term for a drug used for its euphoric or intoxicating effects at a party, rave, nightclub, or bar. Ecstasy, gamma hydroxybutyrate, ketamine, and rohypnol are examples.

clubfoot Talipes equinovarus.

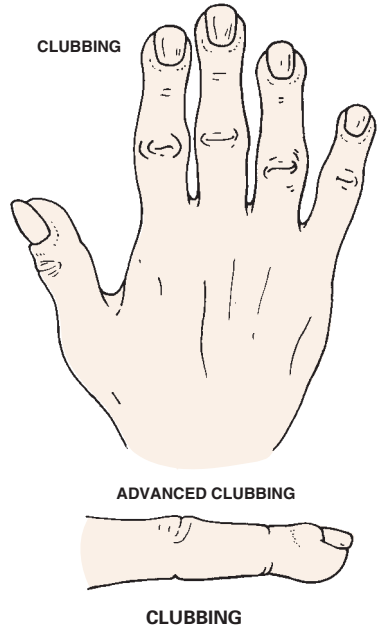
clubhand Talipomanus.

clubhouse model A peer/staff approach for supporting independent community living by people with mental illnesses.

clump (klümp) [AS. *clympre*, a lump]
1. A mass of bacteria in solution; may be caused by an agglutination reaction.
2. To gather together.

clumping (klümp'ing) Agglutination.

cluster (klüs'tēr) A closely grouped series of events (e.g., cases of a disease)



with well-defined distribution patterns in relation to time, place, or risk factor exposure.

c. of differentiation ABBR: CD. A group of protein markers on the surface of a white blood cell. These markers are used to classify immune cell types and establish international nomenclature standards. Although found on many blood cells and some nonblood cells, they are used most often to refer to lymphocytes. Markers for CD3 are found on all mature T cells in association with T-cell antigen receptors; CD2 and CD7 markers are found on immature T cells. Markers for CD4 are found on all T helper cells, macrophages, and some B cells. Markers for CD8 identify cytotoxic T cells, which are essential to the defense against viral infections. Each marker has a specific function in the cell, such as passing a signal from the T-cell receptor to the cytoplasm. SEE: *cell*, *T*.

cluttering (klüt'ēr-ing) A disorder of speech fluency, characterized by speech that has an abnormal, often rapid pace and jerking rhythm; frequent or irregular pauses; multiple nonverbal interjections ("umm," "ahhh"); and repetitions or circumlocutions. Cluttering speech is often characterized as sounding as though a person has not thought through what he or she wants to say. It is found in people who have other linguistic or behavioral disorders, including anxiety, attention deficit/hyperac-

tivity disorders, stuttering, or word-finding difficulties, among others.

Clutton's joint (klüt'in) [Henry Hugh Clutton, Brit. surgeon, 1850–1909] Arthritis of the knee, seen in conjunction with keratitis in congenital syphilis.

clysis (klī'sis) *pl.* **clyses** [Gr. *klyzein*, to cleanse] Injection of fluid into the body other than orally. Fluid may be injected into tissue spaces, the rectum, or the abdominal cavity. This technique is used to inject fluids parenterally when venipuncture is not possible. SEE: *enteroclysis*.

-clysis (klīs'is) [Gr. *klyzein*, to flush] Combining form meaning *washing*.

Cm Symbol for the element curium.

c/m counts per minute.

cm centimeter.

cm² square centimeter.

cm³ cubic centimeter.

CMA Canadian Medical Association; Certified Medication Aide.

C_{max} Maximum concentration of a drug achieved after dosing. SEE: *illus.*

CMI cell-mediated immunity.

c/min counts per minute.

c.mm. cubic millimeter. This symbol (also, mm³) is no longer acceptable for use.

CMRR common mode rejection ratio.

CMS Circulation, motion, sensation.

CMS 1500 The billing form used by the Center for Medicare Services (CMS) for all claims made by physicians and other providers of health care services.

CMT certified medical transcriptionist; certified medication technician.

CMV continuous mandatory ventilation; cytomegalovirus.

CN cyanogen.

CNA Canadian Nurses' Association; Certified Nursing Assistant.

CNS central nervous system; clinical nurse specialist; coagulase-negative staphylococcus.

CO Formula for carbon monoxide; cardiac output.

Co Symbol for the element cobalt.

CO₂ Formula for carbon dioxide.

Co1 coccygeal spinal nerve.

CoA Coenzyme A.

coach To provide suggestions, feedback, direction, and redirection to another person to improve the ability to perform a task well.

coadaptation (kō'äd-äp-tä'shŭn) Mutual adaptation of two independent organisms, organs, or persons.

coadministration (cō'äd-min-ī-strā'shŭn) The giving of two or more therapeutic agents at the same time.

coagglutination (kō'ä-gloo'tin-ä'shŭn) [L. *coagulare*, to curdle] Use of latex or other inert particles to which an antibody will bind in laboratory tests of agglutination.

coagula (kō-äg'ü-lä) [L.] Pl. of coagulum.

coagulability (kō-äg'ü-lä-bil'ī-tē) The capacity to form clots, esp. blood clots.

coagulable (kō-äg'ü-lä-b'l) Capable of clotting; likely to clot.

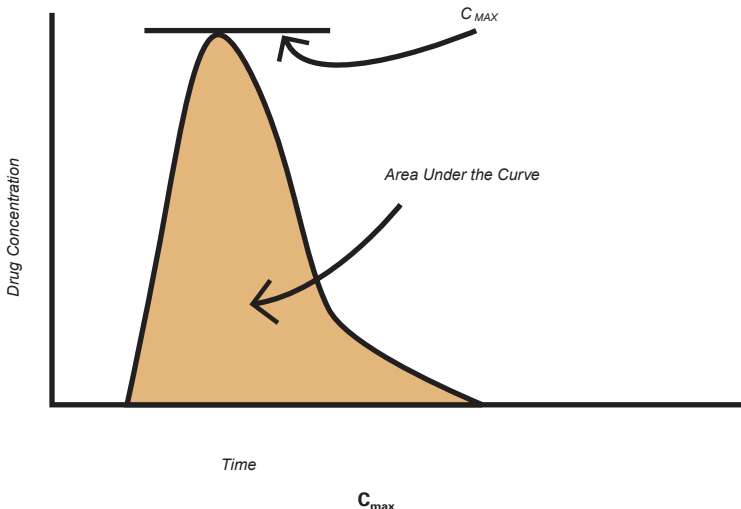
coagulant (kō-äg'ü-länt) [L. *coagulus*, congealing] 1. Something that causes a fluid to coagulate. 2. Causing coagulation.

coagulase (kō-äg'ü-lāz) [L. *coagulum*, blood clot] Any enzyme, such as thrombin, that causes coagulation.

coagulate (kō-äg'ü-lät) [L. *coagulare*, to congeal] To solidify; to change from a fluid state to a semisolid mass.

coagulated (kō-äg'ü-lät-éd) Clotted or curdled.

coagulation (kō-äg'ü-lä'shŭn) [L. *coa-*



gulation, clotting] The thickening of a liquid into a gel or solid.

blood c. The process of clumping together of blood cells to form a clot. This may occur in vitro, intravascularly, or when a laceration of the skin allows the escape of blood from an artery, vein, or capillary. Coagulation of blood may occur in two pathways, depending on the beginning of the process.

Extrinsic: The extrinsic pathway (in an abbreviated outline form) requires the blood to be exposed to a subendothelial tissue factor originating outside the blood. This factor begins a complex series of chemical reactions involving thromboplastin, factor VII, and calcium; binding to factor X, causing its conversion to factor Xa; and the resulting conversion of prothrombin to thrombin to fibrinogen and eventually fibrin.

Intrinsic: The intrinsic pathway (in abbreviated outline form) occurs when blood is drawn without contamination by tissue factor. This clotting pathway does not require an additive. It is triggered when the blood is exposed to a foreign surface and factor XII is activated. Factor XII may also be activated through limited cleavage by kallikrein. This process is accelerated by high-molecular-weight kininogen (HMWK). This leads to formation of factor XII, a process that produces more HMWK to accelerate kallikrein production. The process continues and factors XI and IX, and HMWK, in concert with calcium, generate factor Xa. The clotting cascade then continues as in the extrinsic pathway, and prothrombin is converted to thrombin, which acts on fibrinogen to produce fibrin. **SEE: illus.**

coagulator (kō-äg'ū-lăt'ōr) **1.** A surgical device that utilizes electrical current, light energy, ultrasound, etc., to stop bleeding. **2.** A pharmacological substance used to induce hemostasis or solidification of proteinaceous fluids.

argon beam c. A surgical instrument used to cut or cauterize tissues, which relies on a jet of argon gas to carry electrons into the operative field.

infrared c. A surgical instrument that focuses infrared light energy to cut or damage tissues or to stop bleeding. The device has been used in skin surgery, hair transplantation, ablation of abnormal cardiac conduction pathways, and treatment of internal hemorrhoids, among other applications.

microwave c. A surgical instrument that focuses microwave energy through an antenna to cut or cauterize tissue. The device can be used in open or laparoscopic surgeries.

coagulopathy (kō-äg'ū-lōp'ā-thē) [*"* + *Gr. pathos, disease, suffering*] A defect in blood-clotting mechanisms. **SEE: coagulation, blood.**

consumption c. Disseminated intravascular coagulation.

coagulum (kō-äg'ū-lūm) *pl.* **coagula** [*L. coagulatio, clotting*] A coagulated mass, clot, or precipitate.

coalesce (kō-äl-ēs') [*L. coalescere*] To fuse; to run or grow together.

coalescence (kō-äl-ēs'ēns) The fusion or growing together of two or more body parts.

coal worker's pneumoconiosis **ABBR:** CWP. A form of pneumoconiosis in which carbon and silica accumulate in the lungs as a result of breathing coal dust. **SYN:** *black lung.*

coapt (kō'āpt) [*L. coaptare, to fit together*] To bring together, as in suturing a laceration.

coaptation (kō'āp-tā'shūn) [*L. coaptare, to fit together*] The adjustment of separate parts to each other, as the edges of fractures.

CoARC (kō'ārk") *Committee on Accreditation for Respiratory Care.*

coarctate (kō-ārk'tāt) [*L. coarctare, to tighten*] To press together; pressed together.

coarctation (kō'ārk-tā'shūn) **1.** Compression of the walls of a vessel. **2.** Shriveling. **3.** A stricture.

c. of the aorta A localized congenital malformation resulting in narrowing of the aorta, often resulting in hypertension. Surgical correction of the obstruction may cure high blood pressure in affected patients.

coarctotomy (kō'ārk-tōt'ō-mē) [*"* + *Gr. tome, incision*] Cutting or dividing of a stricture.

COart (kō'ārt") *Cardiac output, measured by thermodilution methods in the aorta.*

coat [*L. cotta, a tunic*] A covering or a layer in the wall of a tubular structure, as the inner coat (tunica intima), middle coat (tunica media), or outer coat (tunica adventitia) of an artery.

coating (kōt'ing) **1.** A layer applied to or covering a surface. **2.** A film.

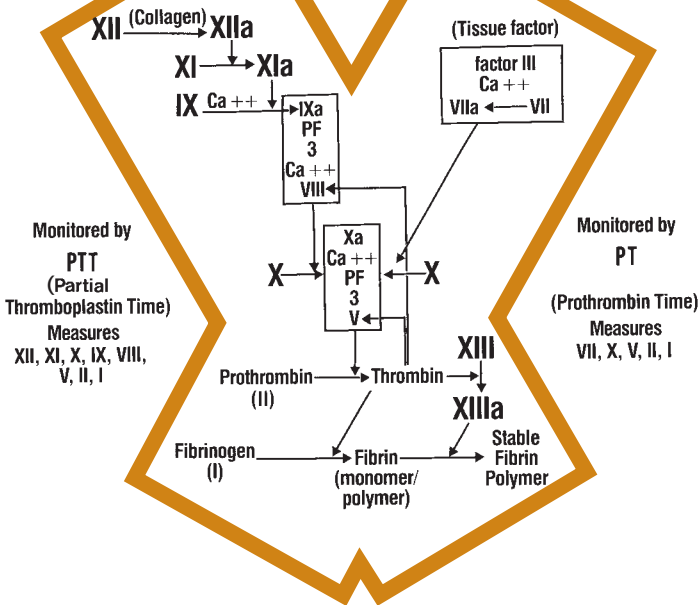
Coats' disease (kōtz) [George Coats, Brit. ophthalmologist, 1876–1915] A congenital, unilateral nonhereditary disorder of the retina characterized by aneurysmal dilation of blood vessels with prominent subretinal exudate. This term is used to describe at least six separate retinal disorders.

cobalamin (kō-bāl'ā-mīn) Another name for vitamin B₁₂, a complex molecule containing one atom of cobalt. **SEE: cyanocobalamin.**

cobalt (kō'bält) **SYMB:** Co. A gray, hard, ductile metallic chemical element; atomic weight 59.933, atomic number 27, specific gravity 8.9. Cobalt deficiency causes anemia in ruminants, but this has not been demonstrated in humans. Cobalt is an essential element in vitamin B₁₂. Cobalt stimulates production of

INTRINSIC SYSTEM

EXTRINSIC SYSTEM



COAGULATION CASCADE

red blood cells, but its use as a therapeutic agent is not advised. In children, cobalt overdose may cause death. In adults, it may cause anorexia, nausea, vomiting, deafness, and thyroid hyperplasia with resultant compression of the trachea.

cobalt-57 A radioactive isotope of cobalt with a half-life of 272 days.

cobalt-60 A radioactive isotope of cobalt, used as a source of beta and gamma rays in treating malignancies. It has a half-life of 5.27 years.

Coban Trade name for a self-adherent compression bandage used for protection and edema control. Also called *Coban wrap*.

Cobb angle (kōb) The angle formed by the intersection of two lines drawn on a spinal radiograph of a person (usually a child or adolescent) suspected of having scoliosis. One line is drawn parallel to the lower surface of the lowest affected vertebral body, and the other is drawn parallel to the upper surface of the highest affected body. Angles of greater than 10% are diagnostic of scoliosis.

COBRA (kō'brā) *Consolidated Omnibus Reconciliation Act*.

cobra (kō'brā) Any one of a group of poisonous snakes of the genus *Naja*, native to parts of Africa, Asia, and Australia.

COBS *cesarean-obtained barrier-sustained*.

COCA An acronym meaning *color; odor; consistency; amount*; used to guide assessment of any type of drainage from the body.

coca (kō'kā) Dried leaves of the shrub *Erythroxylum coca*, from which several alkaloids including cocaine are obtained.

cocaine (kō-kān') Cocaine hydrochloride.

cocaine baby An infant exposed to cocaine in utero through maternal use of the drug. Cocaine crosses the placenta by simple diffusion and enters the fetal circulation. This occurs because of its high lipid solubility, low molecular weight, and low ionization at physiological pH.

CONSEQUENCES: Cocaine is significantly vasoconstrictive, decreasing blood flow to the placenta and fetus. Cocaine abuse during pregnancy has been correlated with birth defects, intrauterine growth retardation, and perinatal death related to premature separation of the placenta (abruptio placentae), preterm labor and delivery, low birth weight, and sudden infant death syndrome.

In addition, cocaine use by the father

at the time of conception may have a negative effect on sperm quality.

PATIENT CARE: Since cocaine-dependent newborns often experience a significant and agonizing withdrawal syndrome that can last 2 to 3 weeks, they require continual assessment and evaluation. During the withdrawal period, patient care measures are instituted to effect the following outcomes: that the infant maintain an open airway and breathe easily, with adequate oxygen intake, independent respiratory effort, and adequate tissue perfusion; that the infant relax and sleep; that crying diminish; that the infant be able to remain asleep for 3- to 4-hr periods; that the infant recover from seizures with minimal or no sequelae; that the infant ingest and retain sufficient fluids for hydration and nutrients for growth; and that the infant's skin remain intact and free from infection.

The parents and significant others are an important part of the care plan. The mother requires considerable support because her need for and abuse of drugs result in decreased coping abilities. The newborn's withdrawal symptoms, decreased consolability, and poor interactive behavior put even more stress on the mother's ability to cope. Home health care, treatment for addiction, and education are important considerations. Health care providers explore, with the mother, options for care of herself and her infant and for future fertility management, employing a sensitive approach that communicates respect for the patient and her ability to make responsible decisions. Depending on the scope of the patient's drug abuse problem, total prevention may be unrealistic; however, the parent is referred for education and social supports to provide opportunities for detoxification and abstinence. If the infant is in the mother's care, inclusion in the support program has been shown to be beneficial to both. Because the newborn's dependence is physiological, not psychological, no predisposition to later dependence is thought to be present. The psychosocial environment in which the infant is raised, however, may predispose the baby to addiction. The infant must be referred for child welfare follow-up assessment, evaluation, and action, which may include removing the infant from the birth mother's care temporarily or permanently. SEE: *infant of substance-abusing mother*.

cocaine hydrochloride (kō-kān', kō-kān) The hydrochloride of an alkaloid obtained from the shrub *Erythroxylum coca*, native to Bolivia and Peru and cultivated extensively in South America. Cocaine is classed as a drug of abuse when used for nonmedical purposes.

"Street" names for cocaine include snow, coke, crack, lady, flake, gold dust, green gold, blow, and toot. Medically it is used as a topical anesthetic applied to mucous membranes. SYN: *cocaine*. SEE: *crack*; *free base*; *freebasing*.

cocaine hydrochloride poisoning, acute SEE: *under poisoning*.

cocainism (kō'kān-izm) The habitual use of cocaine. SEE: *cocaine hydrochloride poisoning, acute*.

cocainization (kō'kān-ī-zā'shūn) The use of cocaine to induce analgesia.

coccarboxylase (kō'kār-bōk'sī-lās) Thiamine pyrophosphate.

cocarcinogen (kō-kār'sī-nō-jěn") A chemical or environmental factor that enhances the action of a carcinogen, the end result being the development of a malignancy.

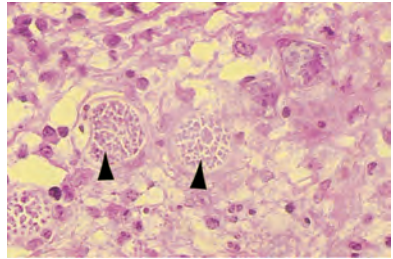
coccal (kōk'āl) Pert. to or caused by cocci.

cocci (kōk'sī) Pl. of coccus.

Coccidia (kōk-sīd'ē-ā) [Gr. *kokkos*, berry] A subclass of the phylum Apicomplexa (apical microtubule complex) of the kingdom Protista. All are intracellular parasites usually infecting epithelial cells of the intestine and associated glands.

coccidian (kōk-sīd'ē-ān) 1. Pert. to Coccidia. 2. Any member of the order Coccidia.

Coccidioides (kōk'sīd'ē-oyd'ēz) [" + "] A genus of fungi with only one species, *Coccidioides immitis*, that is pathogenic for humans. SEE: *illus*; *coccidioidomycosis*.



COCCIDIODES IMMITIS SPHERULES

(Orig. mag, ×450)

coccidioidin (kōk'sīd'ē-oy'dīn) An antigenic substance prepared from *Coccidioides immitis*. It is used as a skin test in diagnosing coccidioidomycosis.

coccidioidomycosis (kōk-sīd'ī-oyd-ō-mī-kō'sīs) [" + *eidosis*, form, shape, + *mykes*, fungus, + *osis*, condition] Infection with the pathogenic fungus, *Coccidioides immitis*, a spore-forming pathogen found in soil. Spores from the fungus (called arthroconidia) circulate in the air when the soil is disturbed, e.g., during construction, dust storms, or earthquakes. Persons who inhale the

spores may develop active or subclinical infection. SYN: *San Joaquin valley fever*. SEE: *Nursing Diagnoses Appendix*.

Approx. 80% of people in the southwestern and western states have positive skin test reactions, which identify those infected. The infection is common among migrant farm workers, construction workers, and others who disturb soil. Usually infection is asymptomatic and requires no treatment. In approx. 10% of patients, fever, cough, pleurisy, or rashes such as erythema multiforme occur. Granulomas may be seen on the chest x-ray of patients with fungal pneumonia. Systemic infection involving the skin and meninges of the brain with abscesses forming throughout the body occurs in less than 1% of patients but is often fatal. This disseminated form is more common in pregnant women and the immunosuppressed. Affected patients are treated with long-term fluconazole, itraconazole, ketoconazole, or with amphotericin B; these drugs have a 50% to 70% success rate.

DIAGNOSIS: Diagnostic testing for the disease includes collecting blood, sputum, pus from lesions, and tissue for biopsy, using strict secretion precautions. An initial skin test also is administered, as both the primary and disseminated forms produce a positive coccidioidin skin test. A rising serum or body fluid antibody titer indicates dissemination. Additional testing may involve pleural, spinal, and joint fluid for the presence of antibodies. After diagnosis, serial skin testing, blood cultures, and serological testing are performed to help document the effectiveness of therapy. The patient is cautioned not to wash off the circle marked on the skin for serial testing, as it aids in reading test results.

TREATMENT: Most patients with primary infection recover without therapy. Patients with disseminated disease may be treated with intravenous amphotericin, or with a variety of azole antifungals, such as fluconazole or voriconazole.

PROGNOSIS: For primary infection, the prognosis is favorable. Disseminated disease is often fatal.

PATIENT CARE: In mild primary disease, bedrest and adequate fluid intake are encouraged. The patient is monitored for shortness of breath. If arthralgia is present, prescribed analgesics are administered. Standard precautions are observed by health care professionals. If the patient has draining lesions, the patient and family are taught about strict secretion precautions, including the "no touch" dressing technique and careful hand hygiene. In central nervous system (CNS) dissemination, the patient is monitored closely for decreased level of

consciousness or change in mood or affect.

Before intrathecal administration of amphotericin B, the procedure is explained to the patient, who is reassured that he or she will receive a local anesthetic before lumbar puncture. If the patient is prescribed amphotericin B intravenously, a test dose is administered as prescribed; if tolerated, the treatment dose is infused slowly (rapid infusion may result in circulatory collapse). The dosage (but not the rate) is increased gradually as prescribed. During the infusion, the patient's vital signs are monitored. Temperature may rise and the patient may experience shaking chills and hypotension 1 to 2 hr after the infusion is initiated, but these should subside within 4 hr after the infusion is completed. Fluid intake and output are assessed, with any oliguria or anuria noted. Laboratory results are evaluated for elevated blood urea nitrogen and creatinine levels and hypokalemia. To ease adverse reactions to amphotericin B, antiemetics, antihistamines, and antipyretics or small doses of corticosteroids are administered as prescribed. The patient is warned to report immediately any hearing loss, tinnitus, dizziness, headache, blurred vision, diplopia, and breathing difficulty. Laboratory findings are also monitored for blood dyscrasias and liver failure. The patient is monitored for any seizures, cardiac arrhythmias, respiratory distress, hemorrhagic gastroenteritis, drug extravasation, and anaphylactoid reactions. The patient is informed that therapy may take several months, and the importance of cooperating with the treatment regimen and recommended follow-up studies is emphasized.

coccidiosis (kōk-sīd-ē-ō'sīs) [*"* + *osis*, condition] Any disease resulting from infestation with *Coccidia*. SEE: *Coccidia*.

Coccinia indica (kōk-sīn'ē-ā īn-dī'kā) The climbing ivy gourd, used in ayurvedic medicine to treat diabetes mellitus. Ingestion of an extract made from its dried leaves, often mixed with the dried roots of *Abroma augusta*, lowers blood sugars.

coccobacilli (kōk'ō-bā-sīl'ī) Bacilli that are short, thick, and somewhat ovoid. SEE: *bacterium* for *illus*.

coccobacteria (kōk'ō-bāk-tē'rē-ā) **1.** Spherical-shaped bacteria. **2.** Any kind of cocci.

coccogenous (kōk-ōj'ēn-ūs) [Gr. *kokkos*, berry, + *gennan*, to produce] Produced by cocci.

cocoid (kōk'oyd) [*"* + *eidosis*, form, shape] Resembling a micrococcus.

coccus (kōk'ūs) *pl.* **cocci** [Gr. *kokkos*, berry] A bacterial type that is spherical

or ovoid. When cocci appear singly, they are designated micrococci; in pairs, diplococci; in clusters like bunches of grapes, staphylococci; in chains, streptococci; in cubical packets of eight, sarcinae. Many are pathogenic, causing such diseases as strep throat, erysipelas, scarlet fever, rheumatic fever, pneumonia, gonorrhoea, meningitis, and purperal fever. SEE: *bacterium*.

coccyalgia, coccydynia (kōk'sē-äl'jē-ä, kōk'sē-dīn'ē-ä) [Gr. *kokkyx*, coccyx, + *algos*, pain, + *odyne*, pain] Pain in the coccyx. SYN: *coccygodynia*.

coccygeal (kōk-sij'ē-äl) Pert. to or in the region of the coccyx.

coccygeal body An arteriovenous anastomosis at the tip of the coccyx formed by the middle sacral artery. SYN: *glomus coccygeum*.

coccygeal nerve The lowest of the spinal nerves; one of the pair of nerves arising from the coccygeal section of the spinal cord and entering the pudendal plexus.

coccygectomy (kōk'sī-jēk'tō-mē) [" + *ektome*, excision] Excision of the coccyx.

coccygeus (kōk-sij'ē-ūs) Pert. to the coccyx.

coccygodynia (kōk-sī-gō-dīn'ē-ä) [" + *odyne*, pain] Coccyalgia.

coccyx (kōk'sīks) [Gr. *kokkyx*, coccyx] A small bone at the base of the spinal column in humans, formed by four fused rudimentary vertebrae. It is usually ankylosed and articulated with the sacrum above.

cochineal (kōch'in-ēl) [L. *coccinus*, scarlet] A dried female insect, *Coccus cacti*, previously used as a dye.

cochlea (kōk'lē-ä) [Gr. *kokhlos*, land snail] A winding cone-shaped tube forming a portion of the bony labyrinth of the inner ear. It contains the organ of Corti, the receptor for hearing.

The cochlea is coiled, resembling a snail shell, winding two and three quarters turns about a central bony axis, the modiolus. Projecting outward from the modiolus, a thin bony plate, the spiral lamina, partially divides the cochlear canal into an upper passageway, the scala vestibuli, and a lower one, the scala tympani. Between the two scalae is the cochlear duct, the auditory portion of the membranous labyrinth. The spiral organ (of Corti) lies on its floor. The base of the cochlea adjoins the vestibule. At the cupola or tip, the two scalae are joined at the helicotrema. SEE: *illus. cochlear* (-är), *adj.*

cochlear implant An electrical device that receives sound and transmits the resulting signal to electrodes implanted in the cochlea. That signal stimulates the cochlea so that hearing-impaired persons can perceive sound.

cochlear nerve The division of the vestibulocochlear nerve (eighth cranial nerve)

that supplies the cochlea. SEE: *vestibulocochlear nerve*.

cochleitis (kōk'lē-ī'tīs) [Gr. *kokhlos*, land snail, + *itis*, inflammation] Inflammation of the cochlea.

cochleo-orbicular reflex (kōk'lē-ō-ör-bīk'ü-lär) Cochleopalpebral reflex.

cochleopalpebral reflex (kōk'lē-ō-päl'pé-bräl) Contraction of the orbicularis palpebrarum muscle resulting from a sudden noise produced near the ear. SYN: *cochleo-orbicular reflex*.

cochleovestibular (kōk'lē-ō-vēs-tīb'ü-lär) [" + L. *vestibulum*, vestibule] Pert. to the cochlea and vestibule of the ear.

Cochrane Review (kōk'rīn) An evidence-based, systematic review of published health care research performed by an international group of academics who study the effectiveness of medical treatments (The Cochrane Collaboration, headquartered in Canada). Used to identify the efficacy of procedures, techniques, and devices. Website: www.cochrane.org.

Cockayne syndrome (kō-kān') [Edward A. Cockayne, Brit. physician, 1880–1956] A congenital syndrome characterized by dwarfism, gait disturbance, microcephaly, ocular atrophy, photosensitivity, and premature aging.

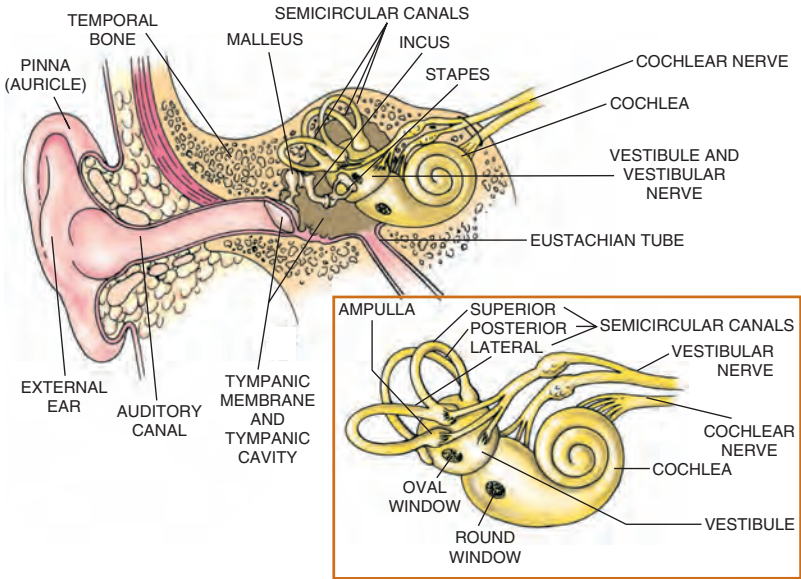
Cockcroft-Gault formula A calculation used to estimate creatinine clearance based on age, weight, serum creatinine, and gender. Estimated creatinine clearance may be used to adjust dosages of renally excreted drugs. This formula is commonly used to adjust dosages for adult patients because their serum creatinine level may be a poor indicator of renal function. Because of decreased muscle mass in elderly patients, the serum creatinine level is a poor indicator of renal function; therefore this formula is used to adjust dosages. For men the formula is $(140 - \text{age}) (\text{weight in kg}) / 72 \times \text{serum creatinine}$. For women, this result is multiplied by the factor 0.85.

cockroach (kōk'rōch") [Sp. *cucaracha*] *Blatta orientalis*, a common insect of the order Orthoptera that infests homes and food handling and storage places. It may transmit bacteria, protozoan cysts, and helminth ova to human food. It is also a common cause of household allergies and asthma.

cock-up toe A toe deformity with dorsiflexion of the metatarsophalangeal joint and flexion of the interphalangeal and distal interphalangeal joints. SEE: *hammer toe*.

cocoa butter (kō'kō") Theobroma oil; the fat obtained from the roasted seed of *Theobroma cacao*. It is used as a base in suppositories and as a topical skin lubricant.

coconsciousness (kō-kōn'shūs-nēs) Awareness of objects, ideas, or thoughts at the fringe of consciousness.



COCHLEA

(In relation to the inner ear and outer auditory apparatus)

cocontraction (kō'kōn-trāk'shūn) A condition in which muscles around a joint or the spinal column contract simultaneously to provide stability.

coconut "water" [Sp. and Port. *coco*, coconut, + Eng. *nut*] The liquid obtained from an unripe coconut. The mineral, electrolyte, and osmolar composition of the fluid varies with the species of coconut, maturation of the fruit, and location in which it was grown. Nonetheless, it has been used to treat fluid volume losses that occur in diarrheal illnesses.

code (kōd) **1.** A collection of rules and regulations or specifications. **2.** A set of symbols that communicate information or conceal it from people not familiar with the true meaning of the symbols. **3.** A form of message used in transmitting information in a hospital, esp. when the information is broadcast over a public address system (e.g., "code blue" or "code 9" could indicate a particular type of emergency to an emergency care team). SEE: table; *code cart*; *code drug*. **4.** A system of symbols that represents information contained in a computer data bank.

bar c. A parallel array of alternately spaced black bars and white spaces representing a coded number, numbers, or letters, depending on the format employed. It is used clinically for patient sample identification.

civil c. Comprehensive written organization of general rules and regula-

tions authorized by the legislature, based on Roman, Spanish, and French civil law. In the U.S., the judicial system that presides over health care issues and lawsuits is governed by the civil code in Louisiana only and by common law in other states.

c. of ethics A summary (sometimes in written form) of a profession's values and standards of conduct.

genetic c. The sequence of bases in the DNA of living cells that provides the instructions for the synthesis of polypeptides (proteins) from amino acids. These instructions are contained in 64 nucleotide triplet sequences, called codons, 61 of which specify the 20 amino acids present in proteins and 3 of which halt the addition of amino acids to a polypeptide being synthesized. These three triplets are called *termination codons*. The genetic code is the same in all living things, except that in some viruses and fungi, it is contained in RNA rather than DNA.

pacemaker c. A code of three to five letters to describe pacemaker type and function. The first letter indicates the chamber(s) paced: V for ventricle pacing, A for atrial pacing, and D for dual chamber (i.e., both atrial and ventricular) pacing. The second letter indicates the chamber from which electrical activity is sensed (i.e., A for atrium, V for ventricle, or D for dual sensing). Other notations indicate the response to a sensed electrical signal: none, inhibi-

Hospital Emergency Codes

| Type of Emergency | Commonly Used Hospital Paging Terminologies | Services Needed |
|--|--|--|
| Adult needing life support | Code Blue; Code 99 | Advanced cardiac life support |
| Bioterrorism alert | Code Zebra | Treat as Mass Casualty Incident; notify Department of Homeland Security and State Health Department |
| Bomb threat | Code Black; Code Yellow; Code 10 | Evacuation of building; security staff; local police and fire departments |
| Doctor needed urgently | Code Green | Presence of available medical staff — often, Emergency Department or Intensive Care Unit physicians |
| Fire in the facility | Code Red | Available maintenance and security staff; fire extinguishers |
| Infant abduction | Code Stork (Sometimes called Code Pink, but see below) | Blockade of all entries to and exits from the hospital |
| Infant requiring life support | Code Pink | Practitioners trained in neonatal or pediatric life support |
| Multiple Casualty Incident | Code Triage; Code Amber | All available personnel to assist in triaging and treating the sick and wounded; hospital-wide emergency strategies implemented. |
| Potentially violent person on premises | Code Strong; Doctor Strong; Code Grey; Code Silver; Code North | Show of force by security personnel and others; hospital supervisor |

tion, triggering of pacing, and dual response that may inhibit or trigger pacing in the atrium, ventricle, or both.

slow c. A colloquial term for the use of advanced cardiac life support with little if any intent to restore cardiopulmonary or neurological function. In some instances, slow resuscitative efforts are made when professional staff and moribund patients differ with respect to their interpretation of the appropriateness of end of life care. The practice, at best, rests on dubious moral and legal grounds. An alternate term, the “Hollywood Code,” implies that the rescue attempt is made as a pretense.

triplet c. In DNA or mRNA, the sequence of three nucleotides that is the code for a particular amino acid. The triplet sequence controls the amino acid sequence during protein synthesis.

code cart A container or cart that can easily and quickly be moved to a patient who has suddenly developed a life-threatening emergency. Supplies should always be replenished and arranged so that the most frequently used first-line drugs and equipment are readily available. Powered equipment, such

as a defibrillator, is tested regularly to be certain it is functioning properly. SEE: *basic life support; code (3)*.

Code for Nurses A statement by the American Nurses Association to guide nurses in their legal and ethical practice.

The nurse, in all professional relationships, practices with compassion and respect for the inherent dignity, worth, and uniqueness of every individual, unrestricted by considerations of social or economic status, personal attributes, or the nature of health problems.

The nurse’s primary commitment is to the patient, whether an individual, family, group, or community.

The nurse promotes, advocates for, and strives to protect the health, safety, and rights of the patient.

The nurse is responsible and accountable for individual nursing practice and determines the appropriate delegation of tasks consistent with the nurse’s obligation to provide optimum patient care.

The nurse owes the same duties to self as to others, including the respon-

sibility to preserve integrity and safety, to maintain competence, and to continue personal and professional growth.

The nurse participates in establishing, maintaining, and improving health care environments and conditions of employment conducive to the provision of quality health care and consistent with the values of the profession through individual and collective action.

The nurse participates in the advancement of the profession through contributions to practice, education, administration, and knowledge development.

The nurse collaborates with other health professionals and the public in promoting community, national, and international efforts to meet health needs.

The profession of nursing, as represented by associations and their members, is responsible for articulating nursing values, for maintaining the integrity of the profession and its practice, and for shaping social policy.

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codeine (kō'dēn) An alkaloid obtained from opium or synthetically from morphine as methylmorphine. It is used as an analgesic, a cough suppressant, or a sedative/hypnotic drug. Common side effects include nausea, constipation, itching, or confusion. Tolerance or dependence on codeine may develop with regular use.

codependency (kō'dē-pēn'dēn-sē) **1.** In psychology, unintentional or conscious reinforcement of another person's addictive or self-destructive behaviors. **2.** In biology, symbiosis.

coding **1.** In billing for medical services, the grouping of medical diagnoses within an established category, usually with standard symbols such as those in the International Classification of Diseases. **2.** The process of writing computer program instructions to process data and produce the output specified in program design.

cod liver oil An oil obtained from codfish liver, which is rich in vitamins A and D.

ACTION/USES: Cod liver oil was widely used in cases of nutritional deficiency to supply vitamins A and D, esp. for prophylaxis of rickets in infants. It is rarely used now because more efficient and more palatable agents are available.

Codman's exercise (kōd'mānz) A gentle, circular exercise of the upper extremity following immobilization to re-establish glenohumeral joint range of

motion and function following trauma. Also called *Codman's movements*. SYN: *pendulum exercise*.

codocyte (kō'dō-sīt") Target cell.

codon (kō'dōn) A sequence of three bases in a strand of DNA or mRNA (messenger RNA) that is the genetic code for a specific amino acid.

coefficient (kō'ē-fish'ēt) **1.** In chemistry, a numeral put before a chemical formula or compound to indicate the number of molecules of that substance taking part in the chemical reaction. **2.** An expression of the ratio between two different quantities, or the effect produced by varying certain factors.

activity c. **1.** A factor used in potentiometry to describe the activity of free ions in solution. **2.** A vitamin deficiency factor that describes the enhancement of enzyme activity after saturation with a vitamin.

attenuation c. The calculated remainder of the x-ray beam that is received by the detectors in a computed tomography (CT) unit. This value is used to determine the CT (Hounsfield) number.

diffusion c. The number of milliliters of gas at 1 atmosphere of pressure that will diffuse a distance of 1 μm over 1 sq cm/min.

c. of absorption The volume of gas absorbed by a unit volume of a liquid at 0°C and a pressure of 760 mm Hg.

c. of elastic expansion The volumetric expression in cubic centimeters of a compressed gas cylinder under hydrostatic test conditions.

c. of thermal expansion The change in the dimensions of a material when its temperature is raised 1°C. In dentistry, if the relative expansion and contraction of restorative materials, casts, or appliances are not accounted for, the patient may have problems with improper fitting, microleakage, or adhesive debonding.

c. of variation Analytical variability expressed as the standard deviation's percentage of the mean. This mode of expressing the analytical variability enables one to determine if the variability proportion changes with the actual value. It is typically a useful tool when there is a relatively large dynamic range for the quantity being measured. It is subject to misinterpretation if applied to numbers that have already been mathematically manipulated, such as logarithms.

Coelenterata (sē-lēn'tēr-ā'tā) A phylum of invertebrates that includes corals, hydras, jellyfish, and sea anemones. Contact with some species can result in sting injuries. SEE: *bite; sting*.

coelom (sē'lōm) [Gr. *kōiloma*, a cavity] The cavity in an embryo between the split layers of lateral mesoderm. In

mammals it develops into the pleural, peritoneal, and pericardial cavities. SYN: *body cavity*.

extraembryonic c. In humans, the cavity in the developing blastocyst that lies between the mesoderm of the chorion and the mesoderm covering the amniotic cavity and yolk sac.

coenocyte (sē'nō-sīt, sēn'ō-sīt) [Gr. *koīnos*, common, + *kytos*, cell] A multinucleated mass of protoplasm; a mass of protoplasm in which there are no cell membranes between the nuclei. SYN: *syncytium*.

coenzyme (kō-ēn'zīm) [L. *co-*, together, + Gr. *en*, in, + *zyme*, leaven] An enzyme activator; a diffusible, heat-stable substance of low molecular weight that, when combined with an inactive protein called apoenzyme, forms an active compound or a complete enzyme called a holoenzyme (e.g., adenylic acid, riboflavin, and coenzymes I and II).

coenzyme A A derivative of pantothenic acid, important as a carrier molecule for acetyl groups in many reactions including the Krebs cycle and the oxidation of fatty acids.

coenzyme Q A dietary supplement promoted by alternative medicine practitioners as an antioxidant, and a treatment for gingivitis and heart diseases.

coenzyme Q10 ABBR: CoQ10. A vitamin-like substance which can be synthesized from tyrosine in a multistep process. It is a coenzyme for several mitochondrial enzymes involved in ATP production. Coenzyme Q10 is also known as ubiquinone. It is promoted as an antioxidant dietary supplement.

coexcitation (kō-ēk-sī-tā'shūn) [*excitare*, to arouse] Simultaneous excitation of two parts or bodies.

cofactor (kō'fāk-tor) **1.** A biochemical or physiological agent that produces an effect in conjunction with other agents. **2.** One of several agents in the development of an illness or epidemic.

coffee (kō'fē) The beverage made from the seed of trees of the genus *Coffea*, called coffee beans. Coffee has a 2500-year history of consumption. It contains numerous volatile and nonvolatile compounds, including caffeine and cafestol. Moderate consumption of caffeine is not a risk factor for cardiovascular disease, birth defects, breast disease, or cancer.

Coffin-Lowry syndrome (kōf'in low'rē) A rare, X-linked genetic syndrome characterized by abnormalities of the head, face, and axial skeleton; mental retardation; short stature; and weak muscle tone.

-cog (kōg) A suffix used in pharmacology to designate any marketed blood-clotting factor.

Cogan's syndrome (kō'gāns) [David G. Cogan, U.S. ophthalmologist, 1908–1993] Interstitial keratitis associated

with tinnitus, vertigo, and usually deafness.

cognition (kōg-nīsh'ūn) [L. *cognoscere*, to know] Thinking skills, including language use, calculation, perception, memory, awareness, reasoning, judgment, learning, intellect, social skills, and imagination. **cognitive** (kōg'nī-tīv), *adj.*

cognitive psychology The study of the processes of reasoning and decision making.

cognitive restructuring Any psychological method used to remove negative thoughts or irrational roadblocks that harm a person's emotional health.

cognitive retraining Restoring analytical skills, decision making, memory, and reasoning through stimulation and practice. SYN: *rehabilitation, cognitive*.

cognitive science The study of memory, information processing, algorithm use, hypothesis formation, and problem solving in human and computer systems.

Cohen syndrome A rare autosomal recessive disease characterized by small head size, mental retardation, poor muscle tone, visual disturbances, joint laxity, and low white blood cell counts.

coherent (kō-hēr'ēt) [L. *cohaerere*, to stick together] **1.** Sticking together, as parts of bodies or fluids. **2.** Consistent; making a logical whole.

cohesin (kō-hē'sīn) [*cohaerere*] A protein complex that binds sister chromatids to each other. It releases them during mitosis, contributes to gene expression and the repair of DNA, and has other cellular functions.

cohesion (kō-hē'zhūn) The property of adhering.

cohesive (kō-hē'sīv) Adhesive; sticky.

Cohnheim's areas (kōn'hīmz) [Julius Friedrich Cohnheim, Ger. pathologist, 1839–1884] One of the irregular groups of fibrils seen in a cross section of a striated muscle fiber.

cohort (kō'hawrt) A selected group of people born during a particular period and traced through life during successive time and age periods.

patient c. Any group of individuals affected by common diseases, environmental or temporal influences, treatments, or other traits whose progress is assessed in a research study.

cohort analysis Cohort study.

cohort study In epidemiology, tabulation and analysis of morbidity or mortality in a cohort, identified at a particular time and followed as they pass through part or all of their life span. SYN: *cohort analysis*.

coil (koyl) **1.** A continuous material such as tubing, rope, or a spring arranged in a spiral, loop, or circle. **2.** An antenna used to generate a magnetic field (e.g., in magnetic resonance imaging devices).

coin counting A sliding movement of the tips of the thumb and index finger over each other. This may occur in Parkinson's disease. Also called *pill rolling*.

coinfection (kō'in-fēk'shīn) [" + "] Simultaneous infection with two or more microorganisms, e.g., with the human immunodeficiency virus (HIV) and mycobacterium tuberculosis (TB).

coining (koy'nīng) **1.** A traditional health practice in which a heated coin is placed or rubbed on the skin (to treat conditions such as asthma). A health care provider who is unaware of this practice could erroneously attribute the lesions caused by coining to physical abuse. SYN: *cao gio*. **2.** In biomedical engineering, a cold-working process used to improve the strength of metals used for biological purposes (e.g., nails used in orthopedic surgeries).

coin test A test for pneumothorax. A metal coin is placed flat on the chest and struck with another coin. The chest is auscultated at the same time. If a pneumothorax is present, a sharp, metallic ringing sound is heard.

coitarche (kō'it-ār'kē) Age at first sexual intercourse.

coition (kō-ish'ūn) [L. *coire*, to come together] Coitus.

coitophobia (kō'i-tō-fō'bē-ā) [" + Gr. *phobos*, fear] Morbid fear of sexual intercourse.

coitus (kō'i-tūs) Sexual intercourse between a man and a woman by insertion of the penis into the vagina. SYN: *coition*; *copulation*; *sexual intercourse*. **coital** (-tāl), *adj.*

c. interruptus Coitus with withdrawal of the penis from the vagina before seminal emission occurs. This is not an effective method of contraception.

c. reservatus Coitus with intentional suppression of ejaculation.

c. Saxonius Coitus with manual pressure placed either on the urethra at the underside of the penis or in the perineum to block the emission of semen at ejaculation; also called the squeeze technique. It is used to prevent premature ejaculation.

col (kōl) The nonkeratinized, depressed gingival tissue that lies between adjacent teeth; it extends labiolingually between the interdental papillae below the interproximal contact of the teeth.

col-, colo- Combining forms meaning *colon*.

Cola, kola (kō'lā) [W. African *kola*] A genus of tropical trees that produce the kola nut. A kola nut extract is used in pharmaceutical preparations and as a main ingredient in some carbonated beverages.

colation (kō-lā'shūn) [L. *colare*, to strain] Straining, filtering.

colchicine (kōl'chī-sīn) A medicine used principally to treat and prevent gout. One common side effect of the drug is diarrhea.

COLD *chronic obstructive lung disease*. SEE: *chronic obstructive pulmonary disease*.

cold [AS. *ceald*, cold] **1.** A general term for coryza or inflammation of the respiratory mucous membranes known as the common cold. **2.** Lacking heat or warmth; having a low temperature; the opposite of heat.

chest c. Acute bronchitis.

common c. An acute infection of any or all parts of the respiratory tract from the nasal mucosa to the nasal sinuses, throat, larynx, trachea, and bronchi. Common colds occur in most people, usually at least once a year. They are more common in smokers and in children than in healthy adults. The common cold causes more loss of work and school time than any other ailment.

The contagious period begins before the onset of symptoms. Causative viruses are distributed to others by sneezing (aerosolization) and by direct contact with nasal secretions. The incubation period is typically from 12 to 72 hr.

ETIOLOGY: Most colds are caused by rhinoviruses, adenoviruses, coronaviruses, coxsackieviruses, influenza viruses, parainfluenza viruses, or respiratory syncytial viruses.

SYMPTOMS: The common cold is marked by swelling of the nasal mucosa with increased mucus production that may occlude the nasal passages. Sneezing, lacrimation, a sore or scratchy throat, hoarseness, cough, colorful sputum, headache, chills, and malaise are also common. Symptoms usually resolve within 2 days to 2 weeks. If a cold lasts longer than 10 days, or is accompanied by fever or systemic symptoms, it is advisable to consult a health care provider. Persons with chronic diseases, such as diabetes or heart or lung disease, should consult a health care provider if a cold is severe, is accompanied by fever, or lasts more than 10 days.

CONTAGIOUSNESS: The virus may be present in the nasal secretions for a week or longer after the onset of symptoms.

cold agglutinin disease Any of a group of disorders marked by hemolytic anemia, obstruction of the microcirculation, or both. It is caused by agglutination of red blood cells by immunoglobulins that precipitate at cool or cold temperatures. The most common symptom is Raynaud's phenomenon. Cold agglutinin disease often occurs transiently after infection with *Mycoplasma pneumoniae* or

Epstein-Barr virus. Often the cause is idiopathic.

cold compression therapy unit ABBR: CCT unit. A cooling jacket that simultaneously delivers cold therapy and static compression to an extremity, joint, or other body part. Water is chilled in an external container to a temperature of 45° to 55°F (7.2° to 12°C) and is then circulated through a circumferentially applied compression device. CCT units are used immediately after surgery or joint injury to control swelling and reduce pain. SYN: *controlled cold therapy unit*.



This device should not be used with patients who have known contraindications to cold application or external compression (e.g., peripheral vascular disease, Raynaud's phenomenon, advanced diabetes, or neurological insufficiency).

cold cream A water-in-oil emulsion ointment base used on the skin.

cold-damp Foggy vapor in a mine charged with carbon dioxide.

cold ischemia time ABBR: CIT. The time that an organ that has been surgically removed for transplantation into a recipient remains in a chilled perfusion solution before engraftment.

cold knife surgery (kōld nīf sūr'jā-rē) Conventional surgery (i.e., surgery with a simple metallic blade or scalpel).

cold pressor test A test that measures blood pressure and heart rate response to the immersion of one hand in ice water.

cold spray, cold spray (kōld-sprā) **1.** An aerosol used to lower the temperature and thus harden thermoplastic splinting material during fitting or molding. **2.** A vaporized chemical such as ethyl chloride or fluoromethane used to produce rapid cooling of the skin.

cold stress SEE: *hypothermia*.

colectomy (kō-lēk'tō-mē) [Gr. *kolon*, colon, + *ektome*, excision] Excision of part or all of the colon.

colibacillemia (kō'lī-bās-ī-lē'mē-ā) [Gr. *kolon*, colon, + L. *bacillus*, little rod, + Gr. *haima*, blood] *Escherichia coli* in the blood.

colibacillosis (kō'lī-bās-ī-lō'sīs) [" + " + Gr. *osis*, condition] Infection with *Escherichia coli*.

colibacilluria (kō-lī-bās-ī-lū-rē-ā) [" + " + Gr. *ouron*, urine] Presence of *Escherichia coli* in the urine.

colibacillus (kō'lī-bā-sīl'ūs) [" + L. *bacillus*, little rod] The colon bacillus, *Escherichia coli*.

colic (kōl'ik) [Gr. *kolikos*, pert. to the colon] **1.** Spasm in any hollow or tubular soft organ accompanied by pain. **2.** Pert. to the colon. SEE: *biliary colic*; *tormina*.

biliary c. Right upper quadrant pain resulting from obstruction of a bile duct by a gallstone.

infantile c. Colic occurring in infants, principally during the first few months of life. It may respond to substitution of a hypoallergenic formula for that containing cow's milk, or to decreased stimulation of the infant.

intestinal c. Abdominal colic, typically associated with intestinal obstruction or ileus.

lead c. Severe abdominal colic associated with lead poisoning.

menstrual c. Dysmenorrhea.

renal c. Pain in the region of one of the flanks that radiates inferiorly, toward the lower abdomen, groin, scrotum, labia, or thigh. This condition may be associated with the passage of kidney stones.

uterine c. Severe abdominal pain arising in the uterus, usually during the menstrual period. SEE: *dysmenorrhea*.

colica (kōl'ī-kā) [L.] Colic.

colicky (kōl'ik-ē) Concerning colic or affected by it.

colicoplegia (kō'lī-kō-plē'jē-ā) [" + *plege*, stroke] Colic and paralysis due to lead poisoning.

colicystitis (kō'lī-sīs-tī'tīs) [" + *kystis*, bladder, + *itis*, inflammation] Inflammation of the bladder resulting from *Escherichia coli* infection.

colicystopyelitis (kō-lī-sīs'tō-pī'ē-lī'tīs) [" + " + *pyelos*, pelvis, + *itis*, inflammation] *Escherichia coli* inflammation of the bladder and renal pelvis.

coliform (kō'lī-form) [" + L. *forma*, form] **1.** Sieve form; cribriform. **2.** A general term applied to some species of the family Enterobacteriaceae, including *Escherichia coli*, *Enterobacter*, and *Klebsiella* species. Their presence in water, esp. that of *E. coli*, is presumptive evidence of fecal contamination.

colinephritis (kō'lī-nē-frī'tīs) [" + *nephros*, kidney, + *itis*, inflammation] Pyelonephritis caused by *Escherichia coli*.

coliplication (kō'lī-plī-kā'shūn) [" + L. *plica*, fold] Operation for correcting a dilated colon.

colipuncture (kō'lī-pūnk'chūr) Colocentesis.

colisepsis (kōl'ī-sēp'sīs, kōl'ī) [" + "'] Infection caused by *Escherichia coli*.

colitis (kō-lī'tīs) [" + *itis*, inflammation] Inflammation of the colon. SEE: *dysentery*; *gay bowel syndrome*; *regional ileitis*.

amebic c. Amebiasis.

antibiotic-associated c. Antibiotic-induced diarrhea. SEE: *pseudomembranous c.*

E. coli 0157:H7 c. An infectious, bloody diarrhea caused by *Escherichia coli* 0157:H7. SEE: *E. coli 0157:H7*.

infectious c. Inflammation of the co-

lon produced by disease-causing organisms such as amebas, bacteria, and protozoa. It may be caused by a wide variety of pathogens, including *Campylobacter*, *Cryptosporidium*, *Escherichia coli*, *Entamoeba histolytica*, *Giardia*, *Salmonella*, and *Shigella*.

pseudomembranous c. Colitis associated with antibiotic therapy and, less commonly, with chronic debilitating illnesses in adult patients in the community. It is caused by one of two exotoxins produced by *Clostridium difficile*, which is part of the normal intestinal flora. Broad-spectrum antibiotics disrupt the normal balance of the intestinal flora and allow an overgrowth of strains that produce toxins. The exotoxins damage the mucosa of the colon and produce a pseudomembrane composed of inflammatory exudate. The symptoms—foul-smelling diarrhea with gross blood and mucus, abdominal cramps, fever, and leukocytosis—usually begin 4 to 10 days after the start of antibiotic therapy. The disease is treated by discontinuing previously prescribed antibiotics and beginning therapy with oral metronidazole; use of vancomycin should be limited to patients who do not respond to metronidazole. Diarrhea may reappear in approx. 20% of patients after treatment, necessitating a second course of therapy.

radiation c. Colitis due to damage of the bowel by radiation therapy. The symptoms are those of an inflamed bowel: pain, cramps, diarrhea, and rectal bleeding. Malabsorption may develop as a result of permanent injury to the mucosa.

ulcerative c. An inflammatory bowel disease marked pathologically by continuous inflammation of the intestinal mucosa, which typically involves the anus, rectum, and distal colon, and sometimes affects the entire large intestine. It occurs most often in patients during the second or third decade of life, although a second cluster of cases occurs in patients in their sixties. The disease is associated with an increased incidence of cancer of the colon. SEE: *Crohn's disease*; *inflammatory bowel disease*; *Nursing Diagnoses Appendix*.

SYMPTOMS: Bloody diarrhea and pain with the passage of stools are characteristic. In severe cases, patients may have more than 6 bloody bowel movements in a day. Iron deficiency anemia often develops as a result.

TREATMENT: Aminosalicylate drugs and corticosteroids decrease symptoms and improve inflammation. Patients with refractory disease may require colectomy.

PATIENT CARE: The patient is prepared for diagnostic studies (sigmoidoscopy, colonoscopy, barium enema, CT

scan) and is told that the procedure can be uncomfortable and fatiguing. He or she is assisted to understand and participate in treatment goals: controlling inflammation, maintaining or restoring fluid and electrolyte balance, receiving adequate nutrition and replacing nutritional losses, and preventing complications. The nurse or dietitian teaches the patient about dietary intake, which should be high-caloric, nonspicy, caffeine-free, and low in high residue foods and milk products. Actual dietary and caloric intake must be documented. If the patient is unable to take fluids by mouth, intravenous (IV) fluid and electrolyte replacement or parenteral nutrition are instituted as prescribed. Fluid intake and output are monitored, particularly for frequency, volume, and characteristics of diarrhea. The patient is monitored for dehydration and electrolyte imbalances, particularly hypokalemia, hypernatremia, and anemia.

Prescribed drug therapy is administered; the patient is evaluated for desired and adverse effects and is taught about the particulars of his or her regimen, which usually includes sulfasalazine (5-ASA), prescribed for its antibiotic and anti-inflammatory effects. Studies have shown that, in high-risk patients, 5-ASA given both orally and by enema appears to sustain remission better than oral therapy alone. Since 5-ASA interferes with folate metabolism, use of a folate supplement is encouraged. Corticosteroids such as prednisone often are prescribed to reduce inflammation. The patient is taught that once clinical remission is achieved, steroid therapy can be tapered gradually and discontinued, but should never be summarily stopped. If the patient requires prolonged steroid therapy, he or she must report gastric irritation, edema, personality changes, moon face, and hirsutism. Corticosteroids given chronically may produce many serious side effects, including bone loss, diabetes mellitus, and cataracts, among others. Antispasmodic and antidiarrheal agents (tincture of belladonna, diphenoxylate, loperamide) are used rarely and with great caution because they can precipitate colonic dilation (toxic megacolon). Measures to prevent perianal skin breakdown are reviewed (e.g., cleaning the rectal area thoroughly but gently following each bowel movement, applying a moisture barrier such as petroleum jelly, and changing position frequently).

While surgery is considered only for patients who do not respond to pharmacological therapies, a variety of surgical procedures are available to attempt to preserve rectal evacuation. Bowel surgeries require a special anti-

biotic preparation, and postoperative care includes all general patient care concerns. In addition, a nasogastric tube is usually placed temporarily, and diet advanced slowly after its removal. The patient may have a permanent or temporary stoma or a pouch ileostomy, and requires ongoing teaching and support from a stomal therapist and support groups for help and management.

colla (kól'lá) Pl. of collum.

collagen (kól'á-jèn) [Gr. *kolla*, glue, + "] A strong, fibrous insoluble protein found in connective tissue, including the dermis, tendons, ligaments, deep fascia, bone, and cartilage. Collagen is the protein typical of dental tissues (except enamel), forming the matrix of dentin, cementum, and alveolar bone proper. Collagen fibers also form the periodontal ligament, which attaches the teeth to their bony sockets. **collagenic** (-jèn'ík), *adj.* **collagenous** (kò-láj'á-nūs), *adj.*

collagenase (kól-láj'ě-nās) [" + " + -ase, enzyme] A member of the metalloproteinase family of enzymes that degrades collagen.

collagenic (kól'á-jèn'ík) Producing or containing collagen.

collagenoblast (kól-láj'ě-nō-blást) [" + " + *blastos*, germ] A fibroblast-derived cell that produces collagen when mature.

collagenolysis (kól'á-jèn-ól'ī-sīs) [" + " + *lysis*, dissolution] The degradation or destruction of collagen.

collagenosis (kól-láj'ě-nō'sīs) [" + " + *osis*, condition] A connective tissue disease.

collagenous colitis (kà-láj'á-nīs kō-lī'tīs) ABBR: CC. Chronic watery diarrhea of unknown cause, in which the appearance of the bowel during endoscopy is normal. Biopsies of the bowel wall reveal thickening of the collagen layer beneath the colonic epithelium. CC is much more common in women than in men by a factor of 10. It is usually diagnosed in people aged 40 to 60.

collapse (kò-láps') [L. *collapsus*, fallen to pieces] **1.** A sudden exhaustion, prostration, or weakness due to decreased circulation of the blood. **2.** An abnormal retraction of the walls of an organ.

SYMPTOMS: The symptoms include thirst, dizziness on arising, altered mental status, lethargy, delirium, frank loss of consciousness, or convulsions. Physical findings include pallor, cold clammy skin, gooseflesh, a thin or thready pulse, an increased respiratory rate, tachycardia, and hypotension.

PATIENT CARE: A patent airway is maintained, the patient's head is lowered, and the lower extremities are elevated slightly in the Trendelenburg position to enhance venous return to the heart. Vital signs and level of conscious-

ness are assessed for signs of shock or aspiration of vomitus. High concentration oxygen by a nonrebreather mask should be administered and oxygen saturation and ventilation evaluated. The patient should be kept warm but not hot. The patient's ECG should be monitored for arrhythmias, and an IV line should be established. If the patient is hypotensive, a rapid infusion of normal saline or lactated Ringer's should be considered. The health care provider remains with the patient, briefly and calmly orienting him or her to surroundings and explaining procedures to provide reassurance of appropriate care.

cardiovascular c. SEE: *cardiovascular collapse*.

circulatory c. Shock.

c. of lung An airless state of all or part of a lung. SEE: *atelectasis*.

collapse therapy The production of a pneumothorax on one side to treat pulmonary tuberculosis. It allows the lung on that side to be at rest. This form of treatment was popular in the preantibiotic era, but has been superseded by newer pharmaceutical practices.

collapsing (kò-láps'ing) **1.** Falling into extreme and sudden prostration resembling shock. **2.** Shrinking; disintegrating. **3.** Condensing.

collapsotherapy (kò-láps'sò-thér'á-pè) [L. *collapsus*, fallen to pieces, + Gr. *therapeia*, treatment] Treatment of pulmonary disorders by unilateral pneumothorax and immobilization of the affected lung.

collar (kól'är) [L. *collum*, neck] **1.** Band worn around the neck. **2.** A structure or marking formed like a neckband. **3.** A device designed to limit movement of the neck.

cervical c. A soft or rigid band of plastic or padded foam that is designed to limit extension, flexion, and lateral movement of the neck. Soft collars usually are reserved for confirmed strains of the neck. SEE: *rigid cervical c.*; *cervical immobilization device*; *orthosis*; *Philadelphia collar* for illus.

extrication c. Rigid cervical c.

c. of Venus Syphilitic leukoderma.

rigid cervical c. A firm plastic collar applied to the neck of a patient whose mechanism of injury may lead to a neck injury. It is designed to limit flexion, extension, and lateral movement of the neck. Because no collar eliminates all movement, patients who have not yet had a fracture ruled out by x-ray examination should remain immobilized to a backboard. SYN: *extrication collar*. SEE: *cervical immobilization device*.

collateral (kò-lát'ěr-ál) [L. *con*, together, + *lateralis*, pert. to a side] **1.** Accompanying, side by side, as in a small side branch of a blood vessel or nerve. **2.** Subordinate or accessory.



COLLIMATOR BELOW X-RAY TUBE

collateral trigone The angle between the diverging inferior and posterior horns of the lateral ventricle.

collectin (kōl-lĕk'tīn) A plasma protein that binds carbohydrate molecules in the cell walls of microorganisms and facilitates phagocytosis. SEE: *phagocytosis*.

collectins (kō-lĕk'tīnz) Soluble, collagen-like proteins secreted into the blood of animals. They bind carbohydrate and fatty molecules on the surface of disease-causing microorganisms and help the body agglutinate, neutralize, or opsonize them so that they may be consumed and destroyed by white blood cells. Collectins are one component of the innate immune system.

collection, spot urine The sampling of a single, untimed urine specimen, voided spontaneously by the patient. The sample is analyzed to determine its protein, creatinine, or electrolyte content. This type of specimen differs from a timed urinary specimen, which represents all the urine a patient produces over a 12- or 24-hr period. Both types of specimen are used in the diagnosis and treatment of renal disease.

collective bargaining A negotiation between an employer and employee representatives, e.g., between a health care facility and one of its employee unions.

Colles, Abraham Irish surgeon, 1773–1843.

C.'s fascia The inner layer of the superficial fascia of the perineum.

C.'s fracture A transverse fracture of the distal radial metaphysis with displacement of the hand posteriorly and outward, causing the characteristic "dinner fork" deformity during radiographical evaluation. Contaminant trauma to the ulnar styloid process and the triangular fibrocartilage complex may also occur.

PATIENT CARE: A history of the in-

jury is obtained, and the patient is assessed for pain, swelling, mobility, and any deformity of the distal forearm. The areas above and below the fracture site are inspected for color changes and palpated for pulses, temperature, and the presence of sensation. The extremity is temporarily immobilized with a splint, and cold is applied according to protocol to reduce pain and limit swelling. The patient is scheduled for radiography, all procedures are explained, and noninvasive pain relief measures are instituted to reduce discomfort. The nurse or orthopedic technician assists with closed reduction and casting if carried out in the emergency department or refers the patient to an orthopedic surgeon for treatment and follow-up care.

colliculectomy (kōl-lĭk'ū-lĕk'tō-mĕ) [L. *colliculus*, mound, + Gr. *ektome*, excision] Removal of the colliculus seminalis.

colliculitis (kōl-lĭk'ū-lĭ'tīs) [ʹ + Gr. *itis*, inflammation] Inflammation of the colliculus seminalis.

colliculus (kōl-lĭk'ū-lŭs) *pl.* **colliculi** [L.] A little eminence.

c. seminalis An oval enlargement on the crista urethralis, an elevation in the floor of the prostatic portion of the urethra. On its sides are the openings of the ejaculatory ducts and numerous ducts of the prostate gland. SYN: *colliculus urethralis*.

c. urethralis Colliculus seminalis.

collimation (kōl'ĭ-mā'shŭn) [L. *collineare*, to align] **1.** The process of making parallel. **2.** In radiography, the process of limiting the scatter and extent of the x-ray beam to the part being radiographed.

collimator (kōl'ĭ-mā'tur) [L. *collineare*, to align, direct, aim] A radiographic device used to limit the scatter and extent of the x-ray beam. SEE: *illus.*

colliquation (kōl'ī-kwā'shūn) [L. *con*, together, + *liquare*, to melt] **1.** Abnormal discharge of a body fluid. **2.** Softening of tissues to liquefaction. **3.** Wasting.

colliquative (kō-lik'wā-tiv) Pert. to a liquid and excessive discharge, as a colliquative diarrhea.

colloidion (kō-lō'dē-ōn) [Gr. *kollodes*, resembling glue] A thick fluid coating, made of dissolved pyroxylin, that is used to dress wounds or to supply medications to the skin. When applied, it dries to form a transparent film.

flexible c. A colloidion preparation containing camphor and castor oil. It is more elastic than colloidion.

salicylic acid c. A flexible film used to remove accumulated layers of dead skin and scale (e.g., to treat psoriasis, warts, corns, or calluses).

colloid (kōl'oid) [Gr. *kollodes*, glutinous]

1. A glue-like substance, such as a protein or starch, whose particles (molecules or aggregates of molecules), when dispersed as much as possible in a solvent, remain uniformly distributed and do not form a true solution. **2.** The size of a microscopic colloid; particles ranging from 10^{-9} to 10^{-11} meters (1 to 100 nm). **3.** A semi-fluid gel found within the follicles of the thyroid gland and containing the thyroid hormones. **4.** A substance used as a plasma expander in place of blood. **colloidal** (-loyd'āl), *adj.*

colloidal silver (kā-loyd'īl sīl'vēr) Silver particles suspended in liquid. It is marketed as a dietary supplement. The National Center for Complementary and Alternative Medicine has determined that this product has no safe or effective use.

collum (kōl'lūm) *pl. colla* [L.] **1.** The necklike part of an organ. **2.** The neck.

collyrium (kō-līr'ē-ŭm) [Gr. *kollyrion*, eye salve] An eyewash or lotion for the eye.

coloboma (kōl'ō-bō'mā) *pl. colobomata* [Gr. *koloboma*, a mutilation] A lesion or defect of the eye, usually a fissure or cleft of the iris, ciliary body, or choroid. Sometimes the eyelid is involved. Colobomata may be congenital, pathological, or surgical.

colocalization (kō'lō'kāl-ī-zā'shūn) [" + "] The consistent presence of two molecules at a single cellular site, as evidenced by digital or fluorescent imaging techniques.

colocecostomy (kō'lō-sē-kōs'tō-mē) [Gr. *kolon*, colon, + *L. caecum*, blindness, + Gr. *stoma*, mouth] Surgical joining of the colon to the cecum.

colocentesis (kō'lō-sēn-tē'sīs) [" + *kentesis*, puncture] Surgical puncture of the colon to relieve distention. SYN: *colipuncture*; *colopuncture*.

colocolostomy (kō'lō-kō-lōs'tō-mē) [" + *kolon*, colon, + *stoma*, mouth] The

surgical formation of a passage between two portions of the colon.

colocutaneous (kō'lō-kū-tā'nē-ŭs) [" + *L. cutis*, skin] **1.** Pert. to the colon and the skin. **2.** Pert. to a pathological or surgical connection between the colon and the skin. SEE: *colostomy*.

colenteritis (kō'lō-ēn'tēr-ī'tīs) [Gr. *kolon*, colon, + *enteron*, intestine, + *itis*, inflammation] Inflammation of the mucous membrane of the small and large intestines.

colofixation (kō'lō-fik-sā'shūn) Suspension of the colon.

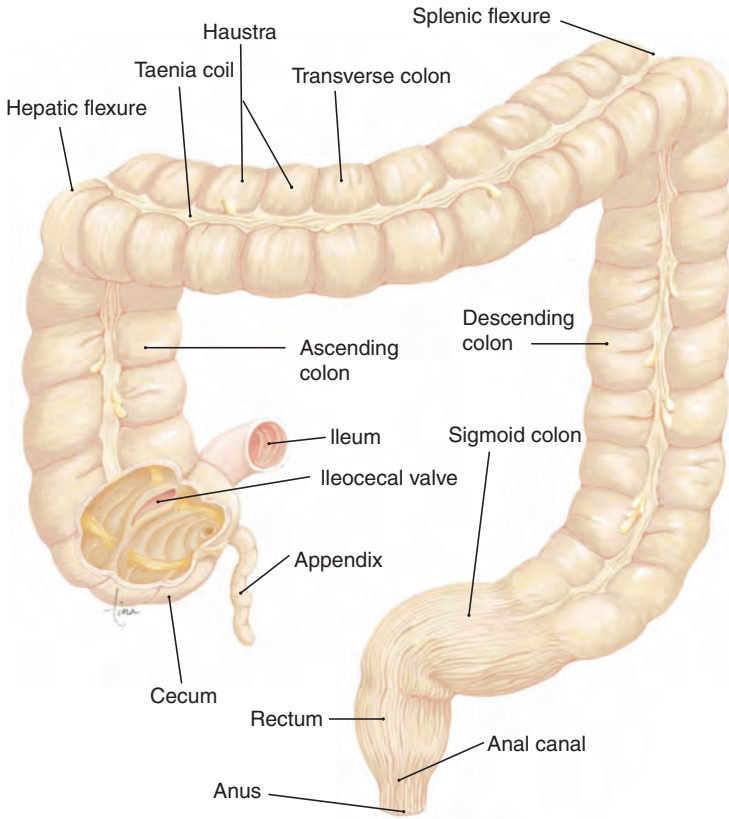
colography (kō-lōg'rā-fē) Radiographic imaging of the large intestine. SYN: *virtual colonoscopy*.

colon (kō'lōn) [L.; Gr. *kolon*] The large intestine from the end of the ileum to the anal canal that surrounds the anus, about 59 in (1.5 m) long; divided into the ascending, the transverse, the descending, and the sigmoid or pelvic colon. Beginning at the cecum, the first part of the large intestine (ascending colon) passes upward to the right colic or hepatic flexure, where it turns as the transverse colon passing ventral to the liver and stomach. On reaching the spleen, it turns downward (left colic or splenic flexure) and continues as the descending colon to the brim of the pelvis, where it is continuous with the sigmoid colon and extends to the rectum. SEE: **illus. colonic** (kō-lōn'ik), *adj.*

FUNCTION: *Mechanical:* The colon mixes the intestinal contents. *Chemical:* The colon does not secrete digestive enzymes. The products of bacterial action that are absorbed into the bloodstream are carried by the portal circulation to the liver before they enter the general circulation. More water is absorbed in the colon than in the small intestine. In this way, body fluids are conserved, and despite the large volumes of secretions added to the food during its progress through the alimentary canal, the contents of the colon are gradually dehydrated until they assume the consistency of normal feces or even become quite hard. SEE: *absorption, colon; defecation.*

BACTERIA OF THE COLON: The normal microbial flora in the colon, some of which may produce vitamins, esp. vitamin K; metabolize proteins and sugars; produce organic acids and ammonia; and deconjugate bile acids. Several conditions, such as use of antibiotics, corticosteroids, or dieting, may alter the normal flora. Although *Escherichia coli* is the most widely known bacterium that inhabits the colon, it is not the most common, being outnumbered by anaerobic *Bacteroides* species by a very wide margin.

irritable c. Irritable bowel syndrome. **polyp of c.** SEE: *polyp, colonic.*



COLON AND RECTUM

- toxic dilatation of c.** Toxic megacolon.
- colonic inertia** A decreased rate or frequency of bowel activity, often associated with constipation.
- colonization** (kō'lō-nī-zā'shūn) The growth of microorganisms, esp. bacteria, in a particular body site.
- colono-, colon-** Combining forms meaning *colon*.
- colonocyte** (kō-lōn'ō-sīt) [" + "] An endothelial cell of the large intestine.
- colony** (kō'lō-nōp'ā-thē) [Gr. *kolon*, colon, + *pathos*, disease] Any disease of the colon.
- colony** (kō'lō-nē) [L. *colonia*] A growth of microorganisms in a culture; usually considered to have grown from a single organism.
- colony-stimulating factor-1** ABBR: CSF-1. A protein in human serum that promotes monocyte differentiation. SEE: *granulocyte-macrophage colony-stimulating factor*.
- colopexotomy** (kō'lō-pēks-ōt'ō-mē) [" + " + *tome*, incision] Incision and fixation of the colon.
- colopexy, colopexia** (kō'lō-pēk'sē, -pēks'ē-ā) Fixation of a segment of the colon onto the abdominal wall.
- coloplication** (kō'lō-plī-kā'shūn) [" + L. *plica*, fold] An obsolete technique of surgically folding the colon to reduce its lumen.
- coloproctectomy** (kō'lō-prōk-tēk'tō-mē)
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colonoscopy (kō'lōn-ōs'kō-pē) Visualization of the lower gastrointestinal tract; most often refers to insertion of a flexible endoscope through the anus to inspect the entire colon and terminal ileum. SEE: *colonoscopy*; *colon* for illus.

virtual c. Colography.



COLON

Normal colon, seen endoscopically

[*"* + *proktos*, anus, + *ektome*, excision] Surgical removal of the colon and rectum.

coloproctitis (kō'lō-prōk-tī'tīs) [*"* + *"* + *itis*, inflammation] Colonic and rectal inflammation.

coloproctostomy (kō'lō-prōk-tōs'tō-mē) [*"* + *"* + *stoma*, mouth] Surgical creation of a passage between a segment of the colon and the rectum.

coloptosis (kō-lōp-tō'sīs) A downward displacement of the colon.

colopuncture (kō'lō-pūnk-chūr) [*"* + *L. punctura*, piercing] Colocentesis.

color [L.] A visible quality, distinct from form, light, texture, size, brightness, and shade, that distinguishes some objects from others.

complemental c. One of two spectral colors that produce white light when blended.

primary c. Any of the three colors of light—red, green, and violet—that can be mixed to produce all the colors perceived by the human eye. Pigments that can be so mixed are red, yellow, and blue.

color additive Any dye, pigment, or substance that can impart color when added or applied to a food, drug, or cosmetic. Use of color additives in the U.S. is regulated by the Food and Drug Administration (FDA). Food Drug and Cosmetic (FDC) colors certified for food use are FDC Blue No. 1, No. 2, and No. 3; Green No. 3; Red No. 3 and No. 40; and Yellow No. 5 and No. 6.

color blindness A genetic or acquired abnormality of color perception. Complete color blindness, a rare disease, is called achromatopsia. Red-green color blindness, which affects about 8% of the male population, is an X-linked trait. Although the term "color blindness" is used frequently, it is inaccurate. "Color deficiency" is a more accurate description. **SEE: illus.**

color deficiency A preferred term for color blindness, the inability to identify one or more of the primary colors.

colorectostomy (kō'lō-rēk-tōs'tā-mē) [*"* + *"* + Gr. *stoma*, mouth] Surgical formation of a passage between the colon and rectum.

colorectum (kōl'ō-rēk'tūm) The colon and rectum.

color gustation A sense of color aroused by stimulation of taste receptors.

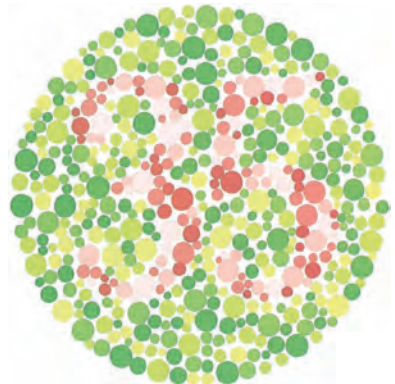
color hearing A sense of color caused by a sound.

colorimeter (kūl'or-īm'ē-tēr) [L. *color*, color, + Gr. *metron*, measure] An instrument for measuring the intensity of color in a substance or fluid, esp. one for determining the amount of hemoglobin in the blood.

colorimetric analysis 1. Analysis by adsorption of a compound and the identification of its components by color.

2. Analysis of the amount of a substance present in a sample, based on the amount of light absorbed by the substance (or a derivative of the substance). **SEE: Beer's law; spectrophotometry.**

colorimetry (kūl'ōr-īm'ē-trē) A photo-



TEST FOR COLOR BLINDNESS

metric technique that measures the absorption of light by colors in a test solution, as compared with that in a standard solution.

colorrhaphy (kō-lor'ā-fē) [Gr. *kolon*, colon, + *rhaphe*, seam, ridge] Suture or repair of the colon.

coloscopy (kō-lōs'kō-pē) Visual examination of the colon through a sigmoidoscope or colonoscope. SEE: *colonoscope*.

colosigmoidostomy (kō'lō-sīg'moy-dōs'tō-mē) [+ *sigmoeides*, shaped like Gr. Σ, + *stoma*, mouth] Surgical joining of the proximal colon to the sigmoid colon.

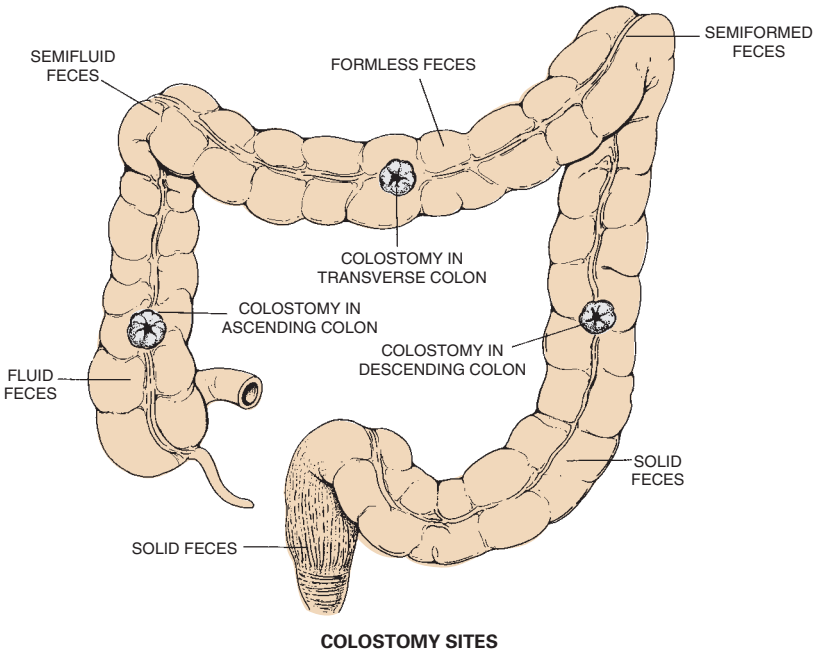
colostomy (kō-lōs'tō-mē) [Gr. *kolon*, colon, + *stoma*, mouth] The opening of a portion of the colon through the abdominal wall to its skin surface. A colostomy is established in cases of distal obstruction, inflammatory process, including perforation, and when the distal colon or rectum is surgically resected. A temporary colostomy is performed to divert the fecal stream from an inflamed or operative site. SEE: *illus.*; *ostomy* for colostomy care.

PATIENT CARE: *Preoperative:* When the possibility exists that a patient will need to have a colostomy created (even when surgery is performed in an emergency), the patient and family are advised about the nature of the colostomy, including temporary versus permanent stoma and general principles of aftercare. The patient is assured that he or she will be able to resume a normal life-

style with a stoma. A stomal therapist works with patient and family throughout this experience. Except in an extreme emergency (e.g., perforation, penetrating trauma, etc.), preparation for colon surgery with laxatives, enemas, and antibacterial agents is coordinated with the surgery's starting time. Intravenous hydration is instituted.

Postoperative: Routine care, including the use of various monitors, pneumatic hose, incentive spirometry, and pulmonary toilet measures, along with special attention given to inspecting the stoma for viability and the surrounding skin for irritation and excoriation. The stoma should be smooth, cherry red, and slightly edematous. Any discoloration or excessive swelling is documented and reported. The stoma and surrounding skin are gently cleansed and dried thoroughly. A drainage bag is applied by fitting a karaya adhesive ring (or other appliance) before the patient leaves the operating room to ensure a firm seal and to prevent leakage without constricting the stoma. Nonirritating skin barriers are used as appropriate.

Avoidance of dehydration and maintenance of electrolyte balance are emphasized until the patient is able to eat a normal diet. Stool consistency is observed. If colostomy irrigations are prescribed, the patient is advised that the procedure is similar to an enema. The patient is advised to return to a normal diet judiciously, adding new foods grad-



ually while observing their effect. He or she should avoid gas-forming, odoriferous, spicy, and irritating foods. Colostomy requires a difficult adjustment by both patient and family; they are encouraged to verbalize their fears and concerns, and support is offered. The patient is reassured of the ability to regain continence with dietary control and bowel retraining. Usual physical activities should be gradually resumed, avoiding heavy lifting and activities that could cause injury to the stoma and surrounding tissues. Abdominal muscle strengthening should be part of a supervised exercise program. Both patient and partner are encouraged to discuss their feelings and concerns about body image changes and about resumption of sexual relations, and they should be assured that the appliance will not dislodge if empty. The patient should avoid food and fluids a few hours before sexual activity. Participation in a local "ostomates" support group help the patient and significant others to manage the stoma and associated concerns. Depression is not uncommon after ostomy surgery, and psychological counseling is recommended if depression persists. SEE: *Nursing Diagnoses Appendix*.

double-barrel c. Most often a temporary colostomy with two openings into the colon: one distal and one proximal. Elimination occurs through the proximal stoma, allowing the distal length of the colon to rest and heal. When healing is complete, the two ends are rejoined and returned to the peritoneal cavity, and normal bowel function resumes. In colitis, resection rather than reanastomosis is performed.

terminal c. A colostomy in which the proximal cut end of the colon is formed into a stoma and the distal colon is either resected or closed.

wet c. 1. A colostomy in the right side of the colon. The drainage from this type of colostomy is liquid. 2. A colostomy in the left side of the colon distal to the point where the ureters have been anastomosed to it. Thus the urine and fecal material are excreted through the same stoma. Ureterocolostomy has been abandoned in favor of other extra-intestinal urinary diversion procedures.

colostrorrhea (kō-lōs'trō-rē'ā) [L. *colostrum*, + Gr. *rhoia*, flow] Abnormal secretion of colostrum.

colostrum (kō-lōs'trūm) [L.] Breast fluid that may be secreted from the second trimester of pregnancy onward but that is most evident in the first 2 to 3 days after birth and before the onset of true lactation. This thin yellowish fluid contains abundant carbohydrates, proteins (including antibodies), and minimal fat.

colotomy (kō-lōt'ō-mē) [Gr. *kolon*, colon, + *tome*, incision] Incision of the colon.

colp- SEE: *colpo-*.

colpectomy (kōl-pèk'tō-mē) [" + *ektome*, excision] Surgical removal of the vagina.

colpitis (kōl-pī'tis, kōl-pit'is) Vaginitis (2).

c. macularis Small red spots on the epithelium of the upper vagina and cervix. The spots are seen best with a colposcope, and are called, colloquially, "strawberry spots." They are often seen in women who are infected with trichomonas. SEE: *Trichomonas vaginalis*.

colpo-, colp-, kolpo-, kolp- [Gr. *kolpos*, vagina] Combining forms meaning *vagina*.

colpocele (kōl'pō-sēl) [" + *kele*, tumor, swelling] A hernia into the vagina.

colpoceliotomy (kōl'pō-sē'lē-ōt'ō-mē) [" + *koilia*, belly, + *tome*, incision] An incision into the abdomen through the vagina. SEE: *culdoscopy*.

colpocleisis (kōl'pō-klī'sis) [" + *kleisis*, a closure] Surgical occlusion of the vagina.

colpocystitis (kōl'pō-sīs-tī'tis) [" + *kystis*, bladder, + *itis*, inflammation] Inflammation of the vagina and bladder.

colpocystocele (kōl'pō-sīs'tō-sēl) [" + *kystis*, bladder, + *kele*, tumor, swelling] Prolapse of the bladder into the vagina.

colpocystoplasty (kōl'pō-sīs'tō-plās'tē) [" + " + *plassein*, to form] Surgical repair of a vesicovaginal fistula.

colpocystotomy (kōl'pō-sīs-tōt'ō-mē) [" + " + *tome*, incision] An incision into the bladder through the vagina. This procedure is no longer used, as better surgical approaches to the bladder are available.

colpocystourethropexy (kōl'pō-sīs-tō-ū-rē'thrō-pèks-ē) The transvaginal surgical suspension of the urethra and bladder—used to treat urinary incontinence in women. The surgery restores the proper cystourethral angle for normal urinary continence.

PATIENT CARE: The procedure and associated sensations are explained preoperatively, along with postoperative regimens and expectations. Postoperatively, general patient care concerns apply. Vital signs are recorded postoperatively. The drainage catheter is checked. The patient is encouraged to maintain a high intake of fluids to help prevent infection. Intake and output measurements and recording are a primary requirement and the patient is taught to participate in this activity.

colpolyperplasia (kōl'pō-hī-pēr-plā'zē-ā) [" + *hyper*, over, + *plasis*, a forming] Excessive growth of the mucous membrane of the vagina.

c. cystica Infectious inflammation of

the vaginal walls marked by the production of small blebs.

colpomicroscope (köl'pō-mī'krō-skōp) [" + *mikros*, small, + *skopein*, to view] An instrument designed for the microscopic examination of the cervix. It has higher powers of magnification than a conventional colposcope.

colpomyomectomy (köl'pō-mī'ō-mēk'tō-mē) [" + *mys*, muscle, + *oma*, tumor, + *ektome*, excision] Removal of a fibroid tumor of the uterus through the vagina.

colpoperineoplasty (köl'pō-pēr'ä-nē'ō-pläs'tē) [" + *perinaion*, perineum, + *plassein*, to form] Surgical repair of the perineum and the vagina.

colpoperineorrhaphy (köl'pō-pēr'in-ē-or'rā-fē) [" + " + *rhaphe*, seam, ridge] Surgical repair of tears in the vagina and perineum.

colpopexy (köl'pō-pēk'sē) [" + *pexis*, fixation] Suture of a relaxed and prolapsed vagina to the pelvic wall.

colpoplasty (köl'pō-pläs'tē) [" + *plassein*, to form] Plastic surgery of the vagina.

colpoptosis (köl'pōp-tō'sīs) [" + *ptosis*, a dropping] Prolapse of the vagina.

colporrhaphy (köl'por'ä-fē) [" + *rhaphe*, seam, ridge] Suture of the vagina.

colporrhexis (köl'pō-rēk'sīs) [" + *rhexis*, rupture] Laceration or rupture of the vaginal walls.

colposcope (köl'pō-skōp) [" + *skopein*, to examine] An instrument used to examine the tissues of the vagina and cervix through a magnifying lens.

colposcopy (köl'pōs'kō-pē) The examination of vaginal and cervical tissues by means of a colposcope. Colposcopy is used to select sites of abnormal epithelium for biopsy in patients with abnormal Pap smears. It is helpful in defining tumor extension, for evaluating benign lesions, and in postpubertal vaginal examination of diethylstilbestrol-exposed daughters.

colpostat (köl'pō-stät) [" + *statikos*, standing] A device for holding an instrument, such as a radioactive implant, in place in the vagina.

colpostenosis (köl'pō-stēn-ō'sīs) [" + *stenosis*, narrowing] Stenosis or narrowing of the vagina.

colposuspension (köl'pō-sūs-pēn'shūn) Colpocystourethropey.

colpotomy (köl'pōt'ō-mē) [" + *tome*, incision] An incision into the wall of the vagina. SYN: *coletomy*.

coltivirus (köl'tē-vī'rūs) A genus of viruses (family Reoviridae) that causes Colorado tick fever in the US, Eyach virus infection in Europe, and Banna virus infection in Asia.

coltsfoot (költs'foot") [So called from the shape of its leaves] A perennial, yellow-flowered herb *Tussilago farfara*, used traditionally to treat asthma, cough,

and other respiratory ailments. Some research suggests it is carcinogenic.

columella (köl'ū-mēl'lā) [L., small column] **1.** A little column. **2.** In microbiology or mycology, the portion of the sporangiophore on which the spores are borne.

column (köl'ūm) [L. *columna*, pillar] A cylindrical supporting structure.

anal c. Vertical folds of the mucous membrane in the anal canal. SYN: *rectal column*.

anterior c. The anterior portion of the gray matter on each side of the spinal cord; in reference to white matter, the anterior funiculus.

Clarke's c. SEE: under *Clarke, Jacob A.L.*

c. of fornix Either of two arched bands of fibers that form the anterior body of the fornix. The fibers lead to the mammillary body.

gray c. Gray matter in the anterior and posterior horns of the spinal cord.

lateral c. 1. A column in the lateral portion of the gray matter of the spinal cord. It contains cell bodies of preganglionic neurons of the sympathetic nervous system. **2.** The lateral funiculus or the white matter between roots of spinal nerves. **3.** The articulation in the mid-foot between the fourth and fifth metatarsal bones and the cuboid.

posterior c. 1. The posterior horn of the gray matter of the spinal cord. It consists of an expanded portion or caput connected by a narrower cervix to the main portion of the gray matter. **2.** The posterior funiculus of the white matter.

rectal c. Anal c.

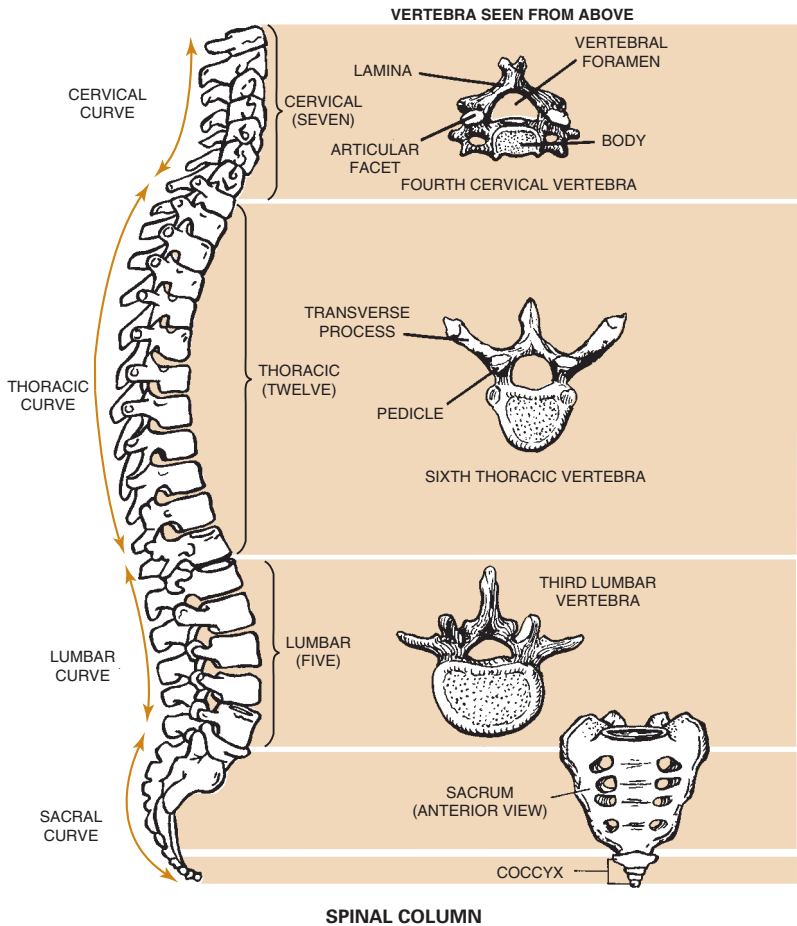
renal c. Cortical material of the kidney that extends centrally, separating the pyramids.

spinal c. Vertebral c. SEE: *illus.*

vertebral c. The portion of the axial skeleton consisting of vertebrae (7 cervical, 12 thoracic, 5 lumbar, the sacrum, and the coccyx) joined together by intervertebral disks and fibrous tissue. It forms the main supporting axis of the body, encloses and protects the spinal cord, and attaches the appendicular skeleton and muscles for moving the various body parts. SYN: *spinal column*.

columna (kō-lūm'nā) *pl. columnae* [L.] A column or pillar.

coma (kō'mā) [Gr. *koma*, a deep sleep] A state of unconsciousness from which one cannot be aroused. Coma is the most severe of the alterations of consciousness. It differs from sleep in that comatose patients will not awaken with stimulation; it differs from lethargy, drowsiness, or stupor (states in which patients are slow to respond) in that comatose patients are completely unresponsive. Finally, it differs from delirium, confusion, or hallucinosis (states in which patients' sense of reality is distorted



Indicating individual vertebrae at various levels

and expressions are bizarre) in that comatose patients cannot express themselves at all. SEE: *Glasgow Coma Scale*.

ETIOLOGY: Two thirds of the time, coma results from diffuse brain injury or intoxication, such as may be caused by drug overdose, poisoning, hypoglycemia, uremia, liver failure, infection, or closed-head trauma. In about one third of cases, coma results from intracranial lesions, such as massive strokes, brain tumors, or abscesses. For these focal injuries to depress consciousness, the lesion must result in compression or injury to the brain's reticular activating system (the network of cells responsible for arousal). Rarely, coma is feigned by patients with psychiatric illnesses.

TREATMENT: The airway, breathing, and circulation are supported. The cervical spine is protected if there is any question of traumatic injury to the head

and neck. A rapid physical examination is performed to determine whether the patient has focal neurological deficits. Simultaneously, intravenous dextrose, naloxone, and thiamine are given (to try to reverse narcotic overdose or diabetic coma). If the examination reveals focal findings, an intracranial lesion may be present and should be quickly diagnosed (with brain scans) and treated (e.g., with neurosurgery if appropriate). If the patient is neurologically nonfocal, treatment focuses on metabolic support, the administration of antidotes for any proven intoxications, and treatment for infections. Seizures, if present, should be promptly controlled with anticonvulsants. Blood-sugar levels should be tightly controlled (between 80 and 110 mg/dl). Fevers should be suppressed with antipyretics. Acid-base disturbances should be corrected.



If there is a question of whether the coma is due to an overdose of insulin or to hypoglycemia, it is crucial to give glucose intravenously. Administration of naloxone is also standard care.

PATIENT CARE: A patent airway is maintained. If neck trauma is suspected (e.g., if the patient was found on the floor), the patient should not be moved, except after protecting the cervical spine. Neurological status is monitored with the Glasgow Coma Scale. Frequency of assessment depends on protocol and the patient's stability. Findings are documented, and evidence of clinical deterioration is reported.

Fluid and electrolyte balance is monitored and maintained; gastrointestinal and urinary functions are assessed; care for the indwelling urinary catheter, intravenous line, and nasogastric or PEG feeding tube is provided, as well as adequate enteral or parenteral nutrition; and bowel elimination is maintained with stool softeners, suppositories, or enemas. Ventilatory status is assessed by auscultating for abnormal lung sounds, and adequate ventilation and oxygenation are determined by arterial blood gases or oxygen saturation values. The nurse or respiratory therapist assists with intubation and provides mechanical ventilation as required. The patient is repositioned to improve aeration of lung bases, and drainage of secretions is encouraged. The oropharynx (and endotracheal tube) is suctioned gently but briefly as necessary, considering concerns for increased intracranial pressure. The corneas are protected from ulceration by applying artificial tears to moisturize the eyes and by patching the eyes closed if the patient is unable to close them. Skin status is assessed and a plan instituted to prevent or manage pressure areas; passive range-of-motion exercises are provided; the patient is repositioned frequently; distal extremities are supported and elevated to prevent dependent edema; and appropriate supportive devices are used to prevent external hip rotation, flexion and extension contractures, and footdrop. Therapy to prevent deep venous thrombosis should be given (for example, heparin, warfarin, or compression stockings). Early enteral feeding if the patient prevents malnutrition.

Verbal and tactile stimulation are provided; the patient is assessed per orders (or hospital protocol) to person, time, place, and activities; nothing is said in the patient's presence that the patient should not hear, because the unresponsive patient may occasionally be somewhat aware of his or her surroundings. Emotional and educational sup-

port is offered to family members. SEE: *shock*.

alcoholic c. A coma due to ingestion of alcohol.

apoplectic c. A coma produced by intracranial hemorrhage and its associated increase in intracranial pressure. One side of the body and one or more extremities may be paralyzed, usually on the opposite side of the injury in the brain. One pupil may be larger than the other, usually on the same side as the brain injury. SEE: *cerebral hemorrhage*; *diabetic coma*; *hypoglycemic coma*.

barbiturate c. A coma caused by ingestion or injection of barbiturates. It is used clinically in the treatment of elevated intracranial pressure.

PATIENT CARE: The patient usually requires intubation and mechanical ventilation. Ventilatory status and oxygenation are monitored, adequate ventilation is maintained, and pulmonary toilet is provided. Aseptic technique is used for all procedures to prevent nosocomial infections.

diabetic c. Coma resulting from extremely low or extremely high blood sugar levels. Although both hyperglycemia and hypoglycemia can cause coma in diabetic patients, hypoglycemia is much more common. As a result, emergency treatment of hypoglycemia (with an ampule of intravenous dextrose) is always given first to comatose patients before initiating blood sugar testing. If high blood sugar levels are the cause of altered consciousness, insulin and massive hydration are usually needed.

PATIENT CARE: The primary treatment measures for diabetic ketoacidosis are replacing fluids and electrolytes and then administering insulin, which usually will resolve metabolic acidosis. The nurse or laboratory technician draws blood for glucose, acetone, complete blood count, electrolytes, and arterial blood gases and obtains urine for urinalysis. The patient is assessed for neurological signs and symptoms; aspiration precautions are instituted as warranted. Intravenous (IV) access is initiated, and 1 L or 15 ml/kg of normal saline solution (NS) is administered over the first hour. Some physicians prescribe an IV bolus of 0.1 to 0.15 units/kg of regular insulin once fluid resuscitation begins, but usually insulin is held until 1 to 2 L of fluid have been administered. The first liter of fluid is followed by NS (or 0.45% saline solution [SS]) if the patient's sodium level is elevated) at 7.5 ml/kg/hr for 2 to 4 hr, then at 3.75 ml/kg/hr for 24 to 36 hr until fluid losses are corrected. The patient's lungs are auscultated every hour, then every 2 to 4 hr for crackles related to fluid overload. Reg-

ular insulin is added to all fluids after the first or second liter (depending on protocol), to infuse at a rate of 0.1 units/kg/hr, with the intent of reducing glucose levels by 75 to 100 mg/dl/hr. The patient's blood glucose is monitored hourly, and electrolyte and serum acetone studies are repeated in 4 hr. The patient's heart rhythm also is monitored for potassium-related arrhythmias, such as ventricular ectopy. Once the patient's blood glucose is below 300 mg/dL, the prescribed IV fluid is changed to D5/0.45% NS to prevent hypoglycemia. Throughout initial resuscitation and ongoing fluid and insulin therapy, health care providers search for and treat the underlying cause (infection being the most common). The patient is monitored closely until ketones are no longer present in the blood and the bicarbonate level in the serum is > 21.

When the patient is considered stable, has bowel sounds, is awake, and is able to tolerate food, insulin is administered subcutaneously as prescribed. The patient is then allowed to eat a diabetic meal. Another 2 hr pass before the patient's insulin infusion is discontinued, until the subcutaneous regular insulin is absorbed. IV insulin has a 5- to 7-min half-life, so premature discontinuance could lead to a return of ketoacidosis. Blood glucose levels are assessed every 2 to 4 hr as warranted. The dietitian assesses and evaluates the patient's nutritional needs, and helps him or her to understand the importance of meal planning for optimal glucose control. The patient is ready for discharge when normal hydration and functional digestion are present and acidosis is absent. He or she is taught how to manage blood sugars and to continue to take prescribed insulin or hypoglycemic agents even when food cannot be consumed, because illness makes blood sugars vary. The signs of hyperglycemia, how to perform glucose monitoring, and when and how to test for urine ketones are reviewed. The patient learns how to substitute liquids for solid foods during illness in order to maintain adequate carbohydrate and fluid intake, the need for more frequent glucose monitoring when ill, and when to contact the primary care provider (blood glucose above 300 mg/dl, inability to eat, or vomiting). The patient also is referred to a home care nurse for further monitoring as necessary, and to a community-based diabetic education course for enhanced understanding and control of diabetes.

hepatic c. Coma resulting from portal-systemic encephalopathy.

hyperosmolar nonketotic c. ABBR: HNC. A coma in which the patient has

a relative insulin deficiency and resulting hyperglycemia, but enough insulin to prevent fatty acid breakdown. The condition occurs in individuals with type 2 diabetes and is caused by hyperosmolarity of extracellular fluids and subsequent intracellular dehydration. It often is precipitated by severe physical stress or by extreme or prolonged dehydration.

hypoglycemic c. Unconsciousness caused by very low blood sugars, usually less than 40 mg/dl. The most common cause is a reaction to insulin or an oral hypoglycemic agent. The patient typically will recognize, after reviving, that coma was preceded by heavy exercise, limited caloric intake, or a recent increase in the dose of diabetic medications. Occasionally alcoholic patients, patients with salicylate overdoses, or severely malnourished patients will present with coma and low blood sugar. Very rarely, the hypoglycemic patient will be found to have an insulin-secreting tumor of the pancreas.

irreversible c. A coma from which the patient cannot recover.

Kussmaul's c. SEE: *Kussmaul's coma*.

myxedema c. Unresponsiveness or lethargy that results from severe or neglected hypothyroidism. It is marked by neurological dysfunction, by respiratory depression, and by lowered body temperature, blood pressure, blood sugar, and serum sodium. The condition is an endocrinological crisis that requires treatment with thyroid and adrenocortical hormones, fluids, and glucose; gradual rewarming; ventilatory support; and intensive monitoring.

uremic c. Loss of consciousness caused by the toxic effects of the nitrogen-containing wastes and inorganic acids that accumulate in the bloodstream of patients in renal failure. Coma in renal failure usually occurs after other uremic symptoms, such as loss of appetite, confusion, lethargy, or seizures.

vigil c. Akinetic mutism.

comatose (kō'mā-tōs) In a coma.

combat disorder (kōm'băt) [LL *combattere*] Any disease or condition that affects military personnel, their families, and/or victims of war.

combat support hospital ABBR: CSH. A large mobile military hospital which accepts seriously injured military personnel whose condition has been stabilized near the battlefield by a mobile surgical team. A CSH provides intensive care unit support for the critically injured. Some patients with battlefield injuries are definitively stabilized at the CSH; others are transported to major medical centers for long-term care.

combustion (kōm-büst'yūn) 1. Burning. 2. In metabolism, the oxidation of food

with production of heat, carbon dioxide, and water.

comedo (kôm'ă-dō) *pl.* **comedones** *pl.* **comedos** [L. *comedere*, to eat up] The typical small skin lesion of acne vulgaris and seborrheic dermatitis. The closed form is called a whitehead. It consists of a papule from which the contents are not easily expressed. When inflamed these lesions form pustules and nodules. The open form of comedo, called a blackhead, is rarely inflamed. It has a dilated opening from which the oily debris is easily expressed. Both forms are usually located on the face, but the chest and back may be involved. **SEE: illus.**



COMEDONES

comedocarcinoma (kôm'ă-dō-kăr-să-nō'mă) Ductal carcinoma in situ of breast.

comfort, readiness for enhanced A pattern of ease, relief, and transcendence in physical, psychospiritual, environmental, and/or social dimensions that can be strengthened. **SEE: Nursing Diagnoses Appendix.**

comfrey (cûm'frē) A hardy perennial, *Symphytum officinale*, whose leaves and roots and oil can be obtained. The oil is used in ointment form to promote wound healing. Because it contains known liver toxins, comfrey is not recommended for use in tea and should not be taken internally.

comity (kô'mî-tē) In interpersonal relations or social interactions, the condition of politeness, courtesy, and respect.

command procedure A surgical procedure for cancers of the head and neck in which the entire tumor, neighboring lymph nodes, and a portion of the mandible are removed.

commensal (kô-mên'săl) [L. *com-*, together, + *mensa*, table] Either of the two organisms of different species that live in a close but nonparasitic relationship. **SEE: commensalism; symbiosis.**

commensalism (kô-mên'săl-izm") The symbiotic relationship of two organisms of different species in which neither is harmful to the other and one gains some benefit such as protection or nourish-

ment (e.g., nonpathogenic bacteria in the human intestine).

comment period The time during which public discussion of health care regulations is invited, e.g., by federal health care agencies. When new governmental rules affecting health care are enacted, their potential effects are usually discussed in advance during open meetings. During this period members of the public, health care insurers, hospitals, clinics, and other agencies make known their interpretation of the effects of these new rules.

comminute (kôm'i-nüt) [L. *com-*, together, + *minuere*, to crumble] To break into pieces.

comminution (kôm'i-nū'shün) [L. *comminutio*, crumbling] The reduction of a solid body to varying sizes by crushing, grating, hammering, pulverizing, slicing, granulating, and other processes.

Commission on Accreditation of Allied Health Education Programs ABBR: CAAHEP. The agency in the U.S. that reviews the credentials and educational quality of numerous allied health professional academic programs, including those that affect the fields of athletic training, blood bank technology, cytotechnology, exercise physiology, medical illustration, polysomnography, and many others. Address: 1361 Park Street, Clearwater, FL 33756; www.caahep.org.

commissura (kôm'mî-sū'ră) *pl.* **commissurae** [L.] Commissure.

commissure (kôm'i-shūr) [L. *commissura*, a joining together] **1.** A transverse band of nerve fibers passing over the midline in the central nervous system. **2.** The meeting of two structures, as the lips, eyelids, or labia, across the midline or dividing space. **commissural** (kôm-mîs'ū-răl), *adj.*

anterior cerebral c. The band of white fibers that passes through the lamina terminalis, connecting the two cerebral hemispheres.

c. of fornix Hippocampal c.

hippocampal c. A thin sheet of fibers passing transversely under the posterior portion of the corpus callosum. They connect the medial margins of the crura of the fornix. **SYN: commissure of fornix.**

posterior c. of brain The commissure just above the midbrain containing fibers that connect the superior colliculi.

posterior c. of spinal cord The gray commissure connecting the halves of the spinal cord, lying behind the central canal.

commissurorrhaphy (kôm'i-shūr-or'ă-fē) ["] + Gr. *rhaphe*, seam, ridge] The surgical joining of the parts of a commissure to decrease the size of the opening.

commissurotomy (kôm'i-shūr-öt'ô-mē) ["] + Gr. *tome*, incision] Surgical inci-

sion of any commissure; used, for example, to treat mitral stenosis to increase the size of the mitral orifice. This is done by incising the adhesions that cause the leaves of the valve to stick together. Commissurotomy may also be used to treat certain psychiatric conditions by incising the anterior commissure of the brain.

commitment (kō-mit'měnt) The legal procedure for hospitalization of a patient who may not be competent to choose to be hospitalized. Confining a patient without his or her consent may be necessary, for example, to care for suicidal patients, patients with altered mental status, or persons with certain contagious diseases.

committee, patient care advisory A multidisciplinary group of individuals who advise health-care agencies facing ethical dilemmas. This committee usually comprises health-care professionals, clergy, legal counsel, and administrative personnel. Also called *institutional ethics committee*. SEE: *institutional review board*.

Committee on Accreditation for Respiratory Care ABBR: CoARC. An accreditation agency that works with the Commission on Accreditation of Allied Health Programs to ensure the educational quality of programs that provide professional education in respiratory care. Its website is www.coarc.com.

commode (kō-mōd') A receptacle suitable for use as a toilet.

bedside c. A portable toilet that enables a patient to sit comfortably while defecating or urinating. For many patients using a bedside commode is less stressful than using a bedpan.

common law (kōm'īn) [L. *communis*] A system of law based on custom or precedent, not on legislation. It is law that evolves from the judiciary branch of the government through court decisions. It is the most frequent source of legal precedent for malpractice cases.

common mode rejection ratio ABBR: CMRR. The ability of an amplifier to amplify a signal in the presence of electrical noise. The higher the number, the better the amplification.

Common Rule Any of the U.S. policies designed to protect the rights and interests of citizens who choose to participate in government-funded biomedical research. Those who choose to participate in biomedical research often suffer from life-altering or life-threatening illnesses. As a result they may be more psychologically vulnerable than others and may agree to become investigative subjects because of fear or desperation. The protections provided by the Common Rule are designed to ensure that agencies that perform federally funded human research respect the rights of ex-

perimental subjects. Included are the rights of confidentiality and full disclosure (informed consent). Research performed on children or prisoners is given special protections.

commotio cordis (kō-mō'shē-ō kōr'dīs) Sudden death following blunt chest trauma. At autopsy, no pathological findings are demonstrated. The syndrome is believed to be caused by ventricular fibrillation.

commotio retinae (kō-mō'shē-ō rēt'i-nē, kōm-mō'tē-ō rē'ti-nī) [L. "disturbance of the retina"] Retinal edema and bleeding occurring after blunt ocular trauma.

communicable period In epidemiology and infectious diseases, the time during which an infectious agent is transmissible, directly or indirectly, from an infected person or animal to a susceptible person.

communicans (kō-mū'nē-kānz) [L. *communicare*, to connect with] One of several communicating nerves or arteries.

communication (kō-mūn'kā'shūn)

1. The sending of data, messages, or other forms of information from one entity to another. 2. An opening or channel between two anatomical or cellular structures.

communication, augmentative Any method or device that improves a person's ability to share information with, or receive information from others. The term is used esp. with respect to techniques that promote the exchange of language and symbols with speech- and hearing-impaired individuals. Technologies that assist communication include hearing aids, communication boards, and portable electronic devices that display, print out, or synthesize speech. SEE: *communication board*.

communication, impaired verbal The state in which a person experiences a decreased, delayed, or absent ability to receive, process, transmit, and use a system of symbols or anything that conveys meaning. SEE: *Nursing Diagnoses Appendix*.

communication, nonverbal In interpersonal relationships, the use of communication techniques that do not involve words. A grimace, shrug, silence, smile, wink, raised eyebrows, avoidance, turning away, or even fighting are examples of nonverbal communication.

communication, readiness for enhanced A pattern of exchanging information and ideas with others that is sufficient for meeting one's needs and life's goals and can be strengthened. SEE: *Nursing Diagnoses Appendix*.

communication board Any device with letters, pictures, or words that lets patients with impaired physical and verbal ability express themselves.

communication disorder Any speech or

language impairment that interferes with human communication.

communicator (kō-mū' nī-kā-tor) An electronic device that permits persons with impaired verbal and physical ability to communicate through graphic or symbolic light-emitting diode (LED) displays, printed messages, or synthetic speech.

Community Integration Questionnaire ABBR: CIQ. A 15-item questionnaire that assesses how well a person who has experienced traumatic brain injury copes with home and social skills and the demands of daily living. The CIQ was developed by Barry Willer, Ph.D. and is a copyrighted assessment.

comorbid disease (kō-mōr' bīd dī-zēz') A disease that worsens or affects a primary disease (e.g., the primary disease could be cancer and the comorbid disease emphysema).

compact (kōm' pakt) Closely and tightly packed together; solid.

compaction (kōm-pāk'shūn) **1.** Simultaneous engagement of the presenting parts of twins in the pelvis so that labor cannot progress. **2.** In dentistry, the act or process of joining or packing together powdered gold, mat gold, or gold foil in a prepared cavity in a tooth.

companionship service (kūm-pān'yīnshīp) The provision of personal home-based protection, assistance, and company for those who cannot or do not frequently leave their residences. Companionship services include conversation, reading aloud, or running light errands and are most often provided to the aged or infirm.

comparative fault Comparative negligence.

comparative negligence In forensic medicine, negligence of the plaintiff and defendant measured in terms of percentages. Damages awarded are decreased in proportion to the plaintiff's amount of negligence provided it is less than that of the defendant. SYN: *comparative fault*.

comparison value A term sometimes used in public health or toxicology as a synonym for *baseline*.

compartment **1.** A part of the body composed of several elements linked in a common structure, e.g. the abdominal compartment, or the muscular compartments of a limb. **2.** A conceptual body part considered as an independent system when modeling the distribution or clearance of substances.

compartment syndrome Elevation of tissue pressure within a closed fascial compartment, causing a decreased arteriovenous pressure and decreased muscular perfusion. Acutely, compart-

ment syndromes are caused by hemorrhage and/or edema within a closed space, or external compression or arterial occlusion that induces postischemic reperfusion. Health care professionals should be watchful for compartment syndrome in crushing injuries, burns, casted fractures, and wounds requiring heavy circumferential dressings. Chronic compartment syndromes (also known as exertional or recurrent compartment syndromes) may result from muscular expansion during exercise or decreased size of the anatomical compartment.

SYMPTOMS: Both types of compartment syndrome occur most frequently in the lower arm, hand, lower leg, or foot and are marked by limb pallor, swelling, and pain. The overlying skin may feel hard. As intracompartmental pressure increases, distal neurovascular function may become compromised. Chronic compartment syndrome is definitively diagnosed by measuring the intramuscular pressure while the patient is at rest and during exertion.

TREATMENT: Acute compartment syndromes should be managed with topically applied ice and elevation of the limb. External compression should be avoided because of the risk of increasing intracompartmental pressure. Absent or diminished distal pulses require prompt surgical consultation.

PATIENT CARE: The patient with acute compartment syndrome may need a fasciotomy if symptoms are not resolved in 30 min. Fasciotomy may also be required to relieve the symptoms of chronic compartment syndrome.

abdominal c. s. ABBR: ACS. An extreme increase in pressure within the abdominal cavity that disrupts the blood flow to vital organs. It can result from any condition that causes an accumulation of blood or fluid within the abdominal space or a decrease in size of the abdominal cavity, including abdominal or pelvic trauma, intra-abdominal hemorrhage, peritonitis, extensive abdominal packing, and postoperative edema of the gastrointestinal tract.

SYMPTOMS: Clinical manifestations of ACS include hypoxemia, widened pulse pressure, and a decrease in cardiac output, urinary output, level of consciousness, and gastric pH. Intra-abdominal pressure is normally less than 5 mm Hg. Signs of organ dysfunction occur when the pressure reaches 15 to 20 mm Hg, as measured indirectly by measuring bladder pressure.

TREATMENT: ACS is treated surgically. Patients require meticulous supportive care, e.g., of blood volume

status, hemodynamics, oxygenation, and ventilation.

chronic c. s. An increase in intracompartmental pressure that may occur during exercise or other forms of exertional activity. The increased intracompartmental pressure decreases blood flow to the distal extremity and impairs nerve function.

ETIOLOGY: Individuals who have herniated muscles that occlude the neurovascular network, unyielding fascia in a closed compartment, or excessive hypertrophy of muscles during exercise are predisposed to chronic compartment syndrome, as are athletes who use anabolic steroids.

SYMPTOMS: The patient will complain of pain, numbness, and weakness in the involved extremity during exercise. Inspection may also reveal cyanosis and swelling in the distal portion of the involved limb. Symptoms may subside following activity or may lead to muscle necrosis, requiring fasciotomy.

exertional c. s. Chronic c. s.

recurrent anterior c. s. Chronic c. s.

recurrent c. s. Chronic c. s.

compassion Deep awareness of the pain and suffering of others; empathy.

compassionate use (kôm'pâsh'ün-ät)

The administration of investigational drugs to a patient in a special circumstance in which it is felt that the drug may be lifesaving or effective when no other therapy would be. The procedure requires the treating physician to contact either the Food and Drug Administration or the drug manufacturer to obtain permission.

compassion fatigue Cynicism, emotional exhaustion, or self-centeredness occurring in a health care professional previously dedicated to his or her work and clients.

compatible (kôm-pät'i-bil) [Med. L.

compatibilis] **1.** In transfusions and grafting, capable of being used without immunological reaction. **2.** In pharmacology, pert. to the ability to combine two medicines without interfering with the action of either.

compensable (kôm-pên'sü-b'l) [L. *compensare*, to counterbalance] Reimbursable; entitled to or warranting compensation. Payable under the protections granted by worker's compensation or by other legal entities that give monetary awards to injured parties.

compensating (kôm'pên-sät'ing) Making up for a deficiency.

compensation (kôm'pên-sâ'shün)

1. Making up for a defect, as cardiac circulation competent to meet demands regardless of valvular defect. **2.** In psychoanalysis, a psychic mechanism in which a person who feels himself to be inadequate (e.g., because of neuroses, char-

acter defects, or a physical disability) makes up for this perception by stressing or using other personal strengths and assets. Sublimation is often similar but differs by substituting a higher social goal to gratify the infrasocial drive by replacement rather than by only camouflaging. **3.** Restitution by payment to a person injured (e.g., in the workplace). **4.** Wages, fee, or salary for work done or services rendered.

cardiac c. SEE: *cardiac compensation*.

failure of c. The inability of the heart muscle or other diseased organs to meet the body's needs. In cardiac failure, this results in pulmonary congestion, difficulty breathing, and sometimes hypotension or lower extremity swelling. Causes of cardiac compensatory failure may occur in patients with ischemic heart disease, valvular heart disease, or cardiomyopathies.

workers c. A payment or payments made to an employee injured or disabled on the job. In most states, after a qualifying medical examination, an employee is certified as having specific functional impairments as the result of a documented injury. A predetermined amount of money, based on the severity of the injury and its consequences, is paid to the employee until the impairments improve or resolve.

competence (kôm'pê-têns) **1.** In psychiatry, ability to manage one's affairs, and by inference, being sane; usually stated as mental competence. **2.** Performance in a manner that satisfies the demands of a situation; effective interaction with the environment.

professional c. Proficiency in the application of the arts and sciences of healing. Such competence requires communication skills, dedication to serving others, empathy, good judgment, and technical knowledge.

competency validation program Core competency.

competition (kôm'pê-tish'ün) The simultaneous attempt of similar substances to attach to a receptor site of a cell membrane.

complaint (kôm'plânt') **1.** The principal reason why a patient seeks medical assistance. **2.** The initial pleading or document that commences a legal action, states grounds for such an action, names the parties to the lawsuit, and demands for relief. SYN: *petition*.

chief c. The symptom or group of symptoms that represents the primary reason for seeking health care.

complement (kôm'plê-mênt) [L. *comple*, to complete] A group of proteins in the blood that play a vital role in the body's immune defenses through a cascade of interactions. Components of complement are labeled C1 through C9.

Complement acts by directly lysing (killing) organisms; by opsonizing an antigen, thus stimulating phagocytosis; and by stimulating inflammation and the B-cell-mediated immune response. All complement proteins lie inactive in the blood until activated by either the classic or the alternative pathways.

The lack of C3 increases susceptibility to common bacterial infections, whereas deficits in C5 through C9 are usually associated with increased incidence of autoimmune diseases, particularly systemic lupus erythematosus and glomerulonephritis. Lack of C1 causes hereditary angioedema of the extremities and gastrointestinal tract. The lack of any of the more than 25 proteins involved in the complement system may affect the body's defenses adversely.

complemental (kōm-plē-mēt'āl) Complementary.

complementarity (kōm'plē-mēn-tār'i-tē) In individual and group interactions, the extent to which emotional requirements are met.

complementary (kōm'plī-mēn'ti-rē, trē)

1. Supplying something that is lacking in another system or entity. 2. Having an inverse relationship with another molecule so that the two molecules attract or bind to each other perfectly. 3. Being a reversed copy of another molecule (e.g., complementary DNA). SYN: *complemental*.

complement-fixation reaction A reaction seen when complement enters into combinations formed between soluble or particulate antigens and antibody. It is used to diagnose many infectious illnesses, including chlamydia, syphilis, and mycoplasma, among others. SEE: *complement*; *complement fixation*.

complement unit The smallest quantity of complement required for hemolysis of a given amount of red blood cells with one amboceptor (hemolysin) unit present.

complex (kōm-pleks') [L. *complexus*, woven together] 1. All the ideas, feelings, and sensations connected with a subject. 2. Intricate. 3. An atrial or ventricular systole as it appears on an electrocardiograph tracing. 4. A subconscious idea (or group of ideas) that has become associated with a repressed wish or emotional experience and that may influence behavior, although the person may not realize the connection with the repressed thoughts or actions. 5. In Freudian theory, a grouping of ideas with an emotional background. These may be harmless, and the individual may be fully aware of them (e.g., an artist sees every object with a view to a possible picture and is said to have established a complex for art). Often, however, the complex is aroused by some painful emotional reaction such as

fright or excessive grief that, instead of being allowed a natural outlet, becomes unconsciously repressed and later manifests itself in some abnormality of mind or behavior. According to Freud, the best method of determining the complex is through psychoanalysis. SEE: *Electra complex*; *Jocasta complex*; *Oedipus complex*.

castration c. A morbid fear of being castrated.

Ghon c. SEE: *Ghon complex*.

Golgi c. Golgi apparatus.

inferiority c. The condition of having low self-esteem; a 20th-century term stemming from Adlerian therapy.

membrane attack c. The combination of complement factors C5 through C9 that directly attack and kill the cell membranes of microorganisms during the terminal attack phase of the complement cascade. SEE: *complement*; *inflammation*.

nodal premature c. ABBR: NPC. Ectopic cardiac beat originating in the atrioventricular node.

nuclear pore c. A collection of membrane-associated proteins that regulate the passage of large molecules between the cytoplasm and the cell nucleus.

superiority c. Exaggerated conviction that one is better than others, a pretense used to compensate for a real or imagined inferiority.

complexion (kōm-plēk'shūn) The color and appearance of the facial skin.

complex regional pain syndrome, type 1 Reflex sympathetic dystrophy.

complex regional pain syndrome, type 2 Causalgia.

compliance (kōm-plī'āns) 1. adherence (2). 2. The property of altering size and shape in response to application of force, weight, or release from force. The lung and thoracic cage of a child may have a high degree of compliance as compared with that of an elderly person.

dynamic c. A measure of the ease of lung inflation with positive pressure.

effective c. Patient compliance during positive-pressure breathing using a tidal volume corrected for compressed volume divided by static pressure.

frequency-dependent c. A condition in which pulmonary compliance decreases with rapid breathing; used to identify small airway disease.

myocardial c. The ease with which the heart muscle relaxes as it fills with blood.

pulmonary c. A measure of the force required to distend the lungs.

static c. A volume-to-pressure measurement of lung distensibility with exhalation against a closed system, taken under conditions of no airflow.

tubing c. The ability of ventilator tubing to expand when pressurized. It is calculated by closing the ventilator

circuit and measuring the volume under pressurization.

compliance program A corporate or institutional program that provides guidelines for the ethical and legal behavior of employees. It is used to disseminate knowledge about, and to supervise, and enforce the conduct of health care employees, specifically their adherence to federally mandated rules that regulate health care fraud, waste, and abuse.

complicating disease A disease that occurs during the course of another disease.

complication (kŏm'pli-kā'shŭn) [L. *cum*, with, + *plicare*, to fold] An added difficulty; a complex state; a disease or accident superimposed on another without being specifically related, yet affecting or modifying the prognosis of the original disease (e.g., pneumonia is a complication of measles and is the cause of many deaths from that disease).

component (kŏm-pŏ'nĕnt) A constituent part.

blood c. Any transfusable product derived from whole blood (e.g., red blood cells, platelets, plasma, coagulation factors, immunoglobulins).

component blood therapy SEE: *blood component therapy*.

composite (kŏm-pŏz'it) [L. *compositus*, put together] A material made of two (or more) parts that when linked exhibit different biological, chemical, or physical properties than either part alone.

compos mentis (kŏm'pŭs mĕn'tis) [L.] Of sound mind; sane. SEE: *non compos mentis*.

compound (kŏmp'ownd) [L. *componere*, to place together] 1. A substance composed of two or more units or parts combined in definite proportions by weight and having specific properties of its own. Compounds are formed by all living organisms and are of two types, organic and inorganic. 2. Made up of more than one part.

amphoteric c. A compound that reacts as both an acid and a base.

antisense c. Manufactured compounds that may alter disease processes by blocking the production of harmful proteins by diseased cells. These molecules seek out and impede the functioning of a diseased cell's messenger RNA (i.e., a "sense" strand). Without this intervention, the RNA would carry basic directions for the production of disease-causing proteins.

azo c. Organic substances that contain the azo group. An example is azobenzene, C₆H₅N=N:C₆H₅. They are related to aniline and include important dyes and indicators. SEE: *indicator* for table.

barium c. Compounds containing

barium and suitable diluents or additives. They are used in the form of insoluble barium sulfate, to visualize, that is, to outline, the hollow viscera in roentgenography. Poisoning occasionally occurs when the soluble salts are used accidentally in place of the insoluble sulfate. SEE: *Poisons and Poisoning Appendix*.

chemical c. 1. A substance consisting of two or more chemical elements, in specific proportions and in chemical combination, for which a chemical formula can be written. Examples include water (H₂O) and salt (NaCl). 2. A substance that can be separated chemically into simpler substances.

impression c. Nonelastic molding used in dentistry to make imprints of teeth and other oral tissues. Impression compound is a thermoplastic material (i.e., it softens when heated and solidifies without chemical change when cooled).

inorganic c. One of many compounds that, in general, contain no carbon.

organic c. A compound containing carbon. Such compounds include carbohydrates, proteins, and fats.

polar c. A molecule with distinct electrical charges in different regions, i.e., a positive charge in one region and a negative charge in another.

quarternary ammonium c. A salt of ammonia (NH₄⁺) in which the loci held by the hydrogen ions in ammonia are held instead by alkyl groups.

comprehend (kŏm-prĕ-hĕnd') To understand.

Comprehensive Health Enhancement Support System ABBR: CHES. A computer-based system of integrated services designed to help individuals cope with a health crisis or medical concern. It was developed by a team of decision, information, education, and communication scientists at the University of Wisconsin-Madison's HYPERLINK "http://chrsra.wisc.edu" Center for Health Systems Research and Analysis (CHSRA). CHES is currently being used by several major health organizations in the U.S. and Canada.

compress (kŏm-prĕs', kŏm'prĕs) A cloth, wet or dry, folded and applied firmly to a body part.

cold c. A soft, absorbent cloth, several layers thick, dipped in cold water, slightly wrung out, and applied to the part being treated. The duration of the application is usually 10 to 20 min.

hot c. A soft, absorbent cloth folded into several layers, dipped in hot water 107° to 115°F (41.7° to 46.1°C), barely wrung out, and placed on the part to be treated. It is covered with a piece of cloth.

wet c. Two or more folds of soft cloth

wrung out of water at prescribed temperatures and covered with fabric.

compress (kôm-prēs') [L. *compressus*, squeezed together] **1.** To press together into a smaller space. **2.** To close or occlude by applying pressure or squeezing together, as the edges of a wound or a vein. **3.** Employed during ultrasonography.

compressible (kûm-prēs'î-bîl) Able to be pressed into a smaller space or squeezed together.

compression (kôm-prësh'ûn) [L. *compressio*, a compression] A squeezing together; the condition of being pressed together.

breast c. Squeezing the breast between movable grids prior to mammographic or magnetic resonance imaging. Its purpose is to:

limit movement of the breast and optimize image detail;

minimize the dose of radiation received;

maximize the quantity of breast tissue in the field of view; and

stabilize the breast during biopsy.

cerebral c. Potentially life-threatening pressure on the brain produced by increased intracranial fluid, embolism, thrombosis, tumors, skull fractures, or aneurysms.

SYMPTOMS: The condition is marked by alterations of consciousness, nausea and vomiting, limb paralysis, and cranial nerve deficits. It may present as, or progress to, brain death. SEE: *Glasgow Coma Scale*.

PATIENT CARE: The patient is closely assessed for signs and symptoms of increased intracranial pressure, respiratory distress, convulsions, bleeding from the ears or nose, or drainage of cerebrospinal fluid from the ears or nose (which most probably indicates a fracture). Neurological status is monitored for any alterations in level of consciousness, pupillary signs, ocular movements, verbal response, sensory and motor function (including voluntary and involuntary movements), or behavioral and mental capabilities; and vital signs are assessed, esp. respiratory patterns. Any signs of deterioration are documented and reported. Seizure precautions are maintained.

Insertion of an intracranial pressure (ICP) monitoring device permits monitoring of cerebral perfusion and draining of cerebrospinal fluid to decrease ICP and reduce intracranial volume. A brain scan may help to determine the cause. Hyperventilation reduces PaCO₂, causing cerebral blood vessels to constrict, thus lessening blood volume within the cranium and lowering ICP. Osmotic diuretics and hypertonic saline solutions also help to move fluid out of the brain and into the intravascular

space. If these therapies fail, decompressive craniectomy, high-dose barbiturate therapy, and aggressive therapeutic hyperventilation may be instituted. All general patient care concerns apply. In addition, the patient requires aggressive pulmonary care to prevent respiratory complications; enteral or parenteral nutrition to maintain a normoglycemic state, meet hypermetabolic energy requirements, and prevent protein calorie malnutrition; and careful assessment for coagulopathies and gastrointestinal bleeding and prophylaxis for deep vein thrombosis. Physical and occupational therapists help to prevent musculoskeletal complications. Special mattresses, careful repositioning, and regular skin care help prevent skin breakdown.

digital c. Compression of blood vessels with the fingers to stop hemorrhage.

intermittent c. A technique for reducing edema in an extremity by means of air or, less commonly, chilled water mechanically pumped through a sleeve. Circumferential pressure applied to the arm or leg is gradually increased to enhance venous and lymphatic flow, and then the sleeve is deflated. The process is then repeated. SEE: *sequential compression device*.

myelitis c. Compression due to pressure on the spinal cord, often caused by a tumor.

compression glove A glove made of material that stretches; used to maintain pressure on and decrease the swelling in an arm or hand.

compression paddle In mammography, a thin plastic device that squeezes breast tissue against the support table, in order to achieve either uniform pressure on all breast tissue, or a uniform thickness.

compression-ventilation ratio In emergency cardiac care, the number of times a rescuer forcibly depresses the chest of a victim of cardiac arrest for each administered breath. The American Heart Association (2005) suggests a ratio of 30 chest compressions followed by 2 ventilations for each cycle of cardiopulmonary resuscitation.

compressor (kôm-prēs'ôr) **1.** An instrument or device that applies a compressive force, as in compaction of gold. **2.** A muscle that compresses a part, as the compressor hemispherium bulbi, which compresses the bulb of the urethra.

air c. A machine that compresses air into storage tanks for use in air syringes, air turbine handpieces, and other air-driven tools.

compromised host (kôm'pră-mîzd") A person who lacks resistance to infection owing to a deficiency in any of the host

- defenses. SEE: *AIDS*; *host defense mechanisms*; *immunocompromised*
- Compton scattering** (kōmp'tōn) [Arthur H. Compton, American physicist, 1892–1962] An interaction between x-rays and matter in which the incoming photon ejects a loosely bound outer-shell electron. The resulting change in the direction of the x-ray photon causes scatter, increasing the dose and degrading the radiographic image. Most interactions between x-rays and matter are of this type, esp. at high energies.
- compulsion** (kōm-pūl'shūn) [L. *compulsio*, compulsion] A repetitive stereotyped act performed to relieve fear connected with obsession. If denied, it causes uneasiness. SYN: *compulsion neurosis*. **compulsive** (-sīv), *adj.*
- compulsory** (kōm-pūl'sor-ē) **1.** Compelling action against one's will. **2.** Required.
- computational knowledge** The use of a computer to interpret data, used as a basis for forming hypotheses, establishing trends, testing relationships, and making decisions.
- computer-assisted instruction** SEE: *under instruction*.
- computerized physician or provider order entry** ABBR: CPOE. Any system that allows registered health care providers to request drugs, laboratory studies, or radiological tests by entering those requests in an electronic health-care record.
- computer literacy** **1.** The ability to acquire and apply a basic understanding of computer hardware and software to solve problems or access information. **2.** Educational programs designed to help students gain mastery in computer applications.
- computer science** **1.** The development, configuration, and architecture of computer hardware and software. **2.** The study of computer hardware and software.
- computer vision syndrome** ABBR: CVS. Eye symptoms that result from excessive computer use. Commonly reported findings include blurry distance vision, visual fatigue, a sense of eye dryness, headaches, or neck or shoulder pain. CVS may be improved with special eyewear designed for computer users.
- COMT** Catechol-*O*-methyltransferase, an enzyme that breaks down dopamine and L-dopa in the brain and thus reduces the effectiveness of some treatments for Parkinson's disease. Drugs that inhibit COMT improve patient responsiveness to treatment with levodopa, one of the mainstays of treatment for Parkinson's disease.
- CON** *certificate of need*.
- con-** [L.] Prefix meaning *together* or *with*. SEE: *syn-*.
- con-A** *concanavalin-A*.
- conarium** (kō-nā'rē-ūm) [L.] The pineal body of the brain.
- conation** (kō-nā'shūn) [L. *conatio*, an attempt] The initiative, impulse, and drive to act. All of these may be diminished in cerebral diseases, esp. those involving the medial orbital parts of the frontal lobes. SEE: *abulia*.
- concanavalin-A** (kōn'kā-nāv'ī-līn) ABBR: con-A. A protein derived from the jack bean used to stimulate proliferation of T lymphocytes. SEE: *mitogen*.
- concatenation** (kōn-kāt'ī-nā'shūn) [L. *con*, together, + *catena*, chain] A group of events or effects acting in concert or occurring at the same time. SYN: *catenation*.
- Concato's disease** (kōn-kō'tōs) [Luigi M. Concato, It. physician, 1825–1882] Polyserositis.
- concave** (kōn'kāv, kōn-kāv') [ʹ + *cavus*, hollow] Having a spherically depressed or hollow surface.
- concavity** (kōn-kāv'ī-tē) A surface with curved, bowl-like sides; a rounded depression.
- concavoconcave** (kōn-kāv'vō-kōn'kāv) [ʹ + *cavus*, hollow, + *con*, with, + *cavus*, hollow] Concave on opposing sides.
- convex** (kōn-kāv'vō-kōn'vēks) [ʹ + " + *convexus*, vaulted] Concave on one side and convex on the opposite surface. SEE: *convex*.
- concealment** (kōn-sēl'mēnt) **1.** In medicolegal affairs, failure to provide information or evidence. **2.** In research, a technique to guarantee blinding of subjects and investigators. **3.** In patient care, shielding a patient from his diagnosis. **4.** In plastic surgery, the hiding of a structure with an undesirable appearance. **5.** In electrocardiography, the invisibility of a rhythm or conduction disturbance. **6.** In emergency or military medicine, hiding behind a curtain or bush to make it difficult for an assailant to see or direct gunfire toward one.
- conceive** (kōn-sēv') [L. *concipere*, to take to oneself] **1.** To become pregnant. **2.** To form a mental image or to bring into mind; to form an idea.
- concentration** (kōn-sēn-trā'shūn) [L. *con*, together with, + *centrum*, center] **1.** Fixation of the mind on one subject to the exclusion of all other thoughts. **2.** An increase in the strength of a fluid by evaporation. **3.** The amount of a substance in a mixture or solution expressed as weight or mass per unit volume.
- airborne c.** The mass of particulate substances or fibers, or the vapor percentage of dissolved pollutants in a specific volume of air. The heavier the concentration, the greater the risk of diseases caused by inhalation.
- blood alcohol c.** ABBR: BAC. The concentration of ethanol in the blood (weight of alcohol in a fixed volume of

blood), usually expressed in the U.S. in mg/dl. Concentration depends on quantity, rate of alcohol ingestion, metabolism, and alcohol absorption rates, used to measure degree of intoxication in an individual. The alcohol level at which an individual is considered legally impaired varies by country and state. Also called blood alcohol level.

hydrogen ion c. [H^+], the molar concentration of hydrogen ions in a solution, the factor responsible for the acidic properties of a solution. SEE: *pH*.

mass c. SYMB: ρ . The amount of matter of any substance divided by its volume. In the metric system, ρ is defined in kilograms per liter (kg/L). SEE: *substance c.*; *molar c.*

mean cell hemoglobin concentration The average concentration of hemoglobin in a given volume (usually 100 ml) of packed red blood cells, obtained by multiplying the number of grams of hemoglobin in the unit volume by 100 and dividing by the hematocrit. SYN: *mean corpuscular hemoglobin concentration*.

mean corpuscular hemoglobin c. ABBR: MCHC. Mean cell hemoglobin c.

minimum bactericidal c. The lowest concentration of an antimicrobial that kills a defined fraction of bacteria or fungi. SYN: *minimum lethal concentration*.

minimum inhibitory c. ABBR: MIC. The lowest concentration of an antimicrobial drug that prevents visible bacterial growth in a defined growth medium.

minimum lethal c. ABBR: MLC. Minimum bactericidal c.

molar c. SYMB: *c*. The number of moles of a substance in a specified volume of solution.

substance c. SYMB: *c*. The amount of a specified material or the amount of substance (measured in moles) in the total volume of a system. SEE: *mass c.*

concentration test A kidney function test based on the ability of the person to produce concentrated urine under conditions that would normally cause such production, as in intentional dehydration.

concentric (kŏn-sĕn'trĭk) [*+* *centrum*, center] Having a common center.

concept (kŏn'sĕpt) [L. *conceptum*, something understood] An idea.

conception (kŏn-sĕp'shŭn) **1.** The mental process of forming an idea. **2.** The onset of pregnancy marked by implantation of a fertilized ovum in the uterine wall. SEE: *contraception*; *fertilization*; *implantation*.

Conceptual Level Analogies Test ABBR: CLAT. A neuropsychiatric test designed to gauge abstract verbal reasoning.

conceptual models of nursing (kŏn-

sĕp'chŭ-ăl) A set of abstract and general concepts and propositions that provide a distinctive frame of reference for viewing human beings, the environment, health, and nursing actions; used to guide nursing practice, research, education, and administration. SEE: *Nursing Theory Appendix*.

conceptus (kŏn-sĕp'tŭs) The products of conception.

concha (kŏng'kă) *pl.* **conchae** [Gr. *konche*, shell] **1.** The outer ear or the pinna. **2.** One of the three nasal conchae. SEE: *nasal concha*.

c. auriculæ A concavity on the median surface of the auricle of the ear, divided by a ridge into the upper cymba conchae and a lower cavum conchae. The latter leads to the external auditory meatus.

c. bullosa A distention of the turbinate bone due to cyst formation.

nasal c. One of the three scroll-like bones that project medially from the lateral wall of the nasal cavity; a turbinate bone. The superior and middle conchae are processes of the lateral mass of the ethmoid bone; the inferior concha is a facial bone. Each overlies a meatus.

c. sphenoidalis In a fetal skull, one of the two curved plates located on the anterior portion of the body of the sphenoid bone and forming part of the roof of the nasal cavity.

conchotome (kŏng'kŏ-tŏm) [*+* *tome*, incision] A device for excising the middle turbinate bone.

concoction (kŏn-kŏk'shŭn) [L. *con*, with, + *coquere*, to cook] A mixture of two medicinal substances, usually done with the aid of heat.

concomitant (kŏn-kŏm'ĭ-tănt) [*+* *comes*, companion] Accessory; taking place at the same time.

concordance (kŏn-kor'dăns) In twins, the equal representation of a genetic trait in each.

concrement (kŏn'krĕ-mĕnt) [L. *concrementum*] A concretion as of protein and other substances. If infiltrated with calcium salts, it is termed a calculus.

conrescence (kŏn-krĕs'ĕns) [L. *con*, with, + *crescere*, to grow] The union of separate parts; coalescence, esp. the attachment of a tooth to an adjacent one by deposition of cementum to the roots.

concrete (kŏn'krĕt, kŏn-krĕt') [L. *concretus*, solid] Condensed, hardened, or solidified.

concretio cordis (kŏn-krĕ'shĕ-ŏ kor'dis) Obliteration of the pericardial space in chronic, constrictive pericarditis.

concretion (kŏn-krĕ'shŭn) [*+* *crescere*, to grow] Calculus.

concussion (kŏn-kŭsh'ŭn) [L. *concussus*, shaken violently] **1.** An injury resulting from impact with an object. **2.** Partial or complete loss of function, as that resulting from a blow or fall.

c. of brain An imprecise term for a traumatic brain injury.

c. of labyrinth Deafness resulting from a blow to the head or ear.

spinal c. Loss of function in the spinal cord resulting from a blow or severe jarring.

condensation (kŏn'dĕn-sā'shŭn) [L. *con*, with, + *densare*, to make thick] 1. Making more dense or compact. 2. Changing of a liquid to a solid or a gas to a liquid. 3. In psychoanalysis, the union of ideas to form a new mental pattern. 4. In chemistry, a type of reaction in which two or more molecules of the same substance react with each other and form a new and heavier substance with different chemical properties. 5. A mechanical process used in dentistry to pack amalgam into a cavity preparation. The goal of condensation is to produce a homogeneous restorative material with an absence of voids. Condensation is also a method of placing a direct gold restoration, improving the physical properties of the gold foil used and forcing the foil to adapt to the cavity preparation.

condenser (kŏn-dĕn'sĕr) 1. A device used to liquefy gases or vapors, or rarely to convert gases directly into solids. 2. An instrument or tool used to compact and condense restorative materials in dental cavity preparations; also called a plugger.

electrical c. A device for storing electricity by using two conducting surfaces and a nonconductor.

substage c. The part of the lens system of a microscope that supplies the illumination critical to the resolving power of the instrument; also called an Abbé condenser.

condensin (kŏn-dĕn'sin) [L. *con*, with, + *densare*, to make thick, + *in*, into] A protein complex that compacts and organizes dividing chromosomes during mitosis.

condiment (kŏn'dĭ-mĕnt) [L. *condire*, to pickle] An appetizing ingredient added to food.

CLASSIFICATION: *Aromatic:* vanilla, cinnamon, cloves, chervil, parsley, bay leaf. *Acrid or peppery:* pepper, ginger, tabasco, all-spice. *Alliaceous or allylic:* onion, mustard, horseradish. *Acid:* vinegar, capers, gherkins, citron. *Animal origin:* caviar, anchovies. *Miscellaneous:* salt, sugar, truffles.

In general, with the exception of sugar, condiments have little nutritional value. They are appetizers, stimulating the secretion of saliva and intestinal juices.

condition 1. A state of health; physical, esp. athletic, fitness. 2. To train a person or animal to respond in a predictable way to a stimulus.

conditioning (kŏn-dĭsh'ŭn-ĭng) 1. Im-

proving the physical capability of a person by an exercise program. 2. In psychology, the use of a special and different stimulus in conjunction with a familiar one. After a sufficient period in which the two stimuli have been presented simultaneously, the special stimulus alone will cause the response that could originally be produced only by the familiar stimulus. The late Russian physiologist Ivan Pavlov used dogs to demonstrate that the strange stimulus, ringing of a bell, could cause the animal to salivate if the test was done after a period of *conditioning* during which the bell and the familiar stimulus, food, were presented simultaneously. Also called *classical conditioning*. 3. The administration of chemotherapy in preparation for bone marrow transplantation. The purpose is to eliminate cancer cells from the marrow before donor cells are infused. 4. The treatment with heat and moisture of gases supplied to a patient through an endotracheal tube so that the gases more closely approximate those that might pass through the upper airways into the trachea and bronchi during spontaneous breathing.

aversive c. SEE: *therapy, aversion.*

operant c. The learning of a particular action or type of behavior followed by a reward. This technique was publicized by the Harvard psychologist B. F. Skinner, who trained animals to activate (by pecking, in the case of a pigeon, or pressing a bar, in the case of a rat) an apparatus that released a pellet of food.

condom (kŏn'dŭm) [L. *condus*, a receptacle] A thin, flexible penile sheath made of synthetic or natural materials. Condoms are used commonly during sexual intercourse to prevent conception by capturing ejaculated semen. Latex condoms also shield against sexually transmitted infections. Their effectiveness is affected by careful handling (to avoid punctures, tears, or slippage), usage before sexual contact (to prevent inadvertent transmission of sperm or germs), and allowing sufficient space for ejaculation (to prevent condom rupture). To avoid damage to condoms, only water-soluble lubricants should be used to facilitate vaginal entry. Condoms should not be reused. SEE: *contraception; sexually transmitted disease.*



Only a water-based lubricant such as K-Y Jelly should be used with a condom. Oil-based products begin to deteriorate latex in less than 1 min.

female c. An intravaginal device, similar to the male condom, that is designed to prevent unwanted pregnancy and sexually transmitted diseases. It consists of a soft loose-fitting polyure-

thane sheath closed at one end. A flexible polyurethane ring is inside the closed end and another is at the open end. The inner ring is used for insertion, covering the cervix the way a contraceptive diaphragm does and also anchoring and positioning the condom well inside the vagina. During use the external ring remains outside the vagina and covers the area around the vaginal opening. This prevents contact between the labia and the base of the penis. The female condom is prelubricated, and additional lubrication is provided in the package. It is designed for one-time use. As a contraceptive, it is as effective as other barrier methods. **SEE: illus.**



FEMALE CONDOM

conductance (kōn-dŭk'tāns) [L. *conducere*, to lead] The conducting ability of a body or a circuit for electricity. The best conductor is one that offers the least resistance such as gold, silver, or copper. When expressed as a numerical value, conductance is the reciprocal of resistance. The unit is the ohm.

airway c. ABBR: G_{AW} . The amount of airflow divided by the amount of pressure that produces it; a measure of the ability of the respiratory airways to maintain airflow.

conduction (kōn-dŭk'shŭn) **1.** The process whereby a state of excitation affects adjacent portions of a tissue or cell, so

that the disturbance is transmitted to remote points. Conduction occurs not only in the fibers of the nervous system but also in muscle fibers. **2.** The transfer of electrons, ions, heat, or sound waves through a conductor or conducting medium.

aberrant c. The movement of electrical impulses through the heart along diseased or accessory pathways.

air c. The conduction of sound to the inner ear via the pathway provided by the air in the ear canal.

bone c. Sound conduction through the cranial bones.

conductivity (kōn'dŭk-tiv'ī-tē) The specific electric conducting ability of a substance. Conductivity is the reciprocal of unit resistance or resistivity. The unit is the ohm/cm. Specific conductivity is sometimes expressed as a percentage. In such cases, it is given as a percentage of the conductivity of pure copper under certain standard conditions.

conductor (kōn-dŭk'tor) **1.** A medium that transmits a force, a signal, or electricity. **2.** A guide directing a surgical knife or probe.

conduit (kōn'doo-īt) A channel, esp. one constructed surgically.

ileal c. A method of diverting the urinary flow by transplanting the ureters into a prepared and isolated segment of the ileum, which is sutured closed on one end. The other end is connected to an opening in the abdominal wall. Urine is collected there in a special receptacle.

condylar (kōn'dī-lār) [Gr. *kondylos*, knuckle] Pert. to a condyle.

condyle (kōn'dīl) *pl.* **condyles** [Gr. *kondylos*, knuckle] A rounded protuberance at the end of a bone forming an articulation.

condylectomy (kōn'dī-lēk'tō-mē) [ʹ + *ektome*, excision] Surgical excision of a condyle.

condyloid (kōn'dī-loyd) [Gr. *kondylos*, knuckle, + *eidōs*, form, shape] Pert. to or resembling a condyle.

condyloma (kōn'dī-lō'mā) *pl.* **condylomata** [Gr. *kondyloma*, wart] A wart, found on the genitals or near the anus, with a textured surface that may resemble coral, cauliflower, or cobblestone.

c. acuminatum A wart, typically found on the genitals, the perineum, the anus, or the mucosal surfaces of the vagina or mouth, usually spread by sexual contact. It is caused by various types of human papilloma virus and may be spread by physical contact with an area containing a wart. The spread of a wart from one labium to the other by auto-inoculation is possible. The virus that causes the wart is usually transmitted sexually. SYN: *genital wart*. **SEE: illus.**

TREATMENT: Topically applied liquid nitrogen, imiquimod cream, fluorouracil, or podophyllin may prove effec-



CONDYLOMA (PERIANAL WARTS)

tive; multiple treatments are usually needed, including occasionally surgery, electrosurgery, or laser ablation. Extremely large lesions (Buschke-Lowenstein tumor) may need radical excision.

c. latum A mucous patch, characteristic of syphilis, most often on the vulva or anus. It is flat, coated with gray exudate and has a delimited area. SYN: *moist papule*.

condylomatous (kŏn'dī-lŏt'mă-tūs) Pert. to a condyloma.

condylotomy (kŏn'dī-lŏt'ŏ-mē) [Gr. *condylos*, knuckle, + *tome*, incision] Division of a condyle without its removal.

cone (kŏn) [Gr. *konos*, cone] **1.** A solid or hollow three-dimensional figure with a circular base and sides sloping up to a point. **2.** In the outer layer of the retina (the layer adjacent to the choroid), one of the flask-shaped cells that are stimulated by the wavelengths of light of different colors. The cones are essential for color discrimination. SYN: *retinal c.*; *cone cell*. SEE: *retina* for illus.; *rod*; *rod cell*. **3.** A hollow, tapered, cylindrical device used in upper-extremity exercise to improve grasp, coordination, and range of motion. **4.** A device on a dental radiography machine that indicates the direction of the central beam and helps to establish the desired source-to-film distance.

c. of light One of the triangular areas of reflected light on the tympanic membrane extending downward from the umbo. SEE: *umbo*.

ocular c. A cone of light in the eye with the point on the retina.

retinal c. Cone (2).

cone cut An area of a dental radiograph that was not exposed to radiation during imaging as a result of improper aiming of the primary beam. To avoid this problem, the proper point of entry must be carefully calculated.

cone cutting Failure to cover or expose the whole area of a radiograph with the

useful beam. The film is only partially exposed.

conexus (kŏ-nĕk'sūs) [L.] A connecting structure.

confabulation (kŏn-făb'ū-lă'shŭn) [L. *confabulari*, to talk together] A behavioral reaction to memory loss in which the patient fills in memory gaps with inappropriate words or fabricated ideas, often in great detail. Confabulation is a common finding in patients with Korsakoff's syndrome.

confectio, confection (kŏn-fĕk'shĕ-ŏ, -shŭn) [L. *conficere*, to prepare] A sugar-like soft solid in which one or more medicinal substances are incorporated so that they can be administered agreeably and preserved conveniently. The use of confections is rare in contemporary medicine.

confidence level The probability associated with a confidence interval, and stated as a part of that interval.

confidentiality The maintenance of privacy, by not sharing or divulging to a third party privileged or entrusted information. Patients' knowledge that they may safely discuss sensitive matters with their health care providers is necessary for successful, caring, and effective diagnosis and treatment. Matters discussed in confidence are held in secret, except in the rare instances when the information presents a clear threat to the health and well-being of another person, or in cases in which public health may be compromised by not revealing the information. In these instances, it is unethical and illegal not to disclose the information. SEE: *forensic medicine*; *privileged communication*.

configuration (kŏn-fig'ū-ră'shŭn) **1.** The shape and appearance of something. **2.** In chemistry, the position of atoms in a molecule.

activity c. An assessment approach used by occupational therapists to determine an individual's usual use of time during a typical week. The technique is designed to elicit the person's perceptions of the nature of daily activities and satisfaction with them. SEE: *time diary*.

confinement (kŏn-fin'mĕnt) [O.Fr. *confiner*, to restrain in a place] **1.** Historically, the 6-week period between the day of parturition and the end of the puerperium when women were expected to absent themselves from society, remain at home to recover, and be cared for by their family members. **2.** Hospitalization, esp. for labor and delivery. **3.** The experience of being restrained to a physical space in order to limit activity.

confirm (kŏn-firm') [L. *confirmare*, to strengthen] To show by repetition of a test (or with a complementary test) that a result initially obtained is accurate.

confirmatory test (kŏn-firm'ă-tŏr'ĕ) A

test used to validate the results obtained by another. The confirmatory test may be more sensitive or specific but must be based on different testing principles.

conflict (kōn'flikt) [L. *confligere*, to contend] **1.** The opposing action of incompatible substances. **2.** In psychiatry, the conscious or unconscious struggle between two opposing desires or courses of action; applied to a state in which social goals dictate behavior contrary to more primitive desires.

conflict, decisional The state of uncertainty about the course of action to be taken when choice among competing actions involves risk, loss, or challenge to personal life values. SEE: *Nursing Diagnoses Appendix*.

conflict, parental role Parent experience of role confusion and conflict in response to crisis. SEE: *Nursing Diagnoses Appendix*.

conflict of interest Prejudice or bias that may occur when one's impartiality is compromised by opportunities for personal gain or occupational advancement, or by the chance that one's work may support a favored point of view or social agenda.

conflict resolution The methods used by disputing parties to settle their differences. Common methods include accommodating each other's needs, compromising, or working together toward shared goals; or avoiding, competing with, or attempting to defeat the opponent.

confluence of sinuses (kōn'floo-ēns) The union of the superior sagittal and transverse venous sinuses.

confluent (kōn'floo-ēnt) [L. *confluere*, to run together] Running together, or joined, as when adjacent rashes merge.

conformation (kōn'for-mā'shūn) The form or shape of a part, body, material, or molecule.

confound (kōn'fownd') [L. *confundere*, to confuse, to pour together] **1.** To introduce bias into a research study. **2.** To confuse, bewilder, or mystify. **confounding, n.**

confounding by indication **1.** The bias introduced into a study when a variable is a risk factor for a disease among non-exposed persons, even though the risk factor is not an intermediate step in the causal pathway between the exposure and the disease. **2.** The decision of researchers to make treatment assignments based on a patient's pretreatment prognosis.

confrontation (kōn'frūn-tā'shūn) [L. *con*, together with, + *frons*, face] **1.** The examination of two patients together, one with a disease and the other from whom the disease was supposedly contracted. **2.** A method of determining the extent of visual fields in which that

of the patient is compared with that of the examiner. **3.** In psychiatry, a feedback procedure in which a patient's behavior and apparent feelings are presented to facilitate better understanding of his or her actions.

confusion (kōn-fū'zhūn) Not being aware of or oriented to time, place, or self.

acute c. The abrupt onset of reversible disturbances of consciousness, attention, cognition, and perception that develop over a short period of time. SYN: *acute confusional state*. SEE: *delirium*; *Nursing Diagnoses Appendix*.

chronic c. An irreversible, long-standing, and/or progressive deterioration of intellect and personality characterized by decreased ability to interpret environmental stimuli, decreased capacity for intellectual thought processes, and disturbances of memory, orientation, and behavior. SEE: *dementia*; *Nursing Diagnoses Appendix*.

confusion, acute, risk for At risk for reversible disturbances of consciousness, attention, cognition, and perception that develop over a short period of time. SEE: *Nursing Diagnoses Appendix*.

confusional state, acute SEE: *acute confusion*.

congener (kōn'jēn-ēr) [L. *con*, together, + *genus*, race] **1.** Two or more muscles with the same function. **2.** Something that resembles something else in structure, function, or origin. In the production of alcoholic beverages by fermentation, chemical substances termed congeners are also produced. These chemicals, more than 100 of which are known, impart aroma and flavor to the alcoholic compound. The precise role of these congeners in producing toxic effects is unknown.

congenital (kōn-jēn'ī-tāl) [L. *congenitus*, born together] Present at birth.

congenital disease A disease that is present at birth. It may be due to hereditary factors, prenatal infection, injury, or the effect of a drug the mother took during pregnancy.

congested (kōn-jēs'tēd) [L. *congerere*, to heap together] Containing an abnormal amount of blood or tissue fluid.

congestion (kōn-jēs'chūn) An excessive amount of blood or tissue fluid in an organ or in tissue. **congestive** (-tīv), *adj.*

active c. Congestion resulting from increased blood flow to a part or from dilatation of blood vessels.

passive c. Hyperemia of an organ resulting from interference with blood flow from capillaries into venules (e.g., in congestive heart failure).

pulmonary c. The accumulation of an abnormal amount of blood in the vascular bed of the lungs. It usually occurs in association with heart failure.

conglobate (kōn'glō-bāt) [L. *con*, to-

gether, + *globare*, to make round] In one mass, as lymph glands.

conglobation (kōn'glō-bā'shūn) An aggregation of particles in a rounded mass.

conglomerate (kōn-glōm'er-āt) [ʹ + *glomerare*, to heap] **1.** An aggregation in one mass. **2.** Clustered; heaped together.

conglutinant (kōn-gloo'tī-nānt) Promoting adhesion, as of the edges of a wound.

Congo-Crimean viral hemorrhagic fever (kōng'gō-kri-mē'ān) A frequently fatal viral infection found in the Middle East, Africa, and southwestern Asia, characterized by bleeding, diarrhea, hepatitis, high fevers, throat pain, and vomiting. The responsible virus (Congo-Crimean hemorrhagic fever virus) is transmitted to humans by ticks or exposure to the blood of infected animals or patients. Ribavirin has been used to treat the disease in some patients.

congregate housing (kōng'grā-gīt, -gātʹ) A group residence, usually for older persons, which encourages independence and community living. The tenants may need some medical or social assistance, but not enough to require hospitalization or nursing home care. Congregate housing can also be used by head-injured patients, spinal cord-injured patients, recovering alcoholics, and others. SEE: *assisted living*.

coniasis (kō-nī'ā-sīs) [Gr. *konis*, dust, + *-iasis*, condition] Dustlike calculi in gallbladder and bile ducts.

conidia (kō-nīd'ē-ā) *sing.*, **conidium** Asexual spores of fungi.

conidiophore (kōn-id'ē-ō-for) [ʹ + *phoros*, bearing] The stalk supporting conidia.

coning (kō'ning) [Gr. *konos*, cone] Herniation of the brain through the foramen magnum. This is a neurological catastrophe that almost always results in death.

coniofibrosis (kō'nē-ō-fi-brō'sīs) [Gr. *konis*, dust, + *L. fibra*, fiber, + Gr. *osis*, condition] Pneumoconiosis produced by dust such as that from asbestos or silica. This causes fibrosis to develop in the lung.

coniology (kō-nē-ōl'ō-jē) [ʹ + *logos*, study of] The study of dust and its effects.

coniosis (kō'nē-ō'sīs) [ʹ + *osis*, condition] Any condition caused by inhalation of dust.

coniosporosis (kō'nē-ō-spō-rō'sīs) [ʹ + *sporos*, seed, + *osis*, condition] A hypersensitivity reaction consisting of asthma and pneumonitis caused by breathing the spores of *Cryptostroma corticale* or *Coniosporium corticale*. These fungi grow under the bark of some types of trees. Workers who strip the bark from these trees may develop this condition.

coniotomy (kō'nē-ōt'ō-mē) [Gr. *konos*, cone, + *tome*, incision] Cricothyrotomy.

conization (kōn'ī-zā'shūn) [Gr. *konos*, cone] SYN: *cone biopsy*.

conjecture A conclusion that is not proved but rather is assumed from incomplete evidence; a guess or speculation.

conjugata (kōn'jū-gā'tā) Conjugate (2).

c. diagonalis Diagonal conjugate.

c. vera True conjugate.

conjugate (kōn'jū-gāt) **1.** Paired or joined. **2.** An important diameter of the pelvis, measured from the center of the promontory of the sacrum to the back of the symphysis pubis. In obstetrics, the diagonal conjugate is measured and the true conjugate is estimated. SYN: *conjugata*. SEE: *diagonal c.*

diagonal c. The distance between the sacral promontory and the lower inner surface of the symphysis pubis, usually more than 4.52 in (11.5 cm). SYN: *conjugata diagonalis*.

external c. The diameter measured (with calipers) from the spine of the last lumbar vertebra to the front of the pubes; it is normally about 8 in (20.3 cm).

obstetrical c. The distance between the sacral promontory and a point slightly below the upper inner margin of the symphysis pubis; the shortest diameter to which the fetal head must accommodate to descend successfully through the pelvic inlet.

true c. In obstetrics, the distance between the midline superior point of the sacrum and the upper margin of the symphysis pubis. It is the anteroposterior diameter of the pelvic inlet, estimated by subtracting 1.5 to 2 cm from the measurement of the diagonal conjugate. SYN: *conjugata vera*.

conjugated linoleic acid ABBR: CLA. A mixture of isomers of linoleic acid found to have anticancer, antiobesity, anti-diabetic, and antiatherogenic effects in laboratory rodents. CLAs have not been shown to have similar beneficial effects in humans.

conjugation (kōn'jū-gā'shūn) **1.** A coupling. **2.** In biology, the union of two unicellular organisms accompanied by an interchange of nuclear material as in *Paramecium*.

conjunctiva (kōn'jūnk-tī'vā) [L. *conjungere*, to join together] The mucous membrane that lines the eyelids and is reflected onto the eyeball.

DIVISIONS: The palpebral conjunctiva covers the undersurface of the eyelids. The bulbar conjunctiva coats the anterior portion of the eyeball. The fornix conjunctiva is the transition portion forming a fold between the lid and the globe.

INSPECTION: The palpebral and ocular portions should be examined.

Color, degree of moisture, presence of foreign bodies or petechial hemorrhages, and inflammation should be observed.

PATHOLOGY: Conjunctival pathology includes trachoma, pannus, and discoloration. Yellowish discoloration is seen in jaundice and pale conjunctivae are seen in anemias. Note: The skin of a person with hypercarotinemias is yellow, but the conjunctivae are not.

conjunctival test (kōn-jūngk-tī-väl) An outdated allergy test in which the suspected antigen is placed in the conjunctival sac; if it is allergenic for that patient, the conjunctiva becomes red and itchy and tears are produced.

conjunctivitis (kōn-jūnk-tī-vī-tīs) [*Gr. itis, inflammation*] Inflammation of the conjunctiva. Treatment is directed against the specific cause.



PATIENT CARE: Viral, gonococcal, and chlamydial conjunctivitis are highly contagious diseases spread by person-to-person contact. When an infection is present, the patient experiences itching, tearing, burning, pain and a mucopurulent discharge, along with the feeling of a foreign body in the eye. The conjunctiva becomes hyperemic, thus the common name of "pink-eye." To limit spread of the disease, patients with infectious conjunctivitis should avoid touching their eyes and should wash their hands thoroughly before and after any eye contact or treatment. If eye drops are prescribed, the patient is taught how to avoid contaminating the medication dispenser. To do this, without having the dropper tip touch the patient's eye, the patient's head should be placed backward with the eyes looking upward, and the drop or drops as prescribed placed into a pouch created by pulling downward on the lashes and tissues of the bottom eyelid. If an ophthalmic ointment is prescribed, the patient is taught to apply it to the inner aspect of the bottom eyelid in a thin ribbon, from the inner to the outer canthus. If the eye is difficult to open because of sticky discharge, the patient should rinse it with sterile saline or other ophthalmic solution or apply a moist compress to the eyelids. Hand hygiene helps prevent spread of infection from one eye to the other and transfer of the infection from the affected patient to others in the household.

actinic c. Conjunctivitis resulting from exposure to ultraviolet (actinic) radiation.

acute contagious c. Epidemic keratoconjunctivitis.

acute hemorrhagic c. A contagious viral eye infection marked by rapid onset of pain. It causes swollen eyelids, hyperemia of the conjunctiva, and later subconjunctival hemorrhage. The dis-

ease, which is self-limited and for which there is no specific therapy, usually affects both eyes. Several viral agents can cause this disease, including enterovirus 70, echovirus 7, and a variant of coxsackievirus A24.

angular c. of Morax-Axenfeld Conjunctivitis affecting the lateral canthus of the eyelid.

catarrhal c. Conjunctivitis due to causes such as foreign bodies, bacteria, or irritation from heat, cold, or chemicals.

chlamydial c. Conjunctivitis caused by *Chlamydia trachomatis*. In newborns this type of conjunctivitis is encountered more frequently than ophthalmia neonatorum caused by gonococci. Prophylaxis for chlamydial conjunctivitis is 1% topical silver nitrate. If the disease develops, drugs such as azithromycin, quinolones, or sulfa-based antibiotics are used. **SYN:** inclusion conjunctivitis; inclusion blennorrhoea.

follicular c. A type of conjunctivitis characterized by pinkish round bodies in the retrotarsal fold; can be chronic or acute.

giant papillary c. ABBR: GPC. An immune/foreign body response of the conjunctiva to contact lenses (esp. if left in place for 4 or more weeks), to nylon, or to prosthetic materials. It causes itching of the eye, redness, photophobia, swelling, and blurry vision. Examination reveals giant papillae on the superior tarsus.

PATIENT CARE: Changing or removing contact lenses frequently decreases the likelihood of contracting GPC. All contact lens wearers should be advised to use good hand hygiene esp. before handling lenses, and to replace lenses according to prescribed schedule, using prescribed cleaning and storage guidelines, and a "rub and rinse" cleaning method rather than no rub. If such symptoms occur, the individual should remove the contact lens immediately and seek evaluation and treatment from the primary care provider or ophthalmologist.

gonococcal c. A severe, acute form of purulent conjunctivitis caused by *Neisseria gonorrhoeae*. SEE: ophthalmia neonatorum.

gonorrheal c. SEE: gonococcal c.

granular c. Acute contagious inflammatory conjunctivitis with granular elevations on the lids that ulcerate and scar.

inclusion c. Chlamydial c.

ligneous c. A rare eye disease in which fibrin deposits create woody plaques on the conjunctiva. Similar plaques may develop in the airways and genitalia. The disease often is found in

patients with a deficiency in plasminogen levels.

membranous c. Acute conjunctivitis marked by a false membrane with or without infiltration.

c. of newborn Ophthalmia neonatorum.

phlyctenular c. An allergenic form of conjunctivitis common in children and marked by small white nodules on the bulbar conjunctiva often near the limbus. Can be seen in tuberculosis and staphylococcal infections.

purulent c. A form of conjunctivitis caused by organisms producing pus, esp. gonococci.

seasonal c. Allergic inflammation of the conjunctiva that occurs because of exposure to pollens, grasses, and other antigens.

vernal c. Allergic conjunctivitis associated with a papillary response, itching, thick, ropy discharge; common in young patients, esp. males.

conjunctivoma (kōn-jūnk'tī-vō'mă) [L. *conjungere*, to join together, + Gr. *oma*, tumor] A tumor of the conjunctiva.

conjunctivoplasty (kōn'jūnk-tī'vō-plās'tē) [r' + Gr. *plassein*, to form] Removal of part of the cornea and replacement with flaps from the conjunctiva.

connective (kō-nēk'tiv) [L. *connectere*, to bind together] Connecting or binding together, as connective tissue.

connective tissue SEE: under *tissue*.

connective tissue disease ABBR: CTD. A group of diseases that affect connective tissue, including muscle, cartilage, tendons, vessels, skin, and ligaments. CTDs may be acute but are usually chronic. They may be localized or systemic and are marked by inflammatory or autoimmune injury. Examples of such diseases include systemic lupus erythematosus, rheumatoid arthritis, systemic sclerosis, and the vasculitides.

connexon (kōn-ēks'ūn) A protein that forms tunnels across gap junctions, enabling ions or small molecules, such as glucose, to pass from one cell to another.

Conn's syndrome (Kōnz) [J. W. Conn, U.S. physician, 1907–1981] Primary hyperaldosteronism. Clinical findings include muscle weakness, polyuria, hypertension, hypokalemia, and alkalosis associated with an abnormally high rate of aldosterone secretion by the adrenal cortex. SEE: *Nursing Diagnoses Appendix*.

conotoxins (kō'nō-tōks'in) [Gr. *konos*, cone + "] Any of a group of poisonous peptides made by mollusks known as cone snails. Conotoxins are potent nerve toxins and are considered to be potential biological or chemical warfare agents. Some conotoxins may also be used to treat neuropathic pain.

CONS *coagulase-negative Staphylococcus*.

consanguinity (kōn'sān-gwīn'ī-tē) [L. *consanguinitas*, kinship] Relationship by blood (i.e., descent from a common ancestor).

conscience (kon'shūntz) One's inner sense of what is right, wrong, or fair, esp. regarding relations with people or society. This sense can inhibit or reinforce the individual's actions and thoughts. SEE: *superego*.

conscious (kōn'shūs) [L. *consciūs*, aware] Being aware and having perception; awake. SEE: *coma*.

consciousness (kōn'shūs-nēs) Arousal accompanied by awareness of one's environment. In practice, consciousness is said to be present when a person is awake, alert, and oriented to his or her surroundings (i.e., where one is, who one is, what the date is).

Alterations of consciousness are common. Sleep is an altered state of consciousness from which one can be easily aroused. Stupor and lethargy are conditions in which one's level of arousal is diminished. In coma, one cannot be aroused. Other alterations in consciousness occur in delirium, dementia, hallucinosis, or intoxication, when persons may be fully aroused but have impaired perceptions of themselves and their environment.

altered level of c. ABBR: ALOC. A circumlocution for impaired consciousness (confusion, drowsiness, lethargy, stupor, or coma).

clouding of c. In delirium, a state in which awareness of the environment is impaired.

cost c. Awareness of economic limits in the practice of medicine.

disintegration of c. In classic psychoanalysis, disorganization of the personality. It is produced by the contents of the unconscious gradually disrupting the conscious.

levels of c. States of arousal and awareness, ranging from fully awake and oriented to one's environment to comatose. It is important to use a standardized system of description rather than vague terms such as semiconscious, semicomatose, or semistuporous.

Alert wakefulness: The patient perceives the environment clearly and responds quickly and appropriately to visual, auditory, and other sensory stimuli.

Drowsiness: The patient does not perceive the environment fully and responds to stimuli appropriately but slowly or with delay. He or she may be roused by verbal stimuli but may ignore some of them. The patient is capable of verbal response unless aphasia, aphonia, or anarthria is present. Lethargy

and obtundation also describe the drowsy state.

Stupor: The patient is aroused by intense stimuli only. Loud noise may elicit a nonspecific reaction. Motor response and reflex reactions are usually preserved unless the patient is paralyzed.

Coma: The patient does not perceive the environment and intense stimuli produce a rudimentary response if any. The presence of reflex reactions depends on the location of the lesion(s) in the nervous system.

threshold of c. In psychoanalysis, the point at which a stimulus is just barely perceived.

consensual (kǒn-sĕn'shū-ăl) [L. *consensus*, agreement] **1.** Pert. to reflex stimulation of one part or side produced by excitation of another part or the opposite side. **2.** Mutually agreeable. **3.** Consenting.

consensual light reflex The reaction of both pupils that occurs when one eye is exposed to a greater intensity of light than the other. SEE: *reflex, pupillary*.

consensual reaction **1.** An involuntary action. **2.** A crossed reflex.

consensus (kǒn-sĕn'sis) [L. "agreement"] Agreement, esp. universal agreement.

consent (kǒn-sĕnt') The granting of permission by the patient for another person to perform an act (e.g., permission for a surgical or therapeutic procedure or experiment to be performed by a physician, nurse, dentist, or other health-care professional).

implied c. Nonverbal consent suggested by the actions by the patient, as when he or she enters the dental office and sits in a dental chair. This suggests that the patient seeks examination, diagnosis, and consultation.

informed c. A voluntary agreement made by a well-advised and mentally competent patient to be treated by a health care provider or institution, or randomized into a research study. The health care provider should provide full disclosure of information regarding the material risks, benefits of the proposed treatment, alternatives, and consequences of no treatment, so that the patient can make an intelligent, or informed, choice.



The information should be provided by the practitioner who will be performing the procedure. A nurse or any other health care provider who obtains informed consent for the practitioner performing the procedure exceeds his or her scope of practice and may face legal consequences.

consent form A legal document, dated and signed by a patient and his or her health care provider, designating that

the patient has been advised about the care about to be received. The document should specify the nature of the care and its proposed merits and hazards. If the care involves an invasive procedure, the document should provide enough detail about the procedure so that a reasonable person can decide whether it is in his or her interest to proceed. The material risks of the procedure, and consequences of not undergoing the procedure, should be listed. Alternatives to the procedure should be enumerated. Any special terms or conditions should be explicitly stated in the document. The form should include the name and title of the practitioner who provides the information to the patient. The document becomes valid when it is dated and signed by all parties.

consenting adult A mature individual who agrees to participate in social or sexual activity by virtue of his or her own desire or free will.

consequence (kǒn'sĕ-kwĕns) **1.** Any result, conclusion, or effect. **2.** In psychology, the end result of a behavior, which may be positive, negative, or neutral.

consequentialism (kǒn'si-kwĕn'shĭ-liz-ĭm) The philosophical doctrine that the correctness of a choice is proven only by what that choice produces, rather than why the choice was made or what the agent intended or hoped might occur.

conservation (kǒn'sĕr-vă'shŭn) A cognitive principle, first described by Piaget, indicating that a certain quantity remains constant despite the transformation of shape. Children develop conservation ability for number, length, liquid amount, solid amount, space, weight, and volume.

conservation model A conceptual model of nursing developed by Myra Levine. The person is viewed as a holistic being who adapts to environmental challenges. In this model the goal of nursing is to promote wholeness through conservation of energy, structural integrity, personal integrity, and social integrity. SEE: *Nursing Theory Appendix*.

conservative (kǒn-sĕr'vă-tiv) [L. *conservare*, to preserve] Pert. to the use of a simple rather than a radical method of medical or surgical therapy.

conservative treatment **1.** The withholding of treatments and management of disease by observation, or conversely, the use of surgery when observation only would depart from the usual care. **2.** In surgical cases, the preservation of the organ or part if at all possible with the least possible alteration.

conservator (kǒn-sĕr'vă-tŏr) A person appointed by the courts to manage the affairs of another person (called the conservatee), esp. if there is strong evidence that the conservatee is incapable of managing his or her own affairs. SEE: *guardianship*.

conservatorship (kōn-sér'vā-tor-ship')

The preservation and protection of a dependent person's self and property by another individual. The term does not refer to imprisonment or confinement in a psychiatric facility. This is called *guardianship* in some states.

Consolidated Omnibus Reconciliation Act ABBR: COBRA. Federal legisla-

tion that requires employers with 20 or more employees to offer health insurance coverage to their employees for as long as 18 months after employment ends.

consolidation (kōn-sōl-ī-dā'shūn) [L.

consolidare, to make firm] The process of becoming solid. The term is used esp. for description of diseases of the lungs (e.g., acute pneumonia).

conspicuity In radiology, the relative visibility of a lesion — how well it stands out against the images received from neighboring tissues.

constant (kōn'stānt) [L. *constans*, standing together] **1.** Unchanging. **2.** A condition, fact, or situation that does not change.

rate c. The speed of a chemical reaction. It varies with temperature.

constellation (kōn'stēl-lā'shūn) [L. *con*, together, + *stella*, star] A group, set, or configuration of objects, individuals, or conditions.

constipation (kōn'stī-pā'shūn) [L. *constipare*, to press together] A decrease in a person's normal frequency of defecation accompanied by difficult or incomplete passage of stool and/or passage of excessively hard, dry stool. SEE: *Nursing Diagnoses Appendix*.

ETIOLOGY: Predisposing factors in healthy people include a diet that lacks fiber, inadequate consumption of fluids, a sedentary lifestyle, and advancing age. Many drugs, including opiates, antidepressants, calcium channel blockers, antiemetics, and anticholinergics also cause constipation. Among metabolic illnesses, hypothyroidism and disorders of calcium metabolism occasionally contribute to difficulty with the passage of stools. Pathological lesions of the bowel (e.g., diverticular disease, anorectal gonorrhoea, hemorrhoids, or obstructions due to tumors, adhesions, or incarcerated hernias) may also be responsible.

NOTE: Normal bowel frequency varies from person to person. Some people normally have three bowel movements daily, while others have a normal pattern of one or two bowel movements a week.



A change in frequency of bowel movements may be a sign of serious intestinal or colonic disease (e.g., a malignancy). A change in bowel habits should be discussed with a physician.

TREATMENT: Consumption of fresh vegetables, fruits, and whole grains helps prevent constipation. Medications to alleviate constipation include docusate, bulk-forming laxatives (such as psyllium), magnesium-containing compounds, lactulose, and a variety of enemas.

atonic c. Constipation due to weakness or paralysis of the muscles of the colon and rectum.

colonic c. The state in which an individual's pattern of elimination is characterized by hard, dry stools, which results from a delay in passage of food residue.

obstructive c. Constipation due to a mechanical obstruction of the intestines, e.g., by hernias, adhesions, or tumors.

perceived c. The state in which a person makes a self-diagnosis of constipation and ensures a daily bowel movement through use of laxatives, enemas, and suppositories. SEE: *Nursing Diagnoses Appendix*.

spastic c. Constipation due to excessive tonicity of the intestinal wall, esp. the colon.

constipation, risk for Having the potential for a decrease in a person's normal frequency of defecation accompanied by difficult or incomplete passage of stool and/or passage of excessively hard, dry stool. SEE: *Nursing Diagnoses Appendix*.

constitution (kōn'stī-tū'shūn) [L. *constituere*, to establish] The physical makeup and functional habits of the body. **constitutional** (-āl), *adj.*

constitutive (kōn'stī-too'tiv, tū') [L. *constituere*, to put together] In genetics, always expressed.

constraint-induced movement therapy ABBR: CIMT. A method of rehabilitation in which a patient is encouraged to use an injured body part by limiting the use of uninjured body parts. The technique is used, e.g., in rehabilitation from stroke. SEE: *stroke*.

constriction (kōn-strīk'shūn) [L. *con*, together, + *stringere*, to draw] **1.** The binding or squeezing of a part. **2.** The narrowing of a vessel or opening (e.g., blood vessels or the pupil of the eye).

constrictor (kōn-strīk'tor) **1.** Something that binds or restricts a part. **2.** A muscle that constricts a vessel, opening, or passageway, as the constrictors of the faucial isthmus and pharynx and the circular fibers of the iris, intestine, and blood vessels.

construct validity In a research study, the fitness of a particular research method for the use to which the study is put or its suitability for the conceptual or theoretical use for which it is employed.

consultand (kōn-sūl'tānd) [L. *consultan-*

du, (one) to be consulted] A person who requests genetic counseling.

consultant (kōn-sūlt'ánt) [L. *consultare*, to counsel] A health care worker, such as a nurse, physician, dentist, pharmacist, or psychologist, who acts in an advisory capacity.

legal nurse c. A registered nurse who provides expert information to lawyers or others involved in health care legal issues. These consultants must have either an advanced degree or certification through special programs. SEE: *forensic nursing*.

consultation (kōn"sūl-tā'shūn) For a specific patient, diagnosis and proposed treatment by two or more health care workers at one time, one of whom usually is specially trained in the problem confronting the patient.

Consumer Assessment of Health Plans Survey ABBR: CAHPS. A questionnaire used by American health care quality assurance agencies to evaluate customer satisfaction with health care. The survey monitors satisfaction with the accessibility, clarity, and timeliness of provided care.

consummation (kōn"sū-mā'shūn) The first act of sexual intercourse after marriage.

consumption (kōn-sūmp'shūn) [L. *consumere*, to waste away] 1. Tuberculosis. 2. Wasting. 3. The using up of anything.

consumptive (kōn-sūmp'tiv) Pert. to or afflicted with tuberculosis.

contact (kōn'tákt') [L. *con*, with, + *tangere*, to touch] 1. Mutual touching or apposition of two bodies. 2. One who has been recently exposed to a contagious disease.

complete c. The contact that occurs when the entire proximal surface of a tooth touches the entire surface of an adjoining tooth, proximally.

direct c. Transmission of a communicable disease from the host to a healthy person by way of body fluids (e.g., respiratory droplets, blood, or semen), cutaneous contact, or placental transmission.

indirect c. Transmission of a communicable disease by any medium between the host and the susceptible person. The medium may be, for example, contaminated food or water; medical supplies; the hands of a health care worker; clothing; or an arthropod vector. SEE: *fomes*.

intercuspal c. Contact between the cusps of opening teeth.

occlusal c. The normal contact between teeth when the maxilla and mandible are brought together in habitual or centric occlusion.

proximal c. Touching of teeth on their adjacent surfaces.

contactant (kōn-ták'tánt) A substance

that produces an allergic or sensitivity response when it contacts the skin directly.

contact lens SEE: *lens, contact*.

contact surface A proximal tooth surface.

contagious (kōn-tā'jūs) Capable of being transmitted from one individual to another. SEE: *infectious*.

contagious disease Any disease (usually an infectious disease) readily transmitted from one person to another.

contagium (kōn-tā'jē-ūm) [L.] The agent causing infection.

container (kōn-tā'nér) A receptacle for storing a medical specimen or supplies. Use of sterile disposable containers for collecting specimens is recommended, since contamination of the container may alter the results of the specimen analysis and therefore interfere with the diagnosis. SEE: *Standard Precautions Appendix*.

containment (kōn-tān'měnt) 1. In public health, the control or eradication of infectious diseases. 2. In environmental health, the prevention of spread of toxic substances into the environment. 3. In health care delivery, the management, control, and restriction of excessive spending on health care. SYN: *cost c.*

cost c. Containment (3).

contaminant (kōn-tām'ī-nánt) A substance or organism that soils, stains, pollutes, or renders something unfit for use.

contaminate (kōn-tām'ī-nāt) [L. *contaminare*, to render impure] 1. To soil, stain, or pollute. 2. To render unfit for use through introduction of a harmful or injurious substance. 3. To make impure or unclean. 4. To deposit a radioactive substance in any place where it is not supposed to be.

contamination (kōn-tām'ī-nā'shūn)

1. The act of contaminating, esp. the introduction of pathogens or infectious material into or on normally clean or sterile objects, spaces, or surfaces. 2. In psychiatry, the fusion and condensation of words so that they run together when spoken.

radiation c. Radiation in or on a place where it is not wanted.

contamination Exposure to environmental contaminants in doses sufficient to cause adverse health effects. SEE: *Nursing Diagnoses Appendix*.

contamination, risk for Accentuated risk of exposure to environmental contaminants in doses sufficient to cause adverse health effects. SEE: *Nursing Diagnoses Appendix*.

content-specific delusion Monothematic delusion.

context of care Those elements of an individual's life or living situation that have psychological, social, and/or economic relevance to his or her use of professional health services. The context of

a person's care may include such elements as that person's attitudes toward illness; belief systems (e.g., ethnic, racial, or religious); cognitive abilities; emotional states; family life; finances; and previous experiences with health care agencies, among others.

contig A continuous segment of genetic material on a chromosome.

contiguity (kōn'ti-gū'ī-tē) [L. *contiguus*, touching] Contact or close association.

solution of c. The dislocation or displacement of two normally contiguous parts.

continence (kōn'ti-nēns) [L. *continere*, to hold together] Self-restraint, used esp. in reference to refraining from sexual intercourse, and to the ability to control urination and defecation. SEE: *incontinence*.

continent (kōn'ti-nēnt) **1.** Able to control urination and defecation. **2.** Not engaging in sexual intercourse. SEE: *continence*.

contingency fee A wage charged by a legal professional for services rendered, payable only if the injured party wins damages as a result of the successful resolution of a suit. Contingency fees usually consist of a percentage of the damages recovered by the injured party.

continuing care community A type of managed care that combines health insurance, housing, and social care, usually for the elderly. The participant enters a contractual arrangement, in which he or she receives a residence and long-term care on an as-needed basis in exchange for an agreed-upon fee.

continuing education, continuing medical education ABBR: CE; CME. Postgraduate education in the health professions; the enhancement or expansion of an individual's knowledge or skills through coursework; home study; live, audio, or video conferences; electronic media; or clinical practice. Postgraduate courses may be required for continued certification or licensure requirements in a practice such as medicine, nursing, physical therapy, respiratory therapy, and social work.

continuity (kōn'ti-nū'ī-tē) [L. *continuus*, continued] The condition of being unbroken, uninterrupted, or intimately united.

continuous aspiration of subglottic secretions ABBR: CASS. Suctioning pooled oropharyngeal fluids from the subglottic region just above the cuff of an endotracheal tube. It is a technique used in mechanically ventilated patients to prevent ventilator-associated pneumonias.

continuous-flow analysis Analysis using a laboratory instrument that separates samples and appropriate reagents before specimens are analyzed by placing air bubbles between individual speci-

mens and the reagents as they are injected into a tube. Specimens are then analyzed as they flow along the tube by various analytical principles (colorimetry, electrochemistry).

continuous glucose monitoring ABBR: CGM. Moment-to-moment measurement of body glucose concentrations, e.g., with invasive sensors placed in subcutaneous tissue.

continuous renal replacement therapy ABBR: CRRT. Use of a filtration or dialysate bath device to remove fluid and small waste product molecules from the blood of patients with acute renal failure who are unable to tolerate hemodialysis.

Removal of water occurs as the result of diffusion, convection, and ultrafiltration. There are four types of CRRT. In all types, blood is removed continuously for 24 hr and passed through a chamber containing a semipermeable filter. Excess fluid is removed slowly and, as a result, there is decreased risk of hemodynamic instability when compared to hemodialysis. In arteriovenous systems, blood pressure provides the force by which blood moves through the filtration system. In venovenous systems, pumps propel the blood. Anticoagulants are added to reduce clotting stimulated by blood coming in contact with a foreign surface.

In *continuous arteriovenous hemofiltration* (CAVH) and *continuous venovenous hemofiltration* (CVVH), a catheter placed in a peripheral artery carries blood at a rate of 300 to 800 ml/hr through a chamber containing a semipermeable membrane. Excess water and solutes move across the membrane and out of the blood, which is then returned to the venous system.

In *continuous arteriovenous hemodiafiltration* (CAVHDF) and *continuous venovenous hemodiafiltration* (CVVHDF), the chamber through which blood passes contains a dialysate solution in addition to a filtration membrane. Changing the concentration of the solution increases the amount of waste products and water that can be removed from the blood as it passes through the device.

continuous spectrum **1.** An unbroken series of wavelengths, either visible or invisible. **2.** An unbroken range of radiations of different wavelengths in any portion of the invisible spectrum.

continuous subcutaneous insulin infusion ABBR: CSII. SEE: *insulin pump*.

continuum of care The range of services required by chronically ill, impaired, or elderly people. Services include, among others, preventive measures, acute medical treatments, rehabilitative and supportive care, and social services.

contortrostatin (kōn-tōr'trō'stā'tin) [NL. *contortrix* (Southern) copperhead +

statin] A protein derived from snake venom that inhibits the migration of cells (e.g., of metastasizing cancer cells).

contour (kõn'toor) [It. *contornare*, to go around] **1.** The outline or surface configuration of a part. **2.** To shape or form a surface, as in carving dental restorations to approximate the conditions of the original tooth surface.

gingival c. The normal arching appearance of the gingiva along the cervical part of the teeth and rounding off toward the attached gingiva.

gingival denture c. The form of the denture base or other materials around the cervical parts of artificial teeth.

contoured (kõn'toord) Having an irregular, undulating surface resembling a relief map; said, e.g., of bacterial colonies.

contra- [L.] Prefix indicating *opposite* or *against*.

contra-aperture (kõn'trä-äp'ër-chür') [L. *contra*, against, + *apertura*, opening] A second opening made in an abscess.

contraception (kõn'trä-sëp'shün) [" + *conceptio*, a conceiving] The prevention of conception.

emergency c. Postcoital contraception.

extended cycle c. A form of oral contraception that reduces the number of menstrual cycles in which contraceptive hormones are taken for more than 28 consecutive days (e.g., 84 days) and a placebo is taken for seven days. During the seven days of placebo, menstrual bleeding occurs.

postcoital c. ABBR: PCC. The prevention of pregnancy in the first hours or days that follow sexual intercourse. Methods commonly used include the administration of hormones chemically related to estrogen or progesterone, or the insertion of an intrauterine device in the first five days of unprotected coitus or after known or suspected contraception failure (such as condom rupture). Levonorgestrel (Plan B) is the most commonly used progestin used in postcoital contraception. Low-dose mifepristone (RU 486) is an alternative. SEE: *morning-after pill*.



Postcoital contraception will not work if the woman is already pregnant as a result of previous unprotected intercourse.

PATIENT CARE: Oral agents used for emergency contraception prevent implantation of the blastocyst into the uterine endometrium. The most common physical side effects of treatment are nausea and vomiting, menstrual changes (esp. during the cycle after the treatment), breast tenderness, dizzi-

ness, and malaise. Some of these, e.g., nausea and vomiting, are manageable with medications. Postcoital contraception is available by prescription in the U.S. and over the counter in several other countries. It neither increases the likelihood of future infertility nor future ectopic pregnancies. It also does not provide protection against sexually transmitted illnesses, such as Chlamydia, gonorrhea, or HIV. Nurses and nurse practitioners may be consulted by patients about the use of emergency contraceptives, esp. by adolescents. It is important for health care professionals to be able to provide age- and patient-specific education about pregnancy and sexuality and to be aware of the individual, familial, ethical, religious, and social aspects of treatment.

transvaginal c. Any form of contraception placed within the reproductive tract of a woman, including intrauterine devices (IUDs) and vaginal rings.

contraceptive (kõn'trä-sëp'tív) Any process, device, or method that prevents conception. Categories of contraceptives include steroids; chemical; physical or barrier; combinations of physical or barrier and chemical; "natural"; abstinence; and permanent surgical procedures. SEE: table; *abortion*.

STEROIDS: Oral contraceptives, colloquially termed "the pill," consist of chemicals that are quite similar to natural hormones (estrogen or progesterone). They act by preventing ovulation. When taken according to instructions, these pills are almost 100% effective. Other means of administering steroid compounds are by implantation of these agents under the skin, in contraceptive vaginal rings, in patches, in intrauterine devices, or by injection. Long-acting contraceptives, including the implanted Levonorgestrel, are available.



The antibiotic rifampin decreases estrogen concentrations in women taking oral contraceptive pills. This lowers the effectiveness of the pill in preventing pregnancy. Women using oral contraceptives and rifampin at the same time should either abstain from sexual intercourse or use additional barrier methods of contraception to avoid unwanted pregnancies.

CHEMICAL: Spermicides in the form of foam, cream, jelly, spermicide-impregnated sponge, or suppositories are placed in the vagina before intercourse. They may be used alone or in combination with a barrier contraceptive. They act by killing the sperm. Douching after intercourse is not effective.

PHYSICAL OR BARRIER: Intrauterine contraceptive devices (IUDs) are plastic

Contraceptive Use by Women, 15 to 44 Years Old: 1995
(Based on Samples of the Female Population of the United States)

| Contraceptive Status and Method | All Women ¹ | Age | | | Race | | |
|---|------------------------|-------------|-------------|-------------|--------|-------|----------|
| | | 15-24 Years | 25-34 Years | 35-44 Years | White | Black | Hispanic |
| All women (1,000) | 58,381 | 17,637 | 21,728 | 19,016 | 42,968 | 7,510 | 5,500 |
| Percent Distribution | | | | | | | |
| Sterile | 32.1 | 3.8 | 26.4 | 64.6 | 32.9 | 34.0 | 27.5 |
| Surgically sterile | 30.2 | 3.1 | 24.8 | 61.1 | 31.2 | 31.4 | 23.9 |
| Noncontraceptively sterile ² | 5.2 | 0.3 | 2.7 | 12.5 | 5.4 | 6.5 | 3.2 |
| Contraceptively sterile ³ | 25.0 | 2.8 | 22.1 | 48.6 | 25.8 | 24.9 | 20.7 |
| Nonsurgically sterile ⁴ | 1.9 | 0.7 | 1.6 | 3.5 | 1.7 | 2.6 | 3.6 |
| Pregnant, postpartum | 5.4 | 7.0 | 7.9 | 1.2 | 5.2 | 5.5 | 7.7 |
| Seeking pregnancy | 4.0 | 1.8 | 7.6 | 2.0 | 3.7 | 4.7 | 5.1 |
| Other nonusers | 24.2 | 46.4 | 17.1 | 12.0 | 23.6 | 22.1 | 28.3 |
| Never had intercourse | 9.4 | 26.4 | 2.8 | 1.3 | 8.7 | 7.0 | 16.4 |
| No intercourse in last month | 7.0 | 7.7 | 7.1 | 6.4 | 7.2 | 7.5 | 5.1 |
| Had intercourse in last month | 7.8 | 12.3 | 7.2 | 4.3 | 7.7 | 7.6 | 6.8 |
| Nonsurgical contraceptors | 34.3 | 41.2 | 41.3 | 20.1 | 34.6 | 33.8 | 31.7 |
| Pill | 16.9 | 23.9 | 22.0 | 4.7 | 17.3 | 16.7 | 16.4 |
| IUD | 0.8 | 0.2 | 0.4 | 1.8 | 0.8 | 0.8 | 1.0 |
| Diaphragm | 1.7 | 0.2 | 2.3 | 2.4 | 1.8 | 1.0 | 0.8 |
| Condom | 10.5 | 13.9 | 11.0 | 6.7 | 10.3 | 11.4 | 8.9 |
| Periodic abstinence | 1.6 | 1.0 | 2.0 | 1.6 | 1.6 | 0.7 | 1.9 |
| Natural family planning | 0.2 | 0.1 | 0.4 | 0.2 | 0.2 | — | — |
| Withdrawal | 0.6 | 0.6 | 0.6 | 0.5 | 0.6 | 0.4 | 0.4 |
| Other methods ⁵ | 2.3 | 1.4 | 3.0 | 2.4 | 2.2 | 2.8 | 2.3 |

SOURCE: Adapted from U.S. National Center for Health Statistics. *Advance Data from Vital and Health Statistics*.

—Represents or rounds to zero.

¹ Includes other races, not shown separately.

² Persons who had sterilizing operation and who gave as one reason that they had medical problems with their reproductive organs.

³ Includes all other sterilization operations and sterilization of the husband or current partner.

⁴ Persons sterile from illness, accident, or congenital conditions.

⁵ Douches, suppositories, and less frequently used methods.

or metal objects placed inside the uterus. They are thought to prevent the fertilized egg from attaching itself to the lining of the uterus. Their effectiveness is only slightly lower than that of oral contraceptives. Diaphragms are made of a dome-shaped piece of rubber with a flexible spring circling the edge. They are available in various sizes and are inserted into the vagina so as to cover the cervix. A diaphragm must be used in conjunction with a chemical spermicide, which is applied before positioning the

diaphragm. A specially fitted cervical cap is also available as a barrier-type contraceptive. A sponge impregnated with a contraceptive cream or jelly is available. It is placed in the vagina up to several hours prior to intercourse. The male partner can use a condom, a flexible tube-shaped barrier placed over the erect penis so that the ejaculate is contained in the tube and is not deposited in the vagina. Made of rubber or animal membranes, condoms are available in both dry and wet-lubricated forms

and in various colors. Used properly, the condom is a reliable means of contraception. It is more effective if combined with a chemical spermicide. Condoms also help prevent transmission of diseases by sexual intercourse by providing a physical barrier. SEE: *condom*.

NATURAL FAMILY PLANNING: This method involves abstaining from intercourse for a specified number of days before, during, and after ovulation. The rhythm method is based on calculating the fertile period by the use of a calendar, on which the supposed infertile days are marked. In practice, this method has a high rate of failure. Other methods include determining ovulation by keeping a basal temperature chart and judging the time of ovulation by observing cyclical changes in the cervical mucus. SEE: *chart, basal temperature*.

Sophisticated home-diagnostic tests for the hormonal changes present at ovulation are available. Withdrawal, the removal of the penis from the vagina just before ejaculation, is subject to a high failure rate because sperm may be contained in the pre-ejaculatory fluid from the penis.

PERMANENT: *For women:* Tubal ligation involves surgical division of the fallopian tubes and ligation of the cut ends. This procedure does not interfere with the subsequent enjoyment of sexual intercourse. This form of sterilization is effective but virtually irreversible. *For men:* Vasectomy consists of cutting the vas deferens and ligating each end so that the sperm can no longer travel from the testicle to the urethra. The procedure must be done bilaterally and the ejaculate tested for several months postoperatively to make certain sperm are not present. Until two successive tests reveal absence of sperm, the method should not be regarded as having succeeded. Attempts to reverse this surgical procedure have succeeded in only a small percentage of cases. Vasectomy does not interfere with the normal enjoyment of sexual intercourse.

contraceptive cream A water-soluble cream introduced into the vagina before intercourse to decrease the likelihood of conception. It is impregnated with spermicide. Like contraceptive foams, films, and gels, spermicide-laden contraceptive creams may cause transient vaginal ulceration or epithelial damage.

contract (kōn-trăkt') [L. *contrahere*, to draw together] **1.** To draw together, reduce in size, or shorten. **2.** To acquire through infection, as to contract a disease. **3.** In psychology or psychiatry, the patient's commitment to attempt to alter behavior or to take a specific course of action. **4.** An agreement consisting of one or more legally enforceable prom-

ises among two or more parties such as people, corporations, and partnerships. Four elements are in a contractual relationship: offer, acceptance, consideration, and breach. In health care, contracts are used to govern relationships, for example, between employees and employers, insurers and the insured, or health care providers and patients.

contractile (kōn-trăk'til) Able to contract or shorten.

contractility (kōn-trăk-til'ī-tē) **1.** Having the ability to contract or shorten. **2.** In cardiac physiology, the force with which left ventricular ejection occurs. It is independent of the effects of preload or afterload.

contraction (kōn-trăk'shūn) A shortening or tightening, as of a muscle; a shrinking or a reduction in size.

anodal opening c. ABBR: AOC. Contraction of the muscles at the anode when the electrical circuit is open.

Braxton Hicks c. SEE: *Braxton Hicks contractions*.

carpopedal c. A contraction of the flexor muscles of the hands and feet due to tetany, hypocalcemia, or hyperventilation.

hourglass c. An excessive, irregular contraction of an organ at its center. SEE: *ectasia*.

idiomuscular c. Motion produced by degenerated muscles without nerve stimulus.

isoinertial muscle c. Shortening and increased tension in a muscle against a constant load or resistance.

isometric c. A muscular contraction in which the muscle increases tension but does not change its length; also called a *static muscle contraction*.

isotonic c. A muscular contraction in which the muscle maintains constant tension by changing its length during the action.

tetanic c. **1.** Continuous muscular contraction. **2.** A sudden, strong, sustained uterine contraction that jeopardizes maternal and fetal status. It may occur during oxytocin induction or stimulation of labor and can cause profound fetal distress, premature placental separation, or uterine rupture.

tonic c. Spasmodic contraction of a muscle for an extended period.

contraction stress test ABBR: CST. A procedure used to evaluate placental sufficiency by assessing fetal response to the physiological stress of artificially induced uterine contractions. Contractions may be generated by breast stimulation or by the oxytocin challenge test. SEE: *oxytocin challenge test*.

contract research organization ABBR: CRO. Any privately financed, for-profit entity that performs industry-sponsored biomedical research. Health research is conducted in government-

sponsored laboratories, e.g., the National Institutes of Health or the Center for Disease Control and Prevention; academic medical centers (such as those affiliated with a major university hospitals), and CROs.

contracture (kōn-trāk'chūr) [L. *contractura*] Fibrosis of connective tissue in skin, fascia, muscle, or a joint capsule that prevents normal mobility of the related tissue or joint. **SEE:** *illus.*



CONTRACTURE OF THE RIGHT HAND

Dupuytren's c. **SEE:** *Dupuytren's contracture.*

fibrotic c. Contraction of a muscle in which the muscle tissue has been replaced by fibrous tissue because of injury.

functional c. Contraction of a muscle that decreases during anesthesia or sleep.

myostatic c. Adaptive shortening of muscle, usually caused by immobilization and without tissue pathology.

physiological c. A temporary condition in which tension and shortening of a muscle are maintained for a considerable time although there is no tetanus. It may be induced by heat, illness, drug action, or acids.

pseudomyostatic c. Apparent permanent contraction of a muscle due to a central nervous system lesion, resulting in loss of range of motion and resistance of the muscle to stretch.

Volkman's c. **SEE:** *Volkman's contracture.*

contrafissura (kōn'trā-fi-shū'rā) [L. *contra*, against, + *fissura*, fissure] A skull fracture at a point opposite where the blow was received. **SEE:** *contrecoup.*

contraindication (kōn'trā-in-dī-kā'shūn) [ʹ + *indicare*, to point out] Any symptom or circumstance that makes treatment with a drug or device unsafe or inappropriate.

contralateral (kōn'trā-lăt'er-ăl) [ʹ + *latus*, side] Originating in or affecting the opposite side of the body, as opposed to homolateral and ipsilateral.

contralateral reflex 1. Passive flexion of one part following flexion of another.

2. Passive flexion of one leg, causing similar movement of the opposite leg.

contrast (kōn'trăst) In radiology, the difference between adjacent densities in an image. This is controlled by the energy of the beam and influenced by the characteristics of the part radiographed, production of scatter radiation, type of image receptor (i.e., direct or photostimulable plate, or combination of film and screen), and processing.

image receptor c. The characteristics of an imaging medium that influence the ability of the radiologist to see differences in density between adjacent objects in the image.

long-scale c. A radiograph that demonstrates small differences in density between adjacent areas. Long-scale contrast is a result of high kilovoltage peak (kVp). In dental radiography, for example, 80 to 90 kVp or higher is necessary to produce a radiograph with long-scale contrast.

short-scale c. A radiograph that demonstrates large differences in density between adjacent areas. Short-scale contrast is a result of low kilovoltage peak (kVp). In dental radiography, for example, a kVp less than about 60 must be used to produce a radiograph with short-scale contrast.

subject c. The physical characteristics of an object or imaging technique that influence how the object's image will appear on a radiographical film. The subject contrast of a radiograph can be increased or decreased by increasing or decreasing the kilovoltage peak (kVp). It may also be affected by the thickness, density, and composition of the subject.

contrast medium In radiology, a substance used to fill hollow organs or blood vessels to highlight their internal structure or distinguish them from neighboring anatomical features. The substance can be radiopaque and positive (e.g., barium sulfate, tri-iodinated media) or radiolucent and negative (e.g., air). Barium sulfate is a commonly used contrast agent for the gastrointestinal tract; it may be swallowed (for upper GI studies) or given as an enema (to visualize the colon). **SYN:** *radiocontrast.*

high-osmolarity c.m. **ABBR:** HOCM. A water-soluble contrast medium with high osmolarity. These agents increase the probability of an adverse reaction and are generally ionic.

low-osmolarity c.m. **ABBR:** LOCM. A water-soluble contrast medium with low osmolarity. These agents produce fewer undesired effects after intravascular administration than do high-osmolarity contrast media. They are generally nonionic, with the exception of Hexabrix (an ionic dimer).

nonionic c.m. A water-soluble con-

trast medium whose molecules do not dissociate into cations and anions in solution. These agents tend to have low osmolarity. They decrease the risk of adverse reactions but are costly.

tri-iodinated c.m. A derivative of triiodobenzoic acid that is the base for water-soluble contrast media. It contains three atoms of iodine per molecule.

contrast sensitivity The ability to distinguish objects from the background in which they are located. It is a critical component of functionally adequate vision.

contrasuppressor cell (kõn'trä-sü-prës'ör) [r + "] A T cell that inhibits the activity of suppressor T cells. Although a contrasuppressor cell shares this functional capability with T helper cells, it is distinguished from other CD4+ cells by its other cell surface markers and the unique group of cytokines it produces.

contravolitional (kõn'trä-võ-lí'shün-äl) [L. *contra*, against, + *velle*, to wish] In opposition to or without the will; involuntary.

contrecoup (kõn'trä-koó") An injury to parts of the brain located on the side opposite that of the primary injury, as when a blow to the back of the head forces the frontal and temporal lobes against the irregular bones of the anterior portion of the cranial vault.

control (kõn-tról') [L. *contra*, against, + *rotulus*, little wheel] **1.** To regulate or maintain. **2.** The regulation of objects or events by another agent. **3.** A standard against which observations or conclusions may be checked to establish their validity, as a control animal (e.g., one that has not been exposed to the treatment or condition being studied in the other animals). **4.** In clinical investigations, a research subject whose age, sex, race, behavior, weight, or health matches as many features of the population being studied as is possible or appropriate. When cases and controls are closely matched, the validity of results increases. SYN: *control group*. **5.** To dominate, coerce, or forcibly manage the behavior of another person.

control group Control (3).

controlled area An area in which a protection officer oversees the occupational exposure of personnel to ionizing radiation. Controlled access, occupancy, and working conditions are necessary for radiation protection.

controlled cold therapy unit ABBR: CCT. Cold compression therapy unit.

Controlled Substance Act The Comprehensive Drug Abuse Prevention and Control Act; a law enacted in 1970 to control the distribution and use of all depressant and stimulant drugs and other drugs of abuse or potential abuse as may be designated by the Drug En-

forcement Administration of the Department of Justice.

The act specifies record keeping by the pharmacist, the format for prescription writing, and the limit on the amount of a drug that can be legally dispensed. This limit and whether refills are allowed vary with the nature of the drug. Centrally acting drugs such as narcotics, stimulants, and certain sedatives are divided into five classes called schedules I through V. Schedule I drugs are experimental. Prescriptions for schedule II drugs may not be refilled. Prescriptions for schedule III and IV drugs may be refilled up to five times within 6 months of the time the initial prescription was written. Schedule V drugs are restricted only to the extent that all nonscheduled prescription drugs are regulated.

Controlled substances are labeled with a large "C" followed by the Roman numeral designation. Alternatively, the Roman numeral is within the large "C."

contuse (kõn-tooó') [L. *contundere*, to bruise] To bruise.

contusion (kõn-tooó'zhün) Bruise.

conus (kõ'nüs) [Gr. *konos*] **1.** A cone. **2.** A posterior staphyloma of a myopic eye.

c. arteriosus The upper rounded anterior angle of the right cardiac ventricle where the pulmonary artery arises.

c. medullaris The conical portion of the lower spinal cord.

convalescence (kõn'vål-ës'éns) [L. *convalescere*, to become strong] The period of recovery after a disease or an operation.

convalescent (kõn'vål-ës'ént) **1.** Getting well. **2.** One who is recovering from a disease or operation.

convection (kõn-vék'shün) [L. *convehere*, to convey] **1.** The movement of solutes that occurs during ultrafiltration of a fluid. **2.** Loss of body heat by means of transfer to the surrounding cooler air.

convenience sample A group of research subjects selected casually, without scrupulously randomizing them.

convergence (kõn-vër'jèns) [L. *con*, with, + *vergere*, to incline] **1.** The moving of two or more objects toward the same point. **2.** In reflex activity, the coming together of several axons or afferent fibers on one or a few motor neurons; the condition in which impulses from several sensory receptors converge on the same motor center, resulting in a limited and specific response. **3.** The directing of visual lines to a nearby point.

convergent (kõn-vër'jènt) Tending toward a common point.

conversion (kõn-vër'zhün) [L. *convertere*, to turn round] **1.** The change from one condition to another. For example, a patient with an arrhythmia may convert from atrial fibrillation to sinus

rhythm, or a patient with no evidence of tuberculosis may convert to a positive purified protein derivative status. **2.** In obstetrics, a change in position of a fetus in the uterus by the physician to facilitate delivery. SEE: *version*.

conversion disorder Somatoform disorder.

conversion reaction A type of neurosis in which loss or alteration of physical functioning suggests a physical disorder but instead expresses a psychological conflict or need. The disturbance is not under voluntary control and cannot be explained by a disease process; it is not limited to pain or sexual dysfunction. SYN: *conversion symptom*. SEE: *somatoform disorder*.

conversion study A scientific study of two or more treatments that tries to gauge the effect of switching from one form of therapy to another.

conversion symptom Conversion reaction.

convex (kŏn'vēks, kŏn-vēks') [L. *convexus*, vaulted, arched] Curved evenly; resembling the segment of a sphere.

convexoconcave (kŏn-vēk'sŏ-kŏn'kāv, -kŏn-kāv') Concavoconvex.

convexoconvex (kŏn-vēk'sŏ-kŏn'vēks) [" + *convexus*, arched] Convex on two opposite faces.

convolute, convoluted (kŏn'vŏ-loot; -loot'ēd) [L. *convolvere*, to roll together] Rolled, as a scroll.

convolution (kŏn'vŏ-loo'shŭn) [L. *convolvere*, to roll together] **1.** A turn, fold, or coil of anything that is convoluted. **2.** In anatomy, a gyrus, one of the many folds on the surface of the cerebral hemispheres. They are separated by grooves (sulci or fissures). SEE: *gyrus*.

ascending frontal c. The convolution forming the anterior boundary of Rolando's fissure.

Broca's c. Broca's area.

cerebral c. One of the convolutions of the cerebrum.

dentate c. A small, notched gyrus, rudimentary in humans, situated in the dentate fissure.

marginal c. The fold on the medial surface of the frontal lobe, adjacent to the longitudinal fissure.

occipitotemporal c. One of two small convolutions on the lower surface of the temporal lobe.

olfactory c. Olfactory lobe.

orbital c. One of the small gyri on the orbital surface of the frontal lobe.

parietal c. Any of the folds of the parietal lobe; the largest are the postcentral, superior, supramarginal, and angular.

posterior orbital c. A small convolution on the posterior and outer side of the orbital sulcus and continuous with the inferior frontal convolution.

precentral c. The ascending frontal convolution of the brain.

supramarginal c. A cerebral convolution on the lateral surface of the parietal lobe above the posterior part of the sylvian fissure.

convulsant (kŏn-vŭl'sánt) [L. *convellere*, to pull together] **1.** An agent that produces a convulsion. **2.** Causing the onset of a convulsion.

convulsion (kŏn-vŭl'shŭn) Paroxysms of involuntary muscular contractions and relaxations.

NOTE: It is important for the person who observes the convulsion to record on the chart the following: time of onset, duration, whether the convulsion started in a certain area of the body or became generalized from the start, type of contractions, whether the patient became incontinent, and whether the convulsion caused the patient to be injured or strike the head. This information, in addition to its medicolegal importance, is valuable in diagnosis and in caring for the patient.

ETIOLOGY: Common causes are epilepsy, eclampsia, meningitis, heat cramps, brain lesions, tetanus, uremia, hypoxemia, hypotension, and many poisonings. In children, the cause is often fever.

TREATMENT: Febrile convulsions in children are usually controlled by suppressing fever with acetaminophen. In adults a specific diagnosis should be made. Diagnostic testing may include assessments of serum chemistries, oxygenation, alcohol levels, brain scanning, or lumbar puncture. The patient should be prevented from self-injury and from the aspiration of oral or gastrointestinal contents. If fever is present, antipyretic drugs may be helpful. Sedatives or anesthesia may be ordered by the physician. Aftercare includes rest in bed. SEE: *febrile convulsion*.

clonic c. A convulsion with intermittent contractions, the muscles being alternately contracted and relaxed.

febrile c. A tonic-clonic seizure occurring in children between ages 6 months and 5 years who have no other signs of CNS infection or CNS abnormalities. About 3% to 5% of children will have this type of seizure, thought to be caused by a rapid rise in body temperature to 102.5°F or higher. Boys are more susceptible than girls. The seizure rarely lasts more than 10 minutes, and repeat seizures during the same febrile episode are uncommon. The risk for a seizure during the next febrile illness is 30%, and for the episode after that 17%. A complete history and physical examination should include neurological appraisal to rule out other causes, such as epilepsy; acute lead encephalopathy; cerebral concussion, hemorrhage, or tu-

mor; hypoglycemia; or poisoning with a convulsant drug. SEE: *epilepsy*.

TREATMENT: Appropriate therapy, such as acetaminophen or ibuprofen, should be instituted to reduce the fever. Oral diazepam (Valium) may be administered while fever is present to prevent seizure recurrence, though in many children the seizure is the first indication of fever. The measures to reduce the temperature must not be so vigorous as to cause hypothermia. Ice water baths and vigorous fanning with application of alcohol should not be used. The application of cool compresses with a gentle flow of air over the body is sufficient. A hypothermia blanket is also suitable. The efficacy and advisability of daily anticonvulsant drug therapy for children with recurrent febrile seizures have not been proven.



1. If the fever is due to influenza or varicella, salicylates should not be administered; their use could increase the risk for developing Reye's syndrome. 2. Prolonged treatment with phenobarbital depresses cognitive function in children and produces marked personality changes in about 15% of them.

hysterical c. An old term for a pseudo-seizure.

mimetic c. A facial muscle spasm.

puerperal c. Spontaneous paroxysmal muscular contractions and relaxation in the postpartum woman.

salaam c. Nodding spasm.

tonic c. Convulsion in which the contractions are maintained for a time, as in tetany.

toxic c. Convulsion caused by the action of a toxin on the nervous system.

uremic c. Seizures caused by the toxic effects of accumulated waste products and inorganic acids in renal failure.

convulsive (kōn-vŭl'siv) Pert. to convulsions.

cooking [L. *coquere*, to cook] The process of heating foods to prepare them for eating. Cooking makes most foods more palatable and easier to chew, improves their digestibility (and sometimes their nutrient bioavailability), and destroys or inactivates harmful organisms, or toxins that may be present. Cooking releases the aromatic substances and extractives that contribute odors and taste to foods. These odors help to stimulate the appetite.



Not all toxic substances are inactivated by heat. Most microorganisms and parasites are destroyed in the ordinary process of cooking when the food

is heated to internal temperatures of 160°F to 175°F. Pork must be cooked completely throughout to kill the encysted larvae of *Trichinella*.

ACTION: *Protein:* Soluble proteins become coagulated. *Soluble substances:* These, including heat-labile vitamins, are often inactivated by boiling, and even mineral substances and starches, although insoluble to a certain extent, may be altered in this process. *Starch:* The starch granules swell and are changed from insoluble (raw) starch to soluble starch capable of being converted into sugar during digestion and of being assimilated in the system.

Cooley's anemia (Koo'lez) [Thomas Cooley, U.S. pediatrician, 1871–1945] Thalassemia major.

Coolidge tube (koo'lij) [William D. Coolidge, U.S. physicist and chemist, 1873–1975] A kind of hot-cathode tube that is so highly exhausted that the residual gas plays no part in the production of the cathode stream, and that is regulated by variable heating of the cathode filament.

Coomassie blue (kū'mā-sē) [Kumasi, Ghana (proprietary name)] An azolene sodium, a stain used to demonstrate proteins, e.g., in protein electrophoretic gels.

Coombs' test (Koomz) [R. R. A. Coombs, Brit. immunologist, b. 1921] A laboratory test for the presence of antibodies, usually blood type antibodies, in serum. The patient's serum is incubated with red blood cells (RBCs) with known antigenic markers; if antibodies to the antigen are present in the serum, they bind with the RBCs. When antihuman globulin is added, RBC clumping (agglutination) occurs. The test is used for crossmatching blood before transfusions to ensure that no antigen-antibody reactions will occur and to test for the presence of specific antibodies to RBCs.

cooperative learning An educational strategy in which learners join in small, structured groups to complete educational tasks, solve problems together, and further each other's understanding of material.

Cooper's ligaments (Koo-pērz) [Sir Astley Paston Cooper, Eng. surgeon, 1768–1841] Supportive fibrous structures throughout the breast that partially sheathe the lobes shaping the breast. These ligaments affect the image of the glandular tissue on a mammogram.

coordination (kō-or'din-ā'shŭn) [L. *co-*, same, + *ordinare*, to arrange] 1. The working together of various muscles to produce certain movements. The ability to produce coordinated movement is

necessary to execute fine motor skills, manipulate objects, and perform gross motor tasks. Coordinated movement requires sequencing of muscle activity and stability of proximal musculature.

2. The working together of different body systems in a given process, as the conjoint action of glandular secretion and involuntary muscles in digestion.

coordination of benefits Insurance policy provisions that govern how benefits for multiply insured parties are to be paid. The total benefits paid are linked so that the amount paid on behalf of the insured does not exceed the fee for the service provided.

COpa (kō'pā") Cardiac output, measured by thermodilution methods in the pulmonary artery.

copayment (kō'pā-měnt) The fee insured persons must pay, in addition to their health insurance premiums and deductibles, for specific medical services such as emergency department visits, appointments with primary care providers, laboratory studies, prescriptions, or x-ray examination.

COPD *chronic obstructive pulmonary disease.*

cope (kōp) [ME. *caupen*, to contend with] **1.** To deal effectively with and handle stresses. **2.** The upper half of a flask used in casting. **3.** In dentistry, the cavity side of a denture flask.

coping (kōp'ing) Adapting to and managing change, stress, or opportunity (e.g., acute or chronic illness, disability, pain, death, relocation, work, changes in family structure, new relationships, or new ideas).

c. mechanism Coping skill.

c. skill Any characteristic or behavioral pattern that enhances a person's adaptation. Coping skills include a stable value or religious belief system, problem solving, social skills, health-energy, and commitment to a social network. SYN: *coping mechanism.*

coping, compromised family A state in which a usually supportive primary person (family member or close friend [significant other]) provides insufficient, ineffective, or compromised support, comfort, assistance, or encouragement that may be needed by the patient to manage or master adaptive tasks related to the his or her health challenge. SEE: *Nursing Diagnoses Appendix.*

coping, defensive The state in which an individual repeatedly projects a falsely positive self-evaluation based on a self-protective pattern that defends against underlying perceived threats to positive self-regard. SEE: *Nursing Diagnoses Appendix.*

coping, disabled family A state in which

the behavior of a significant person (family member or other primary person) disables his or her own capacities and the patient's capacities to effectively address tasks essential to either person's adaptation to the health challenge. SEE: *Nursing Diagnoses Appendix.*

coping, ineffective Inadequate adaptive behavior and inability of a person in meeting life's demands and roles. SEE: *Nursing Diagnoses Appendix.*

coping, ineffective community A pattern of community activities for adaptation and problem solving that is unsatisfactory for meeting the demands or needs of the community. SEE: *Nursing Diagnoses Appendix.*

coping, readiness for enhanced A pattern of cognitive and behavioral efforts to manage demands that is sufficient for well-being and can be strengthened. SEE: *Nursing Diagnoses Appendix.*

coping, readiness for enhanced community A pattern of community activities for adaptation and problem solving that is satisfactory for meeting the demands or needs of the community but can be improved for management of current and future problems/stressors. SEE: *Nursing Diagnoses Appendix.*

coping, readiness for enhanced family A state in which the family member has effectively managed adaptive tasks involved with the patient's health challenge and is exhibiting desire and readiness for enhanced health and growth in regard to self and in relation to the patient. SEE: *Nursing Diagnoses Appendix.*

copolymer (kō-pōl'i-mēr) A polymer composed of two kinds of monomers.

copper [L. *cuprum*] SYMB: Cu. A metal, with atomic weight 63.54, atomic number 29, and specific gravity 8.96. Its salts are irritant poisons. Small quantities of copper are used by the body. Symptoms of deficiency include anemia, weakness, impaired respiration and growth, and poor use of iron. SEE: *Wilson's disease; Poisons and Poisoning Appendix.*

FUNCTION: The total body content of copper is 100 to 150 mg; the amount normally ingested each day is less than 2 mg. It is found in many vegetable and animal tissues. Copper is an essential component of several enzymes, including those for hemoglobin synthesis and cell respiration. It is stored in the liver, and excess is excreted in bile or by the kidneys.

copperhead A poisonous snake, *Agkistrodon contortrix*, common in the southern, eastern, and central U.S. SEE: *snake bite.*

copremesis (kōp-rēm'ě-sīs) [Gr. *kopros*, dung, + *emesis*, vomiting] The vomiting of fecal material.

coproantibody (kɒpˈrɔ-ənˈtɪ-bɒdˈe) Any one of a group of antibodies to various bacteria in the feces. They are of the IgA type. Their ability to protect the host has not been shown.

coprolagnia (kɒpˈrɔ-lägˈnɛ-ä) [ˈ + *lagneia*, lust] An erotic satisfaction at the sight or odor of excreta.

coprolalia (kɒpˈrɔ-läˈle-ä) [ˈ + *lalia*, babble] The use of vulgar, obscene, or sacrilegious language, seen in schizophrenia and Tourette's syndrome.

coprolith (kɒpˈrɔ-lith) [ˈ + *lithos*, stone] Hard, inspissated feces.

coprology (kɒp-rɔl'ɔ-jɛ) [ˈ + *logos*, word, reason] Scientific study of the feces. SYN: *scatology* (1).

coprophagy (kɒp-rɔf'ä-jɛ) [ˈ + *phagēin*, to eat] The eating of excrement. SYN: *scatophagy*.

coprophilia (kɒpˈrɔ-flɪ'ɛ-ä) [ˈ + *philēin*, to love] Abnormal interest in feces.

coprophilic (kɒpˈrɔ-flɪ'k) A term applied to organisms that normally live in fecal material.

coprophobia (kɒpˈrɔ-fɔ'bɛ-ä) [ˈ + *phobos*, fear] Abnormal fear of defecation and feces.

coproporphyrin, hereditary coproporphyrin (kɒpˈrɔ-pɔr-fɪr'ɛ-ä) [ˈ + *porphyrin*, purple] An autosomal dominant error in the synthesis of heme in which an excess amount of coproporphyrin is excreted in the feces.

coproporphyrin (kɒpˈrɔ-pɔr-fɪr'ɪn) A porphyrin present in urine and feces. Coproporphyrins I and II are normally present in minute and equal amounts, but quantities are altered in certain diseases such as poliomyelitis and in infectious hepatitis and lead poisoning.

coproporphyrinuria (kɒpˈrɔ-pɔr-fɪr'ɪn-ü-rɛ-ä) Excess coproporphyrin in the urine.

coprozoa (kɒpˈrɔ-zɔ'ä) [ˈ + *zoon*, animal] Protozoa living in or identified within fecal matter.

copulation (kɒpˈü-lä'shün) [L. *copulatio*] The act of uniting in sexual intercourse. SYN: *coition*; *coitus*.

cor (kor) [L.] Heart.

coracoacromial (korˈä-kɔ-ä-krɔ'mɛ-äl) [Gr. *korax*, raven, + *akron*, point, + *omos*, shoulder] Pert. to the acromial and coracoid processes of the scapula.

coracoid (kor'ä-kɔyd) [ˈ + *eidos*, form, shape] Shaped like a crow's beak.

cord (kord) [Gr. *chorde*] **1.** A stringlike structure. **2.** The umbilical cord. **3.** A firm, elongated structure consistent with a thrombosed vein, esp. in the extremities, where it may be felt on palpation.

nuchal c. The condition in which the umbilical cord is found wrapped around the neck of the fetus during delivery. If the cord cannot be unwrapped easily, or if there is more than one loop, the cord

should be clamped and cut before delivery continues.

spermatic c. The cord by which the testis is connected to the abdominal inguinal ring. It surrounds the ductus deferens, blood vessels, lymphatics, and nerves supplying the testis and epididymis. These are enclosed in the cremasteric fascia, which forms an investing sheath.

cordal (kor'däl) Pert. to a cord (e.g., a spinal or vocal cord).

cordate (kor'dät) [L. *cor*, heart] Shaped like a heart.

cordectomy (kor-dɛk'tɔ-mɛ) [Gr. *chorde*, cord, + *ektome*, excision] Surgical removal of a cord.

corditis (kor-dɪ'tis) Funiculitis.

cordocentesis (kor'dɔ-sɛn'tɛ'sis) Withdrawal of a sample of fetal blood from the umbilical cord with a needle inserted through the abdominal and uterine walls into the amniotic sac. Ultrasonic guidance is used to select a puncture site near the insertion of the placenta. SYN: *percutaneous cord blood sampling*; *percutaneous blood sampling*.

cordopexy (kor'dɔ-pɛk'sɛ) [ˈ + *pexis*, fixation] Surgical fixation of anatomical cords, esp. the vocal cords.

cordotomy (kor-dɔt'ɔ-mɛ) [ˈ + *tome*, incision] Spinal cord section of lateral pathways to relieve intractable pain.

core (kor) The center of a structure.

coreceptor (kɔ-rɛ-sɛp'tɔr) A structure on a cell membrane that enhances the action of the cell receptor.

CXCR4 c. A cell surface receptor found on T cells that facilitates entry of HIV-1 to these cells.

coreclisis (kor'ɛ-klɪ'sis) [Gr. *kore*, pupil of the eye, + *kleisis*, closure] Occlusion of the pupil.

core competency The basic knowledge and the fundamental set of attitudes and skills that are needed to perform in one's role as a health care professional. SYN: *competency validation program*.

corectasia, corectasis (kor-ɛk-tä'zɛ-ä, -ɛk'tä-sis) [ˈ + *ektasis*, dilatation] Dilatation of the pupil of the eye resulting from disease.

corectome (kɔ-rɛk'tɔm) Iridectomy.

corectopia (kor-ɛk-tɔ'pɛ-ä) [ˈ + *ek*, out of, + *topos*, place] A condition in which the pupil is to one side of the center of the iris.

coredialysis (kɔ'rɛ-dɪ-äl'ɪ-sis) [ˈ + *dia*, through, + *lysis*, dissolution] Separation of the outer border of the iris from its ciliary attachment. SEE: *iridodialysis*.

coregistration (kɔ-rɛj'ɪ-strä'shün) The correlation of anatomical and metabolic data from different imaging techniques (e.g., from a CT scan and a PET scan of the same organ) in order to obtain enhanced images of diseased tissues.

core link In osteopathic medicine the hy-

pothesis that manipulation of the cranial sutures results in subtle movements of the sacrum.

corelysis (kor-ĕl'ĭ-sis) [*l* + *lysis*, dissolution] Obliteration of the pupil caused by adhesions of the iris to the cornea.

coremorphosis (kor'ĕ-mor-fō'sis) [*l* + *morphe*, form, + *osis*, condition] Establishment of an artificial pupil.

core muscles The muscles of the pelvis, abdomen, and trunk, including for example, the abdominal recti, the latissimus dorsi, and the intercostal muscles.

coreoplasty (kō'rĕ-ō-plās'tē) [*l* + *plassein*, to form] Any operation for forming an artificial pupil.

corepressor (kō'rĕ-prĕs'sor) The substance capable of activating the repressor produced by a regulator gene.

corestenoma (kor'ĕ-stĕn-ō'mā) [*l* + *stenoma*, contraction] Narrowing of the pupil.

c. congenitum Partial congenital obliteration of the pupil by outgrowths from the iris that form a partial gridlike covering over the pupil.

core value A fundamental idea that unites individuals and defines the efforts and goals of the institution for which they work. In health care, core values include devotion and service to others, lifelong learning, and a dedication to ongoing quality improvement.

CORF Comprehensive outpatient rehabilitation facility.

Cori cycle (kō'rĕ) [Carl Ferdinand Cori, Czech-born U.S. physician and biochemist, 1896–1984; Gerty T. Cori, Czech-born U.S. biochemist, 1896–1957] The cycle in carbohydrate metabolism in which muscle glycogen breaks down, forms lactic acid, which enters the bloodstream and is converted to liver glycogen. Liver glycogen then breaks down into glucose, which is carried to muscles, where it is reconverted to muscle glycogen.

coring (kăwr'ing) [ME.] The operative removal of a plug or wedge of tissue (e.g., with a hollow surgical instrument).

corium (kō'rĕ-ūm) *pl.* **coria** [L., skin] Dermis. SEE: *skin* for illus.

corn (korm) [Gr. *kormos*, a trimmed tree trunk] A short, bulb-shaped underground stem of a plant such as the autumn crocus, a source of colchicine.

corn [L. *cornu*, horn] A horny induration and thickening of the skin that may be hard or soft according to location. It is usually caused by the pressure or friction from poorly fitting shoes. SEE: *clavus*.

SYMPTOMS: Hard corns on exposed surfaces have a horny, conical core extending into the dermis, causing pain and irritation. Soft corns occur between the toes and are kept soft by moisture

and maceration. They may occasionally become infected.

TREATMENT: Properly fitting shoes should be worn to reduce friction on the foot. Spongy materials or pads that limit friction prevent the foot from abrasion. Keratolytic agents are used to remove corns. A podiatrist may remove corns with a scalpel. Patients with diabetes or peripheral vascular disease who have corns need special care to prevent foot infections.

cornea (kor'nĕ-ă) [L. *corneus*, horny] The transparent anterior portion of the sclera (the fibrous outer layer of the eyeball), about one sixth of its surface. Beyond the edge of the cornea is the sclera, or "white" of the eye. The curvature of the cornea is greater than that of the remainder of the sclera; the cornea is the first part of the eye that refracts light. It is composed of five layers: an epithelial layer, Bowman's membrane (anterior limiting membrane), the substantia propria corneae, vitreous membrane, and a layer of endothelium. **corneal** (-ăl), *adj.*

corneal impression test In diagnosing rabies, the immunofluorescent staining of material obtained from the corneas of patients suspected of having the disease. The rabies virus may be seen in the stained material.

corneal transplant (kōr'nĕ-ĭl trānz-plānt') The implantation of a cornea from a healthy donor eye. This is the most common organ transplantation procedure in the U.S. There are two major types of procedures. Lamellar keratoplasty, or split-thickness technique, involves removing a portion of the anterior host cornea and attaching a partial thickness of the donor cornea. Penetrating keratoplasty, or full-thickness transplantation, involves complete removal of the patient's cornea and replacement with the donor cornea.

Transmission of donor disease to the recipient is rare, but rabies, Creutzfeldt-Jakob disease, and hepatitis B have been acquired by graft recipients. The technique is more likely to be successful when histocompatibility matching of donor and recipient is as close as possible. The success rate is more than 90% at 1 year. SEE: *keratoplasty*.

PATIENT CARE: Preoperative: The surgical transplant procedure is explained, including duration (1 hr), the need to remain still throughout the procedure, and expected sensations. A preoperative sedative is given.

Postoperative: Evidence of any sudden, sharp, or excessive pain; bloody, purulent, or clear viscous drainage; or fever is reported immediately. Prescribed corticosteroid eye drops or topical antibiotics are administered to prevent inflammation and graft rejection,

and prescribed analgesics are provided as necessary. A calm, restful environment is provided, and the patient is instructed to lie on the back or on the unaffected side, with the head of the bed flat or slightly elevated according to protocol. Rapid head movements, hard coughing or sneezing, or any other activities that could increase intraocular pressure should be avoided, and the patient should not squint or rub the eyes. Assistance is provided with standing or walking until the patient adjusts to vision changes, and personal items should be within the patient's field of vision.

Both patient and family are taught to recognize signs of graft rejection such as inflammation, cloudiness, drainage, and pain at the graft site and to report such signs immediately. Graft rejection may occur years after surgery; consequently, the graft must be assessed daily for the rest of the patient's life. The patient is encouraged to verbalize feelings of anxiety and concerns about graft rejection, and is helped to develop effective coping behaviors to deal with these feelings and concerns. Photophobia is a common adverse reaction, but it will gradually decrease as healing progresses; patients are advised to wear dark glasses in bright light. The patient is taught how to correctly instill prescribed eye drops and should wear an eye shield when sleeping.

Cornelia de Lange syndrome (dē lāng, lahng'ă) [Cornelia de Lange, Dutch pediatrician] ABBR: CdLS. An autosomal dominant disorder marked by mental retardation, facial and limb anomalies, deafness, short stature, failure to thrive, and hirsutism. Affected children may have behavioral problems, including difficulty sleeping, hyperactivity, and a tendency to mutilate themselves.

Cornell Medical Index A lengthy, all-inclusive, self-administered medical and health history form developed at Cornell University Medical School.

corneoblepharon (kor'nē-ō-blēf'ă-rōn) [+ Gr. *blepharon*, eyelid] Adhesion of the eyelid to the cornea.

corneomandibular reflex (kor'nē-ō-māndīb'ū-lār) Deflexion of the mandible toward the opposite side when the cornea is irritated while the mouth is open and relaxed.

corneosclera (kōr'nē-ō-sklē'ră) [L. *corneus*, horny, + *skleros*, hard] The cornea and sclera, constituting the tunica fibrosa or fibrous coat of the eye.

corneous (kor'nē-ūs) [L. *corneus*] Horny; hornlike.

corneum (kor'nē-ūm) [L., horny] Stratum corneum.

corniculate (kor-nīk'ū-lāt) Containing small horn-shaped projections.

corniculum (kor-nīk'ū-lūm) [L., little horn] A small hornlike process.

cornification (kor'nī-fī-kā'shūn) Keratinization.

cornified (kor'nī-fid) Changed into horny tissue.

cornu (kor'nū) *pl.* **cornua** [L., horn] Any projection like a horn. **cornual** (-āl) *adj.*

c. coccygeum One of the two upward-projecting processes that articulate with the sacrum.

c. cutaneum A hornlike excrescence on the skin.

c. of the hyoid The greater or the lesser horn of the hyoid bone.

c. of the sacrum The two small processes projecting inferiorly on either side of the sacral hiatus leading into the sacral canal.

c. of the uterus The entry point of the fallopian tube into the uterine cavity.

corona (kō-rō'nă) [Gr. *korone*, crown] Any structure resembling a crown. **coronal** (-nāl) *adj.*

c. ciliaris The circular figure on the inner surface of the ciliary body.

c. dentis The crown of a tooth.

c. glandis The posterior border of the glans penis.

c. radiata 1. The ascending and descending fibers of the internal capsule of the brain that extend in all directions to the cerebral cortex above the corpus callosum. Many of the fibers arise in the thalamus. 2. A thin mass of follicle cells that adhere firmly to the zona pellucida of the human ovum after ovulation.

c. veneris Syphilitic blotches on the forehead that parallel the hairline.

coronary (kor'ō-nă-rē) [L. *coronarius*, pert. to a crown or circle] Encircling, as the blood vessels that supply blood directly to the heart muscle; loosely used to refer to the heart and to coronary artery disease. *Coronary pain* is usually dull and heavy and may radiate to the arm, jaw, shoulders, or back. Typically, the patient describes the pain as being viselike or producing a feeling of compression or squeezing of the chest.

café c. Chest pain, cyanosis, and collapse (or sudden death) during a meal, caused by aspiration of a bolus of food into the trachea. The Heimlich maneuver may be used to clear the obstructed airway of an adult or child who is still choking and conscious with severe obstruction.

coronary artery bypass surgery Surgical establishment of a shunt that permits blood to travel from the aorta or internal mammary artery to a branch of the coronary artery at a point past an obstruction. It is used to treat coronary artery disease.

Traditional surgery requires opening the chest and sternum, spreading the



ribs, and use of external heart/lung oxygenation. Less invasive techniques utilize several small incisions ("keyhole surgery"), smaller surgical instruments, and fiber-optic cameras. Recovery time is reduced and fewer postoperative complications occur.

PATIENT CARE: *Preoperative:* The surgical procedure and the equipment and procedures used in the postanesthesia and intensive care units are explained. If possible a tour of the facilities is arranged for the patient. The nurse assists with insertion of arterial and central lines and initiates cardiac monitoring when the patient enters the operating room.

Postoperative: Initially the postoperative patient will be intubated, mechanically ventilated, and will undergo cardiac monitoring. He or she will also have a nasogastric tube, a chest tube and drainage system, an indwelling urinary catheter, arterial and venous lines, epicardial pacing wires, and often, a pulmonary artery catheter.

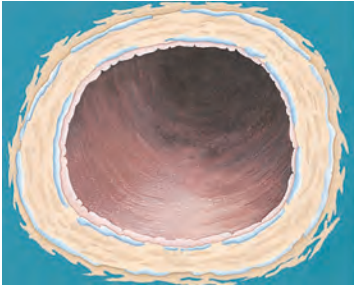
Signs of hemodynamic compromise, such as severe hypotension, decreased cardiac output, and shock, are monitored, and vital signs are obtained and documented according to protocol until the patient's condition stabilizes. Disturbances in heart rate or rhythm are monitored, and any abnormalities are documented and reported. Preparations are made to initiate or assist with epicardial pacing, cardioversion, or defibrillation as necessary. Pulmonary artery, central venous, and left arterial pressures are monitored, and arterial pressure is maintained within prescribed guidelines (usually between 110 and 70 mm Hg). Peripheral pulses, capillary refill time, and skin temperature and color are assessed frequently, and the chest is auscultated for changes in heart sounds or pulmonary congestion. Any abnormalities are documented and reported to the surgeon. Tissue oxygenation is monitored by assessing breath sounds, chest excursion, symmetry of chest expansion, pulse oximeter, and arterial blood gas (ABG) values. Ventilator settings are adjusted as needed. Fluid intake and output and electrolyte levels are assessed for imbalances. Chest tube drainage is maintained at the prescribed negative pressure (usually -10 to -40 cm H₂O), and chest tubes are inspected for patency. The patient is assessed for hemorrhage, excessive drainage (>200 ml/hr), and sudden decrease or cessation of drainage. Prescribed analgesics and other medications are administered.

Throughout recovery the patient is evaluated for changes in oxygenation, ventilation, neurological status, and urinary output. After the patient is weaned

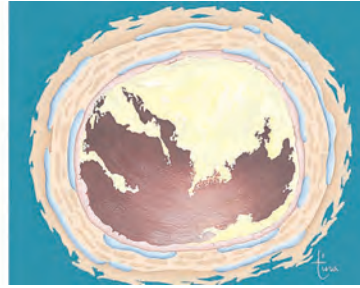
from the ventilator and extubated chest physiotherapy and incentive spirometry are used, and the patient is encouraged to breathe deeply and cough to prevent atelectasis of the lung and to clear mucus from the airway. The patient is helped to change position frequently. Assistance is also provided with range-of-motion exercises and with active leg movement and gluteal and quadriceps setting exercises.

Before discharge the patient is instructed to report any signs of infection (i.e., fever, sore throat, redness, swelling, or drainage from the leg or chest incisions) or cardiac complications (i.e., angina, dizziness, rapid or irregular pulse, or increasing fatigue or prolonged recovery time following activity or exercise). Postcardiotomy syndrome, characterized by fever, muscle and joint pain, weakness, or chest discomfort, often develops after open heart surgery. Postoperative depression may also develop weeks after discharge; both patient and family are reassured that this is normal and usually passes quickly. The patient is advised to observe any tobacco, sodium, cholesterol, fat, and calorie restrictions, which may help reduce the risk of recurrent arterial occlusion. The patient needs to maintain a balance between activity and rest and should schedule a short afternoon rest period and plan to get 8 hr of sleep nightly. Frequent rest should also follow any tiring activity. Participation in the prescribed cardiac rehabilitative exercise program is recommended, and any activity restrictions (avoiding lifting heavy objects, driving a car, or doing strenuous work until specific permission is granted) are reinforced. Appropriate reassurance is offered that the patient can climb stairs, engage in sexual activity, take baths or showers, and do light chores. The patient is referred to local information and support groups or organizations, such as the American Heart Association.

minimally invasive direct c.a.b.s. ABBR: MIDCAB. The placement of a coronary artery graft without stopping the heart or using a cardiopulmonary bypass (heart-lung machine). A thoracotomy rather than a medial sternotomy is used to access the heart, which is then stabilized by use of a compression or suction device to decrease movement. The procedure is used primarily for grafting a single vessel, usually the left or right internal mammary artery. Although MIDCAB has the advantages of lower surgical costs and possibly a decreased risk of complications, it has the disadvantages of limited surgical visibility and more difficult suturing. SYN: *off-pump coronary artery bypass surgery*.



A



B

NORMAL AND DISEASED CORONARY ARTERIES

(A) Cross-section of normal coronary artery. (B) Cross-section of atherosclerotic coronary artery showing atherosclerosis narrowing the lumen.

off-pump c.a.b.s. Minimally invasive direct c.a.b.s. SEE: *Nursing Diagnoses Appendix*.

coronary artery calcification ABBR: CAC. Calcium phosphate (hydroxyapatite) in coronary arteries, an indicator of coronary artery atherosclerosis. CAC is found in diseased but not healthy coronary arteries. During ultrafast CT scanning of the heart, tissue densities that exceed 130 Hounsfield units typically contain significant amounts of deposited calcium. The total amount of calcium present in a person's coronary arteries can be measured by assessing the length of calcified artery as well as the density of the calcium identified. These factors together are used to generate a "calcium score." A calcium score > 100 is often cited as a measurement indicative of a moderately high risk of future myocardial infarction or ischemia. People with scores > 100 should begin taking daily aspirin and should actively modify atherosclerotic risk factors such as smoking, high blood pressure, hyperlipidemia, and diabetes mellitus. A score greater than 400 is often cited as indicating an urgent need for stress testing with radionuclide imaging (e.g., thallium or sestamibi).



Some caution is needed to interpret raw calcium scores. On the one hand, the test is not perfectly sensitive: a small number of people without coronary artery calcium deposits still may have plaque rupture and myocardial infarction. On the other, the score is just one of several markers of atherosclerosis, all of which should be factored into a risk assessment for coronary artery disease.

coronary artery disease ABBR: CAD. Narrowing of the coronary arteries, usually as a result of atherosclerosis. It is the single most common cause of death

in industrialized nations. In the U.S. in 2001, 460,000 people died of coronary artery disease. SEE: *illus.*; *angina pectoris*; *cholesterol*; *ischemic heart disease*; *lipoprotein*; *percutaneous transluminal coronary angioplasty*; *coronary thrombosis*.

Stenoses within the coronary circulation most commonly occur in people who smoke or who have diabetes mellitus, hypertension, adverse lipid profiles, or a familial predisposition to coronary heart disease. CAD tends to worsen as people age and is more common in men than in women. If blockages within the coronary arteries limit the flow of oxygenated blood to the myocardium, ischemia or infarction of the heart muscle may occur.

SYMPTOMS: Typically, patients who experience symptoms due to CAD report pain, burning, or pressure in the chest (*angina pectoris*) that begins or worsens with exertion, emotion, exposure to cold air, or the eating of a large meal. The pain may be described as a suffocating feeling or may be experienced as shortness of breath. It is often located beneath the sternum and can radiate to the upper chest, neck, jaw, shoulders, back, or arms. It may cause bloating, nausea, vomiting, or perspiration. However, many patients may not recognize the symptoms of coronary artery disease, a condition called "silent ischemia," or they may attribute their symptoms to another cause (e.g., indigestion).

TREATMENT: A low-fat, low-cholesterol diet, a regular program of sustained exercise, and smoking cessation all help patients to limit CAD. Medications to control hypertension, lipids, and ischemia (such as beta blockers, statins, and nitrates) also alleviate symptoms. Invasive approaches to reopen narrowed arteries are helpful in some patients. These include coronary angio-

plasty, stent placement, atherectomy, and coronary artery bypass surgery.

coronary artery scan ABBR: CAS. A noninvasive diagnostic computed tomography scan that may identify patients at risk for atherosclerosis and coronary disease episodes by measuring calcium in the coronary arteries.

coronary artery spasm Intermittent constriction of the large coronary arteries. This may lead to angina pectoris in various conditions and is not necessarily associated with exertion. SEE: *Prinzmetal's angina*.

coronary atherectomy A technique of removing obstructions from the coronary artery with a cutting instrument inserted through a cardiac catheter.

coronary blood flow The amount of blood perfusing the heart muscle through the coronary arteries. This may be measured by one of several techniques including indicator dilution or use of radioisotopes.

coronary care unit A specially equipped area of a hospital providing intensive nursing and medical care for patients who have acute coronary thrombosis.

coronary flow reserve The ratio of the blood flow in the coronary arteries when they are at rest to their blood flow when they are maximally stimulated or dilated. SEE: *coronary blood flow*.

coronary perfusion pressure ABBR: CPP. The blood pressure in the aorta during diastole minus the blood pressure during right atrial diastole. In intensively monitored patients, an indicator of the adequacy of blood flow through the epicardial coronary arteries, e.g., during cardiopulmonary resuscitation (CPR). Patients whose CPP is > 15 mm Hg during CPR are more likely to regain spontaneous circulation than patients whose CPP is lower.

coronary sinus The vessel or passage that receives the cardiac veins from the heart. It opens into the right atrium. SEE: *coronary artery* for illus.

coronavirus (kor'ō-nā-vī'rūs-ēs) [L. *corona*, crown, + *virus*, poison] One of a group of viruses, morphologically similar, ether-sensitive, and containing RNA that are responsible for some common colds and severe adult respiratory syndrome (SARS). They are so named because their microscopic appearance is that of a virus particle surrounded by a crown.

coroner (kor'ō-nēr) [L. *corona*, crown] An official (originally, English crown officer) who investigates and holds inquests concerning death from unknown or violent causes. The coroner may or may not be a physician, depending on the law in each state.

coronoid (kor'ō-noyd) [Gr. *korone*, something curved, kind of crown, + *eidos*, form, shape] Shaped like a crown.

coronoidectomy (kor'ō-noy-dēk'tō-mē) [" + " + *ektome*, excision] Excision of the coronoid process of the mandible.

coroscopy (kō-rōs'kō-pē) [" + *skopein*, to examine] Shadow test to determine refractive error of an eye. SYN: *retinoscopy*; *skiascopy*.

corpora (kor'pō-rā) Pl. of corpus.

c. arenacea Psammoma bodies found in the pineal body. SYN: *brain sand*.

c. quadrigemina The superior portion of the midbrain consisting of two pairs of rounded bodies, the superior and inferior colliculi.

corporeal (kor-pō'rē-äl) Having a physical body.

corpse (kōrps) [L. *corpus*, body] The dead human body.

corpsman (kor'män) An enlisted person in the U.S. Armed Forces who works as a member of the medical team. During duty in the armed forces he or she receives training and experience in one or more health-related fields. In wartime, a corpsman may be assigned as the only medically trained person to a field unit or a small ship. SYN: *medic*; *medical corpsman*.

corpulence (kor'pū-lēns) [L. *corpulentia*] Obesity. **corpulent** (-lēnt), *adj.*

cor pulmonale (pūl-mā-nāl'ē, pool-mō-nah'lē) Hypertrophy or failure of the right ventricle resulting from disorders of the lungs, pulmonary vessels, chest wall, or respiratory control center. Living for an extended period at a high altitude may occasionally cause this condition.

SYMPTOMS: Symptoms include chronic productive cough, exertional dyspnea, wheezing, fatigue, weakness, drowsiness, and alterations in level of consciousness. On physical examination, dependent edema is present, and the neck veins are distended. The pulse is weak, and hypotension may occur due to reduced cardiac output. Tachycardia, a gallop rhythm, tricuspid insufficiency, or a right ventricular heave may be present. Sometimes an early right ventricular murmur or a systolic pulmonary ejection sound may be heard. The liver is enlarged and tender, and hepatogastric reflux is present. Pulmonary artery pressure measurements (if assessed in the cardiac catheterization lab or the intensive care unit) show increased right ventricular and pulmonary artery pressures related to increased pulmonary vascular resistance. Angiography or echocardiography documents right ventricular enlargement.

PATIENT CARE: Fluid retention is prevented by limiting the patient's intake as prescribed (usually 1 to 2 L daily) and by providing a low-sodium diet. The rationale for fluid restriction is explained, because those patients with chronic obstructive pulmonary dis-

ease would previously have been encouraged to increase fluid intake to help loosen and thin secretions. Frequent position changes are encouraged, and meticulous respiratory care is provided, including prescribed oxygen therapy and breathing exercises or chest physiotherapy. Assistance is provided to help the patient rinse the mouth after respiratory therapy.

Serum potassium levels are monitored closely if diuretics are prescribed, signs of digitalis toxicity (anorexia, nausea, vomiting) are noted, and cardiac arrhythmias are monitored. Periodically, arterial blood gas levels are measured, and signs of respiratory failure are noted. Prescribed medications are administered and evaluated for desired effects (e.g., improvements in oxygenation, ventilation, or edema), as are any adverse reactions (e.g., cardiac decompensation). A nutritious diet (limiting carbohydrates if the patient is a carbon dioxide retainer and low-salt sodium) is provided in frequent small meals to limit fatigue.

Care activities are paced and rest periods provided. The patient is encouraged to verbalize fears and concerns about the illness, and members of the health care team remain with the patient during times of stress or anxiety. The patient is encouraged to identify actions and care measures that promote comfort and relaxation and to participate in care decisions. The importance of avoiding respiratory infections and of reporting signs of infection immediately (increased sputum production, changes in sputum color, increased coughing or wheezing, fever, chest pain, and tightness in the chest) is stressed. Immunizations against influenza and pneumococcal pneumonia are recommended. Use of over-the-counter medications should be avoided unless the health care provider is consulted first. If the patient needs supplemental oxygen or suctioning at home, referral is made to a social service agency for assistance in obtaining the necessary equipment, and correct procedures are taught for equipment use. As appropriate, the patient is referred to smoking cessation programs, nicotine patch therapy, and local support groups.

corpus (kor'pūs) *pl.* **corpora** [L., body] The principal part of any organ; any mass or body.

c. albicans A mass of fibrous tissue that replaces the regressing corpus luteum following rupture of the graafian follicle. It forms a white scar that gradually decreases and eventually disappears.

c. amylaceum A mass having an irregular laminated structure like a starch grain; found in the prostate, me-

ninges, lungs, and other organs in various diseases. SYN: *colloid corpuscle*.

c. callosum The great commissure of the brain that connects the cerebral hemispheres. SYN: *callosum*.

c. cavernosum Any erectile tissue, esp. the erectile bodies of the penis, clitoris, male or female urethra, bulb of the vestibule, or nasal conchae.

c. cavernosum penis One of the two columns of erectile tissue on the dorsum of the penis.

c. ciliare Ciliary body.

c. dentatum The gray layer in the white matter of the cerebellum. SYN: *corpus rhomboidale*.

c. hemorrhagicum A blood clot formed in the cavity left by rupture of the graafian follicle.

c. interpeduncular The gray matter between the peduncles in front of the pons varolii.

c. luteum The small yellow endocrine structure that develops within a ruptured ovarian follicle and secretes progesterone and estrogen. SEE: *fertilization* for illus.

c. mammillare Mamillary body.

c. spongiosum Erectile tissue surrounding the male urethra inside the shaft of the penis. SEE: *penis* for illus.

c. striatum The caudate nucleus and putamen. They are two nuclei deep in each cerebral hemisphere that appear distinct but are connected anteriorly and are histologically and functionally a single entity. The striatum and the globus pallidus are the two core components of the basal ganglia.

c. uteri The main body of the uterus, located above the cervix.

c. vitreum The vitreous part of the eye.

corpuscle (kor'pūs-əl) [L. *corpusculum*, little body] **1.** Any small rounded body.

2. An encapsulated sensory nerve ending. **3.** Old term for a blood cell. SEE: *erythrocyte*; *leukocyte*. **corpuscular** (kor'pūs'kū-lär), *adj.*

axis c. The center of a tactile corpuscle.

blood c. An erythrocyte or leukocyte.

bone c. Bone cell.

canceroid c. The characteristic nodule in cutaneous epithelioma.

chromophil c. Nissl body.

chyle c. A corpuscle seen in chyle.

colloid c. Corpus amylaceum.

colostrum c. A cell containing phagocytosed fat globules, present in milk secreted the first few days after parturition; also called *colostrum body*.

corneal c. A type of connective tissue cell found in the fibrous tissue of the cornea.

genital c. An encapsulated sensory nerve ending resembling a pacinian corpuscle that is found in the skin of the external genitalia and nipples.

ghost c. Achromatocyte.
Gierke's c. Hassall's corpuscle.
Golgi-Mazzoni c. SEE: *Golgi-Mazzoni corpuscle*.
Hassall's c. SEE: *Hassall's corpuscle*.
Krause's c. SEE: *Krause's corpuscle*.
lymph c. Lymphocyte.
malpighian c. 1. Renal c. 2. A malpighian body of the spleen.
Mazzoni's c. SEE: *Krause's corpuscle*.
Meissner's c. SEE: *Meissner's corpuscle*.
milk c. A fat-filled globule present in milk. It represents the distal end of a mammary gland cell broken off in apocrine secretion.
pacinian c. An encapsulated nerve ending found in the dermis, subcutaneous tissue, and other connective tissue membranes; it is a sensory receptor for pressure.
phantom c. Achromatocyte.
Purkinje's c. SEE: *Purkinje cell*.
red c. Erythrocyte.
renal c. A glomerulus and Bowman's capsule of the nephron of a kidney, the site of glomerular filtration. SYN: *malpighian corpuscle* (1).
reticulated c. Reticulocyte.
Ruffini's c. SEE: *Ruffini's corpuscle*.
splenic c. A nodule of lymphatic tissue in the spleen.
tactile c. A sensory receptor that responds to touch (e.g., Meissner's corpuscle). Tactile corpuscles are located in the dermal papillae just beneath the epidermis and are most numerous on the fingertips, toes, soles, palms, lips, nipples, and tip of the tongue.
terminal c. A nerve ending.
white c. Leukocyte.
corpuscular (kor-pūs'kū-lār) Pert. to corpuscles.
correctable visual impairment ABBR: CVI. Any visual deficiency that can be improved with the use of eyeglasses.
correction The altering of a condition that is abnormal or malfunctioning.
corrective (kō-rēk'tiv) [L. *corrigerē*, to correct] 1. A drug that modifies the action of another. 2. Pert. to such a drug.
correlation (kor'ē-lā'shūn) [L. *com-*, together, + *relatio*, relation] 1. In statistics, the degree to which one variable increases or decreases with respect to another variable. A variable can have a positive or negative correlation with another variable. A positive correlation exists when the coefficient of correlation is +1 or greater; a negative correlation exists when the coefficient is -1 or less; a correlation is considered to be nonexistent when the value is zero. 2. The processes by which the various activities of the body, esp. nervous impulses, occur in relation to each other.
correspondence The act or condition of

corresponding (i.e., occurring in proper relationship to other phenomena).

corresponding Agreeing with, matching, or fitting.

Corrigan's pulse (kor'ī-gāns) [Sir Dominic J. Corrigan, Ir. physician, 1802-1880] Waterhammer pulse.

corroborating (kō-rōb'ō-rā-tīng) Confirming or supporting with evidence.

corrosion (kō-rō'zhūn) [L. *corrodere*, to corrode] The slow disintegration or wearing away of something by a destructive agent.

corrosive (kō-rō'siv) Producing corrosion.

corrosive poisoning SEE: under *poisoning*.

corrugator (kōr'ā-gāt'ēr) [L. *con*, together, + *rugare*, to wrinkle] A muscle that lies above the orbit, arises medially from the frontal bone, and has its insertion on the skin of the medial half of the eyebrows. It draws the brow medially and inferiorly.

cortex (kor'tēks) *pl.* **cortices** [L., rind]

1. The outer layer of an organ as distinguished from the inner medulla, as in the adrenal gland, kidney, ovary, lymph node, thymus, and cerebrum and cerebellum. 2. The outer layer of a structure, as a hair or the lens of the eye. 3. The outer superficial portion of the stem or root of a plant.

adrenal c. The outer layer of the adrenal gland. It has three concentric layers: the zona glomerulosa, which secretes mineralocorticoids (mainly aldosterone); and the zona fasciculata and the zona reticularis, which both secrete glucocorticoids (cortisol), androgens, and estrogens.

cerebellar c. The surface layer of the cerebellum consisting of three layers: the outer or molecular, the middle, and the inner or granular. Purkinje cells are present in the middle layer.

cerebral c. The thin, convoluted surface layer of gray matter of the cerebral hemispheres (the cerebrum), consisting principally of cell bodies of neurons arranged in layers, as well as numerous fibers. Most of the cerebral cortex has six histologically distinct horizontal cortical layers. From superficial to deep they are: 1. molecular layer (horizontal axons, Golgi type II cells, dendrites of underlying pyramidal cells); 2. external granular layer (closely packed small granule cells); 3. external pyramidal layer (pyramidal neurons, granule cells, Martinotti cells); 4. internal granular layer (closely packed stellate cells); 5. internal pyramidal layer (pyramidal neurons, granule cells, Martinotti cells); and 6. multiform (fusiform) layer (spindle-shaped cells).

entorhinal cortex The inner gyrus of the temporal lobe of the brain. It comprises the parahippocampal gyrus and

the subicular cortex. In the entorhinal cortex, the five-layer structure of the ventral temporal cortex gradually merges into the single layer that is found in the dentate gyrus, the innermost edge of the temporal lobe. The entorhinal cortex receives signals from and projects back to the frontal cortex, the insula, and the cingulate cortex, and it is the key brain region funneling input to the hippocampus.

olfactory c. The portion of the cerebral cortex concerned with the sense of smell. It includes the piriform lobe and the hippocampal formation.

renal c. SEE: *kidney*.

visual c. The primary visual areas of the cerebral cortex, contained in the gyri on either side of the calcarine sulcus on the medial surface of the occipital lobe. The visual cortex of one side of the brain receives input representing the opposite half of the visual fields of both eyes.

Corti, Alfonso Giacomo Gaspare (kor'tē) Italian anatomist, 1822–1876.

canal of C. A triangular-shaped canal extending the entire length of the organ of Corti. Its walls are formed by the external and internal pillar cells.

organ of C. An elongated spiral structure running the entire length of the cochlea in the floor of the cochlear duct and resting on the basilar membrane. It contains the receptors for hearing, hair cells that are stimulated by sound waves. SYN: *organum spirale*; *spiral organ*. SEE: *illus.*; *Claudius' cell*.

cortical (kor'tī-kāl) Pert. to a cortex.

corticectomy (kor'tī-sēk'tō-mē) [*+ Gr. ektome, excision*] Surgical removal of a portion of the cerebral cortex.

cortices (kor'tī-sēz) Pl. of cortex.

corticifugal (kor'tī-sif'ū-gāl) [*L. cortex, rind, + fugere, to flee*] Conducting impulses away from the outer surface, or cortex; particularly denoting axons of the pyramidal cells of the cerebral cortex. SYN: *corticoefferent*.

corticipetal (kor'tī-sīp'ē-tāl) [*+ petere, to seek*] Conducting impulses toward the outer surface, or cortex; particularly denoting thalamic radiation fibers conveying impulses to sensory areas of the cerebral cortex. SYN: *corticoafferent*.

corticoadrenal (kor'tī-kō-ād-rē'nāl) [*+ ad, toward, + ren, kidney*] Pert. to the cortex of the adrenal gland.

corticoafferent (kor'tī-kō-āf'fēr-ēnt) [*+ adferre, to bear to*] Corticipetal.

corticobasal (kōr'tī-kō-bāz'āl) Concerning the cerebral cortex and the basal ganglia.

corticobasal degeneration A neurological disorder in which brain cells atrophy and die in the basal ganglia and the cortex of the brain. The disease produces symptoms similar to those found in Par-

kinson's disease but does not respond to parkinsonian medications.

corticobulbar (kor'tī-kō-būl'bār) [*+ bulbus, bulb*] Pert. to the cerebral cortex and upper portion of the brainstem, as the corticobulbar tract.

corticoid (kor'tī-koyd) [*+ Gr. eidos, form, shape*] Corticosteroid.

corticopleuritis (kor'tī-kō-ploo-rī'tis) [*+ Gr. pleura, rib, + itis, inflammation*] Inflammation of the outer parts of the pleura.

corticopontine (kor'tī-kō-pōn'tīn) [*+ pons, bridge*] Pert. to or connecting the cerebral cortex and the pons.

corticostatin (kor'tī-kō-stā'tīn) [*L. cortex, bark, + status, stance*] A peptide that inhibits adrenocorticotrophic hormone-stimulated secretion of corticosteroids by the adrenal glands. Rich in arginine and cystine, it is secreted by cells in the lungs, spleen, pituitary, and other organs. It competes with corticotropin for binding sites and appears to mediate the physiological response of the body to sepsis.

corticosteroid (kor'tī-kō-stēr'oyd) Any of several steroid hormones secreted by the cortex of the adrenal gland or manufactured synthetically for use as a drug. They are classified according to their biological activity as glucocorticoids, mineralocorticoids, and androgens. Adrenal corticosteroids do not initiate cellular and enzymatic activity but permit many biochemical reactions to proceed at optimal rates. SYN: *corticoid*.

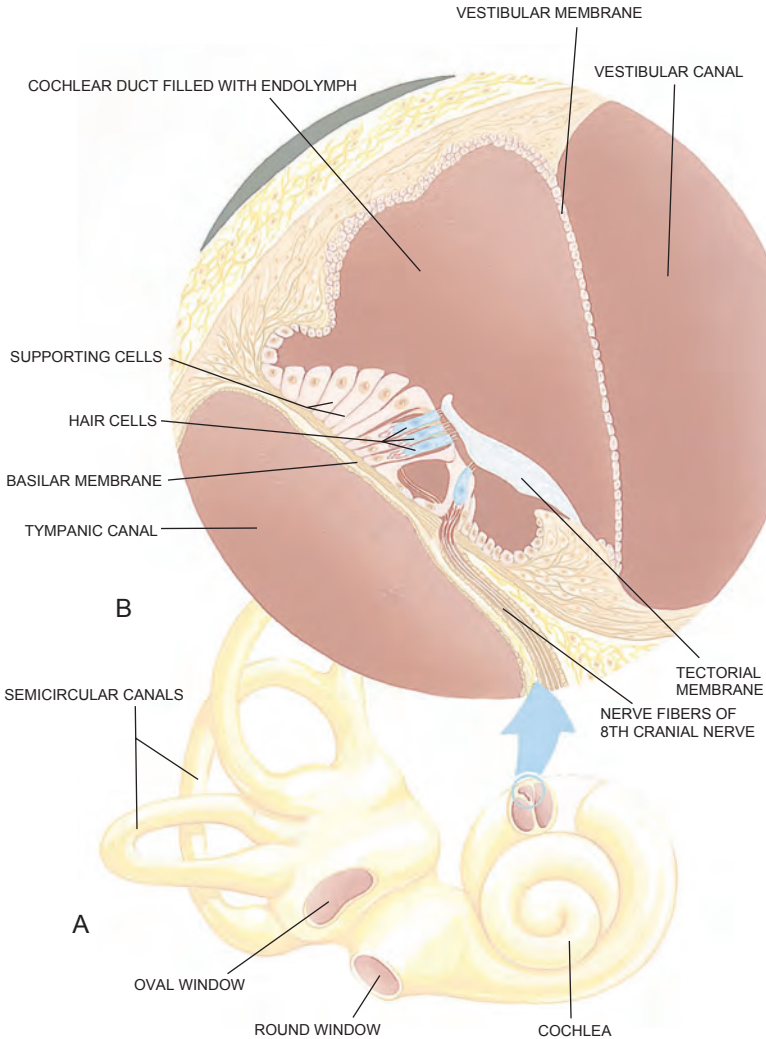
Drugs from this class are widely used to treat inflammatory illnesses, including arthritis, asthma, and dermatitis. They are also used as replacement hormones in patients with adrenal insufficiency. Common side effects of long-term use of these agents include thinning of the skin, easy bruising, cataract formation, glucose intolerance, alterations in sleep cycles, osteoporosis, and immune suppression.

corticosterone (kor'tī-kōs'tē-rōn) A hormone of the adrenal cortex that influences carbohydrate, potassium, and sodium metabolism. It is essential for normal absorption of glucose, the formation of glycogen in the liver and tissues, and the normal use of carbohydrates by the tissues. SEE: *adrenocorticotrophic hormone*.

corticothalamic (kor'tī-kō-thā-lām'īk) [*+ Gr. thalamos, chamber*] Concerning or connecting the cerebral cortex and the thalamus of the brain.

corticotropic, corticotrophic (kōr'tī-kō-trōp'īk, -trōf'īk) [*+ Gr. trophe, nourishment; + Gr. trope, a turn*] Pert. to corticotropin.

corticotropin, corticotrophin (kor'tī-kō-trō'pīn, -trō'fīn) Adrenocorticotrophic hormone.



ORGAN OF CORTI

(A) inner ear structure, (B) organ of Corti within the cochlea.

corticotropin production, ectopic The production of corticotropin by nonendocrine tissue. This is usually but not always associated with a cancer such as a small-cell cancer of the lung. In some cases, the production site may not be found. SEE: *dexamethasone suppression test*.

corticotropin-releasing factor Corticotropin-releasing hormone.

cortin (kor'tin) [L. *cortex*, rind] An extract of the cortex of the adrenal gland; contains a mixture of the active steroid agents such as corticosterone.

cortisol (kor'ti-söl) A glucocorticoid hor-

mone of the adrenal cortex, usually referred to pharmaceutically as hydrocortisone. It is closely related to cortisone in its physiological effects.

cortisone (kor'ti-sōn) A hormone isolated from the cortex of the adrenal gland and also prepared synthetically. It regulates the metabolism of fats, carbohydrates, sodium, potassium, and proteins, and is also used as an anti-inflammatory agent.

coruscation (kō-rūs-kā'shūn) [L. *coruscare*, to glitter] The subjective sensation of flashes of light before the eyes. SEE: *Moore's lightning streaks*.

Corynebacterium (kawr'ā-nē-bāk-tēr'ē-ūm) [Gr. *coryne*, a club, + *bacterion*, a small rod] A genus of gram-positive, aerobic, non-motile bacilli of the family Corynebacteriaceae. Some are part of normal skin flora; others are pathogens for domestic animals, birds, and reptiles.

C. diphtheriae The causative agent of diphtheria in humans. SEE: *diphtheria*.

C. parvum An organism used as part of a nonspecific immunotherapy regimen (investigational) in the treatment of lung cancer.

C. vaginalis *Gardnerella vaginalis*. Previously known as *Haemophilus vaginalis*. SEE: *vaginosis, bacterial*.

coryza (kō-rī'zā) [Gr. *koryza*, catarrh] An acute inflammation of the nasal mucosa accompanied by profuse nasal discharge. SEE: *cold*.

cosensitize (kō-sēn'sī-tīz) [L. *con*, with, + *sensitivus*, sensitive] To sensitize to more than one antigen.

cosleeping (kō'slēp'ing) [*con-* + *sleeping*] The sharing of a bed by several members of the same family or clan.

cosmesis (kōs-mē'sis) [G. *kosmesus*, an arranging] **1.** In surgery, the consideration of the effect the procedure will have on the appearance of the patient. **2.** In rehabilitation, the characteristic of orthotic and prosthetic devices that determines their acceptability (and thus their successful use) in relation to a person's body image. For example, persons with hand amputations may sometimes prefer a more cosmetically acceptable but functionally useless glove over a less appealing but highly functional artificial limb with a stainless steel terminal device.

cosmetic (kōz-mēt'ik) **1.** A preparation such as powder or cream for improving appearance. **2.** Serving to preserve or promote appearance.

cost-, costo- Combining forms meaning *rib*.

costa (kōs'tā) *pl. costae* [L.] Rib.

costal (kōs'tāl) Pert. to a rib.

costalgia (kōs-tāl'jē-ā) [L. *costa*, rib, + Gr. *algos*, pain] Pain in a rib or the intercostal spaces (e.g., intercostal neuralgia).

cost awareness In the economics of medical care, knowledge and consideration of the comparative costs of preventive actions versus the treatment of avoidable illness and disability.

costectomy (kōs-tēk'tō-mē) [ʹ + Gr. *ektome*, excision] Surgical excision or resection of a rib.

cost-effectiveness An assessment or determination of the most efficient and least expensive approaches to providing health care and preventive medicine services. One component, health education, focuses on helping people to as-

sume some responsibility for their own health maintenance and avoid preventable illness and disability. Accident prevention programs, immunization drives, and "safe sex" campaigns are designed to reduce the number of patients who will suffer preventable illnesses. To control costs, health care providers also must understand the comparative value of procedures and medicines. SEE: *preventive medicine; preventive nursing. cost-effective, adj.*

Costen's syndrome [James B. Costen, U.S. otolaryngologist, 1895–1961] Temporomandibular joint syndrome.

cost minimization The selection or employment of the least expensive of several health care options.

costocervical (kōs'tō-sēr'vī-kāl) Concerning the ribs and neck.

costochondral (kōs'tō-kōn'drāl) [L. *costa*, rib, + Gr. *chondros*, cartilage] Pert. to a rib and its cartilage.

costochondritis (kōs'tō-kōn-drī'tīs) [L. *costa*, rib, + Gr. *chondros*, cartilage, + Gr. *itis*, inflammation of] Inflammation of the costochondral joints of the chest, which can cause chest pain. The pain of costochondritis can sometimes be distinguished from other, more serious forms of chest pain by its reproducibility on palpation of the involved joints and the absence of abnormalities on chest x-ray examinations, electrocardiograms, and blood tests. SEE: *arthritis; costochondral*.

SYMPTOMS: Symptoms include pain and tenderness over the joints lateral to the sternum.

TREATMENT: Use of a nonsteroidal anti-inflammatory agent often helps reduce the discomfort, which normally resolves spontaneously over time.

costoclavicular (kōs'tō-klā-vīk'ū-lār) [ʹ + *clavicula*, a little key] Pert. to the ribs and clavicle.

costopneumopexy (kōs'tō-nū'mō-pēk'sē) [ʹ + Gr. *pneumon*, lung, + *pexis*, fixation] Anchoring a lung to a rib.

costosternal (kōs'tō-stēr'nāl) [ʹ + Gr. *sternon*, chest] Pert. to a rib and the sternum.

costosternoplasty (kōs'tō-stēr'nō-plās'tē) [ʹ + " + *plassein*, to form] Surgical repair of funnel chest. A portion of a rib is used to support the sternum.

costotome (kōs'tō-tōm) [ʹ + Gr. *tome*, incision] Knife or shears for cutting through a rib or cartilage.

costotomy (kōs-tōt'ō-mē) **1.** Incision or division of a rib or part of one. **2.** Excision of a rib. SYN: *costectomy*.

costovertebral (kōs'tō-vēr'tē-brāl) [ʹ + *vertebra*, joint] Pert. to a rib and a vertebra.

cost recovery A payment demanded by a professional licensing board from a practitioner found to have violated stan-

dards of practice. The fee is a reimbursement to the board for the expenses it incurs during the investigation and prosecution of its case against the practitioner.

cost sharing An approach to health insurance in which the insured party pays for some of the services received, and the insurance sponsor, usually an employer, pays the rest. Methods of sharing costs between the insured and the sponsor include copayments, deductibles, and annual out-of-pocket expenses.

cosyntropin (kō-sīn-trō'pīn) Synthetic adrenocorticotrophic hormone (ACTH). It is used to test for adrenal insufficiency by giving the medication parenterally and checking plasma cortisol levels at timed intervals. If the levels fail to rise appropriately, adrenal insufficiency is present.

Cotard delusion [J. Cotard, Fr. neurologist, b. 1840 d. 1889] Delirium of negation.

cot death The British term for *sudden infant death syndrome*.

CO₂ therapy 1. Therapeutic application of low temperatures with solid carbon dioxide. SEE: *cryotherapy*; *hypothermia* (2). 2. Inhalation of carbon dioxide to stimulate breathing.

cotinine (kōt'in-ēn") The principal metabolite of nicotine; excreted in the urine. Its detection indicates that the individual has recently smoked cigarettes or inhaled secondhand smoke. SEE: *tobacco*.

cotransport (kō'trānz'pōrt) The transfer of two substances in the same direction across a cell membrane.

cotton [ME. *cotoun*, from Arabic *qutn*, cotton] A soft, white, fibrous material obtained from the fibers enclosing the seeds of various plants of the Malvaceae, esp. those of the genus *Gossypium*.

purified c. Cotton fibers from which the oil has been completely removed. This enhances the ability to absorb liquids.

styptic c. Cotton impregnated with an astringent.

Cotton's test (kōt'n) A manual stress test used to identify the amount of lateral translation of the talus within the ankle mortise. The examiner stabilizes the proximal ankle while shifting the talus laterally. A positive test is marked by increased motion relative to the uninvolved side and is indicative of a sprain of the distal tibiofibular syndesmosis or the subtalar joint.

cotton-wool spot A tiny infarct in the retina, present in hypertension, diabetes mellitus, bacterial endocarditis, and other diseases.

co-twin (kō-twīn) Either one of twins.

cotyledon (kōt'ī-lē'dōn) [Gr. *kotyledon*,

hollow of a cup] 1. A mass of villi on the chorionic surface of the placenta. 2. Any of the rounded portions into which the placenta's uterine surface is divided. 3. The seed leaf of a plant embryo.

cotyloid (kōt'ī-loyd) [Gr. *kotyloides*, cup-shaped] Shaped like a cup.

cough (kawf) [ME. *coughen*] A forceful, sometimes violent expiratory effort preceded by a preliminary inspiration. The glottis is partially closed, the accessory muscles of expiration are brought into action, and the air is noisily expelled.

There is no one course of therapy for a cough because it may be due to a variety of conditions. Each disease is evaluated and treated accordingly. It is usually inadvisable to suppress completely coughs due to inflammation of the respiratory tract. This is particularly true if sputum is produced as a result of coughing. SEE: *expectoration*.

aneurysmal c. A cough that is brassy and clanging, sometimes heard in patients who have an aortic aneurysm.

brassy c. A dry cough heard in patients who have pressure on the left recurrent laryngeal nerve, as in aortic aneurysm or in those with laryngeal inflammation.

bronchial c. A cough heard in patients with bronchiectasis or bronchitis. It may be provoked by a change of posture, as when getting up in the morning, and produces frothy mucus that is copious, dirty gray, and has a fetid odor. The cough is hacking and irritating in the earlier stages; in later stages it is looser and easier.

chronic c. A cough that occurs daily for at least three weeks.

diphtherial c. A cough heard in laryngeal diphtheria. It is noisy and brassy, and breathing is stridulous.

dry c. A cough unaccompanied by sputum production.

ear c. A reflex cough induced by irritation in the ear that stimulates Arnold's nerve.

hacking c. A series of repeated efforts, as in many respiratory infections.

harsh c. A metallic cough occurring in laryngitis.

moist c. A loose cough accompanied by production of mucus or exudate.

paroxysmal c. A persistent cough occurring with a sudden onset.

productive c. A cough in which mucus or an exudate is expectorated.

pulmonary c. A cough that is deep, seen in pneumonia. It may be hacking and irritating in the early stages of lung infection; in later stages, it is frequent and productive. SEE: *sputum*.

reflex c. A cough due to irritation from the middle ear, pharynx, stomach, or intestine. It may occur singly or coupled, or may be hacking. Stimulation of Arnold's nerve of the ear can cause it.

trigeminal c. A reflex cough from irritation of the trigeminal terminations in respiratory upper passages.

whooping c. 1. Pertussis. 2. The paroxysmal cough ending in a whooping inspiration that occurs in pertussis.

coulomb (koo' lōm, -lōm) [Charles A. de Coulomb, Fr. physicist, 1736–1806] ABBR: C. A unit of electrical quantity; the quantity of electricity that flows across a surface when a steady current of 1 amp flows for 1 sec.

Coumadin (koo'mā-dīn) SEE: *warfarin sodium*.

coumarin anticoagulant (koo'mā-rīn) One of a group of natural and synthetic compounds that inhibit blood clotting by antagonizing the biosynthesis of vitamin K–dependent coagulation factors in the liver. SEE: *dicumarol*; *warfarin sodium*.

counseling (kown'sēl-īng) The providing of advice and guidance to a patient by a health professional.

count (kownt) 1. The number of units in a sample or object. 2. To enumerate.

absolute granulocyte c. ABBR: AGC. The total number of neutrophils, basophils, and eosinophils in a specimen of blood.

absolute neutrophil c. ABBR: ANC. The actual number of neutrophils in a cubic millimeter of blood. The approximate normal range is 3000 to 6000 cells/mm³. This figure is measured before and after drugs are given that may lower neutrophil counts, such as those used in cancer chemotherapy. Generally, chemotherapy is not given unless the patient's ANC is greater than 1000. Patients with an ANC of less than 500 cells/mm³ are at high risk for infection. SEE: *neutrophil*.



The development of fever in a patient with neutropenia secondary to chemotherapy is an indication for urgent medical evaluation and prompt institution of broad-spectrum antibiotics.

absolute phagocyte c. ABBR: APC. The number of phagocytes (neutrophils and monocytes-macrophages) in a cubic millimeter of blood. The APC is the sum of the neutrophils (“segs” and “bands”), monocytes, and macrophages times one hundredth of the white blood cell count. This figure is used to measure bone marrow production of these cells before and after cancer chemotherapy. SEE: *absolute neutrophil c.*; *blood count*.

total lymphocyte c. ABBR: TLC. The number of lymphocytes in a specimen of blood. The count may be increased in clonal diseases such as chronic lymphocytic leukemia or decreased in diseases such as AIDS. In AIDS, decreases in the total lymphocyte

count usually reflect a marked decline in the number of helper T4 cells.

counter (kown'tēr) A device for counting anything.

colony c. An apparatus for counting bacterial colonies in a culture plate.

impedance c. A blood cell counter that uses cell membrane electrical impedance to determine the volume of cells in a solution.

particle c. An electronic device for counting and differentiating cells, platelets, and small particles according to their volume.

scintillation c. A device for detecting and counting radiation. Flashes of light are produced when radiation is detected.

counteract (kown'tēr-ākt') To act against or in opposition to.

countercurrent exchanger (kown'tēr-kūr'ēnt) The exchange of chemicals between two streams of fluid flowing in opposite directions on either side of a permeable membrane. This permits the fluid leaving one side of the membrane to be similar to the composition of the fluid entering the other end of the other stream.

counterextension (kown'tēr-ēks-tēn'shūn) [L. *contra*, against, + *extendere*, to extend] Back pull or resistance to extension on a limb.

counterimmunoelectrophoresis

(kown'tēr-īm'ū-nō-ē-lēk'trō-fō-rē'sis) [+ *immunis*, safe, + Gr. *elektron*, amber, + *phoresis*, bearing] The process in which antigens and antibodies are placed in separate wells and an electric current is passed through the diffusion medium. Antigens migrate to the anode and antibodies to the cathode. If the antigen and antibody correspond to each other, they will precipitate and form a precipitin band or line upon meeting in the diffusion medium.

counterincision (kown'tēr-īn-sīzh'ūn) [+ *incisio*, incision] A second incision made to promote drainage or relieve the stress on a wound as it is sutured.

counterirritant (kown'tēr-īr'ī-tānt) [+ *irritare*, to excite] An agent such as mustard plaster that is applied locally to produce an inflammatory reaction for the purpose of affecting some other part, usually adjacent to or underlying the surface irritated. Three degrees of irritation are produced by the following classes of agents: 1. rubefacients, which redden the skin; 2. vesicants, which produce a blister or vesicle; and 3. escharotics, which form an eschar or slough or cause death of tissue. SEE: *acupuncture*; *escharotic*; *moxibustion*; *plaster*, *mustard*.

counterirritation (kown'tēr-īr'ī-tā'shūn) Superficial irritation that relieves some other irritation of deeper structures.

counteropening (kown'tēr-ō'pēn-īng) [L.

contra, against, + AS *open*, open] A second opening, as in an abscess that is not draining satisfactorily from the first incision.

counterpressure instrument (kown'tēr-prēsh'ūr) An instrument that provides counterretraction to offset that exerted by the exit of a needle.

counterpulsation, enhanced external ABBR: EECP. A noninvasive treatment for angina pectoris and congestive heart failure involving the use of inflatable cuffs on the patient's legs to improve myocardial perfusion and increase cardiac output. Cuffs placed on the calves, lower thighs, and upper thighs are inflated sequentially during diastole when coronary artery filling occurs. The inflated cuffs increase diastolic central aortic pressure, increase blood flow to the coronary arteries, and may enhance collateral blood flow. The cuffs are rapidly deflated at the beginning of systole, decreasing afterload and left ventricular oxygen requirements and increasing stroke volume. Computer interpretation of the electrocardiogram determines the timing of cuff inflation and deflation. EECP is provided 5 days a week for 7 weeks. Side effects may include fatigue, headache, and dizziness.

counterpulsation, intra-aortic balloon, intra-aortic balloon pump (kown'tēr-pūl-sā'shūn) ABBR: IABC. SEE: *intra-aortic balloon counterpulsation*.

counterresistance (kown'tēr-rī-zīs'tāns) A term rooted in Freudian psychoanalysis that refers to resistance by a psychotherapist that corresponds to the patient's resistance to closeness and change of life patterns. Examples include coming late to sessions, avoiding certain subjects, and fascination with the patient. Three types are countertransference, characterological resistance, and cultural resistance.

countershock (kown'tēr-shōk") The application of electric current to the heart by internal paddles, external paddles, or electrodes. SEE: *cardioversion; defibrillation*.

counterstain (kown'tēr-stān) A pigment used to highlight or add contrast to parts of a tissue specimen that have already been colored with a primary stain. SYN: *stain, counter*.

countertraction (kown'tēr-trāk'shūn) The application of traction so the force opposes the traction already established; used in reducing fractures and assisting with surgical dissection.

countertransference (kown'tēr-trāns-fēr'ēns) In psychoanalytic theory, the development by the analyst of an emotional (i.e., transference) relationship with the patient. In this situation, the therapist may lose objectivity.

coup (kū) SEE: *contrecoup*.

couple (küp'ēl) **1.** To join. **2.** To have sexual intercourse. **3.** Dyad, senses (1) and (4).

couple-year of protection ABBR: CYP. In family planning, the number of days per year that any method of birth control will prevent conception. Abstinence from sexual intercourse, or sterilization of both members of a couple, provides absolute (365 days/year) protection. Other methods of family planning or fertility inhibition are relatively less effective. Couples that attempt penile withdrawal before male climax (coitus interruptus) have the lowest levels of CYP of any method. Condoms provide a moderate increase in contraceptive effectiveness but are less effective than intrauterine devices, contraceptive pills, or contraceptive implants.

coupling (küp'ling) In cardiology, the regular occurrence of a premature beat just after a normal heart beat.

Courvoisier, Ludwig Georg (koo-rvā'zē-ā) Swiss surgeon, 1843–1918.

C. law Law that states that disease processes associated with prior inflammation of the gallbladder (e.g., gallstones) produce scarring, which prevents enlargement of the gland. When the common bile duct is obstructed by cancer, the gallbladder becomes palpably dilated. SEE: *Courvoisier's sign*.

C. sign Painless enlargement of the gallbladder in a jaundiced patient. The sign suggests a cancer obstructing the biliary tree.

couvade (koo-vād') The custom in some primitive cultures of the father remaining in bed as if ill during the time the mother is confined for childbirth. In other cultures, expectant fathers may experience psychosomatic pregnancy-simulating symptoms of nausea, fatigue, and backache.

Couvelaire uterus (koo-vlār') [Alexandre Couvelaire, French obstetrician, 1873–1948] A potential complication of placental abruption in which blood flows into the myometrium (uterine musculature). On physical examination the uterus is enlarged and tense. A Couvelaire uterus contracts poorly and may occasionally rupture. SYN: *apoplexy, uteroplacental*.

covalence (kō-vāl'ēns) The sharing of electrons between two atoms, which bonds the atoms. **covalent** (-ēnt), *adj.*

covariance (kō-vā'rē-āns) In statistics, the expected value of the product of the deviations of corresponding values of two variables from their respective means.

covariant (kō-vā'rē-ānt) In mathematics, pert. to variation of one variable with another so that a specified relationship is unchanged.

cover (kō'vēr) **1.** To provide protection from potential illnesses with drugs, e.g.,

to cover a patient with a fever with antibiotics pending results of cultures. **2.** A blanket or other garment to warm or reassure a patient. **3.** To provide insurance for a particular disease or its treatment.

Covera-HS SEE: *verapamil*.

cover glass, cover slip A thin glass disk to cover a tissue or bacterial specimen to be examined microscopically.

COVTT *Certified Optometric Vision Therapy Technician*.

Cowden's disease, Cowden's syndrome (kow'dénz) [Cowden, family name of first patient described] Multiple hamartoma.

Cowling's rule (kow'lingz) A method for calculation of pediatric drug dosages in which the age of the child at the next birthday is divided by 24. However, the most safe and accurate methods of pediatric dosage calculation include the weight and body surface area or both of the patient. SEE: *Clark's rule*.

cowpea mosaic virus A plant virus used in vaccine development to deliver antigens from pathogens and tumors. Because the virus does not infect animals, it is considered a safe vehicle for antigen display in humans and other species.

Cowper's glands (kow'pèrz, koo') [William Cowper, Brit. anatomist, 1666–1709] Bulbourethral glands.

cowperitis (kow'pèr-ī'tīs) [*Cowper* + Gr. *itis*, inflammation] Inflammation of Cowper's glands.

cowpox (kow'poks) Vaccinia.

coxa (kòk'sā) *pl.* **coxae** [L.] **1.** Hip. **2.** Hip joint.

c. plana Legg-Calvé-Perthes disease.

c. valga A deformity produced when the angle of the head of the femur with the shaft is increased above 120°, as opposed to coxa vara.

c. vara A deformity produced when the angle made by the head of the femur with the shaft is decreased below 120°. In coxa vara it may be 80° to 90°. Coxa vara may occur in rickets, bone injury, or congenitally.

coxalgia (kòk-sāl'jē-ā) [L. *coxa*, hip, + Gr. *algos*, pain] Pain in the hip.

coxarthrosis (kòks'arth-rò'sīs) [ʹ + Gr. *arthron*, joint, + *osis*, condition] Arthrosis of the hip joint.

coxa saltans (sāl'tānz tāns) Snapping hip. A sound produced by either the gluteus maximus or the iliopsoas muscles as they rub over bony structures that lie deep to them. Most cases do not influence gait or balance and resolve spontaneously.

coxib (kòk'sīb) Any nonsteroidal anti-inflammatory drug (NSAID) used to treat pain and inflammation by inhibiting cyclooxygenase-2 (COX-2) but not cyclooxygenase-1 (COX-1). Most NSAIDs

(e.g., celecoxib) inhibit both COX-2 and COX-1. Selective inhibition prevents the coxibs from forming prostaglandins, which irritate the upper gastrointestinal tract.

Coxiella (kòk'sē-ēl'lā) [Harold Rae Cox, U.S. bacteriologist, b. 1907] A genus of bacteria of the order Rickettsiales.

C. burnetii Causative organism of Q fever.

coxiellosis Infection with *Coxiella burnetii*, a disease more commonly known as Q fever.

coxitis (kòk-sī'tīs) [L. *coxa*, hip, + Gr. *itis*, inflammation] Inflammation of the hip joint.

coxodynia (kòk'sō-dīn'ē-ā) [ʹ + Gr. *odyne*, pain] Pain in the hip joint.

coxotuberculosis (kòk'sō-tū-bēr'kū-lō'sis) [ʹ + *tuberculum*, a little swelling, + *osis*, diseased condition] Tuberculosis of the hip joint.

coxsackievirus (kòk-sāk'ē-vī'rūs) Any of a group of viruses, the first of which was isolated in 1948 from two children in Coxsackie, New York. There are 23 group A and 6 group B coxsackieviruses. Most coxsackievirus infections in humans are mild, but the viruses produce a variety of important illnesses, including aseptic meningitis, herpangina, epidemic pleurodynia, epidemic hemorrhagic conjunctivitis, acute upper respiratory infection, and myocarditis. SEE: *picornavirus*.

Cozaar SEE: *losartan*.

cozymase (kō-zī'mās) ABBR: NAD. Nicotinamide-adenine dinucleotide.

CP *candle power; cerebral palsy; chemically pure*.

CPA *Canadian Physiotherapy Association*.

CPAP *continuous positive air pressure*. SEE: *under pressure*.

C. Ped. *Certified Pedorthist*.

CPFT *Certified Pulmonary Function Technician*.

CPK *creatine phosphokinase*.

c.p.m. *counts per minute*.

CPOE *computerized physician order entry; computerized provider order entry*.

CPPD *calcium pyrophosphate dihydrate*.

CPPV *continuous positive pressure ventilation*.

CPR *cardiopulmonary resuscitation*.

CPR bystander A lay person who provides CPR and who is not part of the organized emergency response system in a community.

C.P.S. *cycles per second*.

CPT *chest physical therapy*.

CR *crown-rump; central ray*.

Cr Symbol for the element chromium.

crabs A slang term for *pediculosis pubis*.

crack Street name for a form of cocaine prepared from an aqueous solution of cocaine hydrochloride to which ammonia (with or without baking soda) has

been added. This causes the alkaloidal form of cocaine to be precipitated. Because crack is not destroyed by heating, it may be smoked. The neuropsychiatric effects of crack are very brief compared with those of ingested or injected cocaine, but more intense. Adverse physiological effects of the drug include changes in behavior, compulsive use (addiction), cardiac dysrhythmias, coronary ischemia, stroke, and damage to the fetus during pregnancy, among others. SEE: *cocaine hydrochloride poisoning, acute*.

crack baby An infant exposed to crack cocaine in utero owing to the mother's use of the drug during pregnancy. SEE: *cocaine baby*.

crackle An adventitious lung sound heard on auscultation of the chest, produced by air passing over retained airway secretions or the sudden opening of collapsed airways. It may be heard on inspiration or expiration. A crackle is a discontinuous adventitious lung sound as opposed to a wheeze, which is continuous. Crackles are described as fine or coarse. SYN: *rale*. SEE: *sounds, adventitious lung*.

coarse c. Louder, rather long, low-pitched lung sounds. Coarse inspiratory and expiratory crackles indicate excessive airway secretion.

fine c. Soft, very short, high-pitched lung sounds. Fine, late-inspiratory crackles are often heard in pulmonary fibrosis and acute pulmonary edema.

late-inspiratory c. A discontinuous adventitious lung sound that is present in the latter half of inhalation.

PATIENT CARE: The presence of late-inspiratory crackles is indicative of restrictive lung disorders such as atelectasis or pulmonary fibrosis.

cradle [AS. *cradel*] A lightweight frame placed over part of the bed and patient to provide protection of and prevent pressure on an injured or burned part or to contain either heat or cold.

cramp [ME. *crampe*] **1.** A pain, usually sudden and intermittent, of almost any area of the body, esp. abdominal and pelvic viscera. SEE: *dysmenorrhea*. **2.** A painful, involuntary skeletal muscle contraction. SEE: *heat c.*; *muscle c.*; *writer's c.*; *systemma*.

TREATMENT: Therapy depends on the cramp's cause and location. In muscular cramps, the muscle is extended and compressed, and heat and massage are applied.

artisan's c. A cramp of a hand muscle. SEE: *writer's cramp*.

heat c. Skeletal muscle spasm caused by the excess fluid and/or electrolyte loss that occurs with profuse sweating. The usual muscles affected are those used during work (i.e., the

hand, arm, or leg muscles). The cramps may come on during work or up to 18 hr after completing a work shift.

TREATMENT: The patient should be rehydrated by drinking cool water or an electrolyte-containing drink, such as diluted juice or a commercially marketed sports drink. The severity of the cramp can be decreased through passive stretching and/or massage of the muscle. Severe heat cramps may require the use of an intravenous electrolyte solution, such as normal saline or Ringer's solution.

PREVENTION: Heat cramps may be prevented by maintaining proper hydration by drinking water or commercial electrolyte drinks before and during exposure to hot, humid environments. Normal dietary amounts of electrolytes and salt should be encouraged during meals.

menstrual c. An abdominal cramp associated with menstruation. SEE: *dysmenorrhea*.

muscle c. A painful, involuntary skeletal muscle contraction. This may occur at rest or during exercise, is asymmetrical, and usually affects the gastrocnemius muscle and small muscles of the foot. Ordinary muscle cramps are not due to fluid or electrolyte abnormality. These cramps begin when a muscle already in its most shortened position involuntarily contracts.

TREATMENT: Passive stretching of the involved muscle and active contraction of the antagonists will relieve an established cramp. Quinine, methocarbamol, chloroquine, and other drugs may help to relieve muscle cramps.

occupational c. A form of focal dystonia in which agonist and antagonist muscles contract at the same time. This can occur in writers, pianists, typists, and almost any occupation; they are not considered to have an emotional basis.

TREATMENT: Rest from the specific task and administration of anticholinergics and benzodiazepine may provide temporary relief.

pianist's c. Spasm, or occupational neurosis, of muscles of fingers and forearms from piano playing.

writer's c. A cramp after prolonged writing affecting muscles of the thumb and two adjacent fingers.

cranberry (krān'běr-ē) A tart red fruit, *Vaccinium macrocarpon*, commonly used in the treatment and prevention of urinary tract infections (UTIs). Evidence supporting cranberry as treatment of UTIs is limited. Whether drinking cranberry juice is as effective in preventing UTIs as chronic antibiotic use is unknown. Its mechanism of action is to decrease adherence of some bacteria to the urothelium.

crani- SEE: *cranio-*.

cranial (krā'nē-āl) [L. *cranialis*] Pert. to the cranium.

craniectomy (krā-nē-ēk'tō-mē) [Gr. *kranion*, skull, + *ektome*, excision] Opening of the skull and removal of a portion of it.

cranio-, crani- [Gr. *kranion*, L. *cranium*, skull] Combining forms meaning *skull*.

craniocaudal (krā'nē-ō-kawd'āl) [" + L. *cauda*, tail] Direction from head to foot.

cranioccele (krā'nē-ō-sēl) [" + *kele*, tumor, swelling] Protrusion of the brain from the skull. SEE: *encephalocele*.

craniocerebral (krā'nē-ō-sēr-ē-brāl) [" + L. *cerebrum*, brain] Relating to the skull and brain.

cranioclasia (krā'nē-ōk'lās-sis) [" + *klasis*, fracture] Crushing of the fetal head to permit delivery.

cranioclast (krā'nē-ō-klāst) [" + *klastos*, broken] An instrument for crushing the fetal skull to facilitate delivery.

cranioclasty (krā'nē-ō-klās'tē) Crushing the skull of a dead fetus to enable vaginal delivery when the disparity between the diameters of the fetal head and maternal pelvis prohibit descent.

craniocleidodysostosis (krā'nē-ō-klī'dō-dīs-ōs-tō'sis) [" + *kleis*, clavicle, + *dys*, bad, + *osteon*, bone, + *osis*, condition] A congenital condition that involves defective ossification of the bones of the head and face and of the clavicles.

craniodidymus (krā'nē-ō-dīd'ī-mūs) [" + *didymos*, twin] A congenitally deformed fetus with two heads.

craniofacial (krā'nē-ō-fā'shāl) Concerning the head and face.

craniofrontonasal syndrome (krā'nē-ō-frūn'tō-nā'zīl) [" + " + "] An X-linked disorder characterized by malformation of the cranial suture of the skull. Girls born with this disorder are more severely affected than boys, i.e., they are more likely to have dysmorphic facial and cranial features.

craniograph (krā'nē-ō-grāf) [" + *graphein*, to write] A device for making graphs of the skull.

craniology (krā'nē-ōl'ō-jē) [" + *logos*, word, reason] The study of the skull.

cranio-malacia (krā'nē-ō-mā-lā'shē-ā) [" + *malakia*, softening] Softening of the skull bones.

craniometer (krā-nē-ōm'ē-tēr) [" + *metron*, measure] Instrument for making cranial measurements.

craniometry (krā-nē-ōm'ē-trē) [" + *metron*, measure] Study of the skull and measurement of its bones. SEE: *illus.*

craniopagus (krā-nē-ōp'ā-gūs) [" + *pagos*, a fixed or solid thing] Twins joined at the skulls.

craniopharyngioma (krā'nē-ō-fār-īn-jē-ō'mā) [" + " + *oma*, tumor] A tumor

of a portion of the pituitary gland that often causes hormone deficiencies.

cranioplasty (krā'nē-ō-plās-tē) [" + *plassein*, to form] Surgical correction of defects of the skull.

craniopuncture (krā'nē-ō-pūnk'chūr) [" + L. *punctura*, puncture] Puncture of the skull.

craniorhachischisis (krā'nē-ō-rā-kīs'kī-sis) [" + *rhachis*, spine, + *schizein*, to split] A congenital fissure of the skull and spine.

craniosacral (krā'nē-ō-sā'krāl) **1.** Concerning the skull and sacrum. **2.** The brainstem and sacral spinal cord, origin of parasympathetic preganglionic neurons.

craniosacral therapy A form of massage that purports to use manipulation of the cranial bones and sutures to redirect the flow of cerebrospinal fluid. There is only limited evidence for its effectiveness.

cranioschisis (krā'nē-ōs'kī-sis) [" + *schizein*, to split] A congenital fissure of the skull.

craniosclerosis (krā'nē-ō-sklē-rō'sis) [" + *skleros*, hard, + *osis*, condition] An abnormal thickening of the skull bones; usually associated with rickets.

cranioscopy (krā'nē-ōs'kō-pē) [" + *skopein*, to examine] Endoscopic examination of intracranial structures.

craniospinal (krā'nē-ō-spī'nāl) Concerning the skull and spine.

craniostat (krā'nē-ō-stāt') [" + *statikos*, standing] Cephalostat.

craniostenosis (krā'nē-ō-stē-nō'sis) [" + *stenosis*, act of narrowing] A contracted skull caused by premature closure of the cranial sutures.

craniostosis (krā-nē-ōs-tō'sis) [" + *osteon*, bone, + *osis*, condition] Congenital ossification of the cranial sutures.

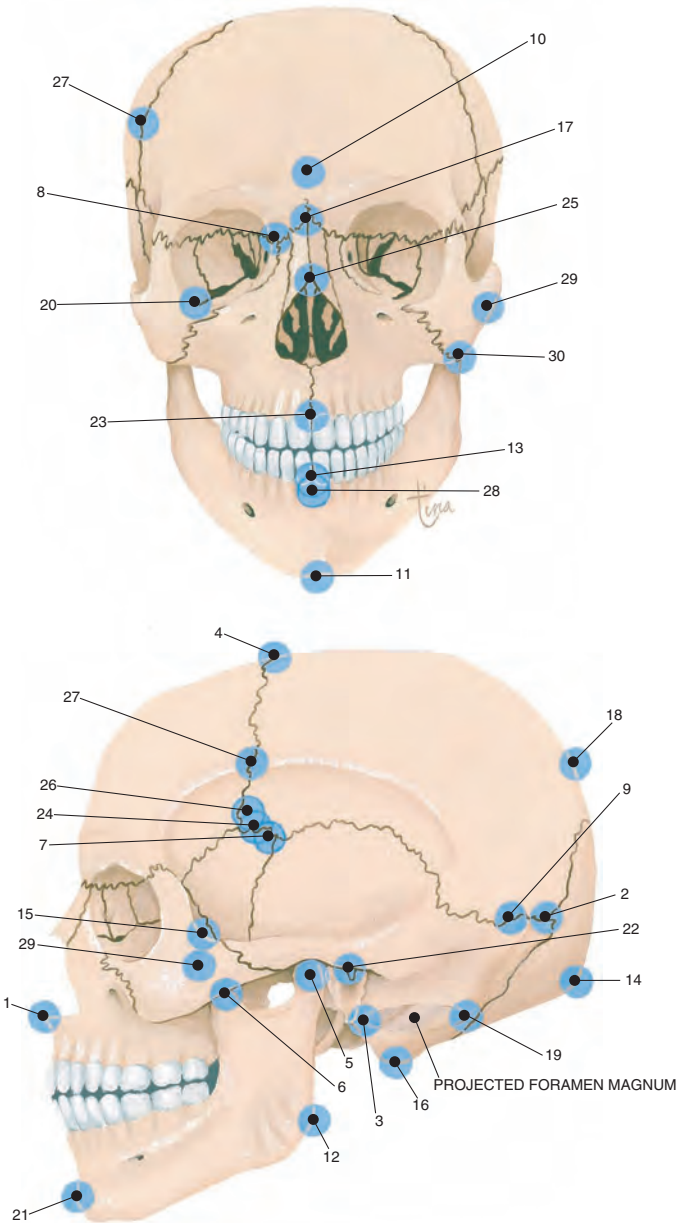
cranosynostosis (krā'nē-ō-sīn'ōs-tō'sis) [" + *syn*, together, + *osteon*, bone, + *osis*, condition] Premature closure of the skull sutures.

craniotabes (krā'nē-ō-tā'bēz) [" + L. *tabes*, a wasting] In infancy, an abnormal softening of the skull bones. Those in the occipital region become almost paper thin. This condition may be the result of marasmus, rickets, or syphilis.

craniotome (krā'nē-ō-tōm) [" + *tome*, incision] A device for forcibly perforating and dividing a fetal skull in labor in order to allow labor to continue. This is done when the fetus has died in utero.

craniotomy (krā'nē-ōt'ō-mē) **1.** Incision through the cranium to gain access to the brain during neurosurgical procedures.

PATIENT CARE: *Preoperative:* Procedures are explained and carried out, including antiseptic shampooing of the hair and scalp, hair removal, insertion of peripheral arterial and venous lines and indwelling urinary catheter, and application of pneumatic compression



CRANIOMETRIC POINTS

These are the fixed points of the skull used in craniometry: 1) acanthion; 2) asterion; 3) basion; 4) bregma; 5) condyion; 6) coronion or koronion; 7) crotaphion; 8) dacryon; 9) entomion; 10) glabella or metopion; 11) gnathion; 12) gonion; 13) infradentale; 14) inion; 15) jugale; 6) koronion; 16) mastoidale; 10) metopion; 17) nasion; 18) obelion; 19) opisthion; 20) orbitale; 21) pogonion; 22) porion; 23) prosthion; 24) pterion; 25) rhinion; 26) sphenion; 27) stephanion; 28) symphysis; 29) zygon; 30) zygomaxillary point.

dressings. The patient is prepared for postoperative recovery in the neurological intensive care unit: the presence of a large bulky head dressing, possibly with drains; use of corticosteroids, antibiotics, and analgesics; use of monitoring equipment; postoperative positioning and exercise regimens; and other specific care measures.

Postoperative: Neurological status is assessed according to protocol (every 15 to 30 min for the first 12 hr, then every hour for the next 12 hr, then every 4 hr or more frequently, depending on the patient's stability). Patterns indicating deterioration are immediately reported. The airway is protected, with gentle suctioning used if necessary. Serum electrolyte values are evaluated daily because decreased sodium, chloride, or potassium can alter neurological status, necessitating a change in treatment. Measures are taken to prevent increased intracranial pressure (ICP), and if level of consciousness is decreased, the airway is protected by positioning the patient on the side. After a supratentorial craniotomy, the patient's head is elevated 15° to 30° to increase venous return and to aid ventilatory effort. After infratentorial craniotomy, the patient is kept flat but log-rolled every 2 hours to reduce complications caused by prolonged bedrest.

The patient is gently repositioned every 2 hr and is encouraged to breathe deeply and cough without straining. Fluid is restricted as prescribed (usually 1500 ml/24 hr) or according to protocol, to minimize cerebral edema and prevent increased ICP and seizures. An NPO ("nothing by mouth") protocol is maintained for 24 to 48 hr to prevent aspiration and vomiting, which can increase ICP. Wound care is provided as appropriate; dressings are assessed for increased tightness (indicative of swelling); and closed drainage systems are checked for patency and for volume and characteristics of any drainage. Excessive bloody drainage, possibly indicating cerebral hemorrhage, and any clear or yellow drainage, indicating a cerebrospinal fluid leak, is reported to the surgeon. Patients who have had a transphenoidal procedure are restricted from nose-blowing and nasal drainage is checked for the presence of cerebrospinal fluid. The patient is observed for signs of wound infection.

Prescribed stool softeners are also administered to prevent increased ICP from straining during defecation. Before discharge, the patient and family are taught to perform wound care; to assess the incision regularly for redness, warmth, or tenderness; and to report such findings to the neurosurgeon. If self-conscious about appearance, the pa-

tient can wear a wig, hat, or scarf until the hair grows back and can apply a lanolin-based lotion to the scalp (but not to the incision line) to keep it supple and to decrease itching as the hair grows. Prescribed medications, such as anti-convulsants, may be continued after discharge.

2. After the death of a fetus, the breaking up of the fetal skull to facilitate delivery in difficult parturition.

craniotomography (krā'nē-ō-tō-nōs'kō-pē) [*'* + *tonos*, tone, + *skopein*, to examine] Auscultatory percussion of the cranium.

craniotrypsis (krā'nē-ō-trī-pē'sis) [*'* + *Gr. trypsis*, a boring] The introduction of trephine or burr holes into the cranial bones.

cranium (krā'nē-ŭm) *pl. crania* [L.] The portion of the skull that encloses the brain, consisting of single frontal, occipital, sphenoid, and ethmoid bones and the paired temporal and parietal bones. SEE: *skeleton*.

crank (krānk) A slang term for methamphetamine hydrochloride.

crapulous (krāp'ū-lūs) [L. *crapulosus*, hungover] Relating to the effects of excessive drinking and eating; relating to intoxication.

crash cart (krash) A mobile medicine chest for storing and transporting the equipment, medications, and supplies needed to manage life-threatening emergencies (e.g., anaphylaxis, cardiac arrest or dysrhythmias, pulmonary edema, shock, or major trauma).

crash injury research and engineering network ABBR: CIREN. A multidisciplinary group composed of clinicians, educators, engineers, and public health officials that works to understand and prevent traumatic injuries caused by automotive collisions.

Crataegus laevigata (krā-tē'gūs lē'vī-gā'tā) [L. (partly fr. Gk.), smooth thorn] Hawthorn.

crater (krā'tēr) A circular depression with an elevated area at the periphery.

crateriform (krā-tēr'i'fōrm) [Gr. *krater*, bowl, + L. *forma*, shape] In bacteriology, relating to colonies that are saucer-shaped, crater-like, or goblet-shaped.

craving (krāv) [AS *craftian*] An uncontrollable desire to be exposed to something, especially to an addictive agent.

Crawford Small Parts Dexterity Test A performance test that uses the manipulation of small tools under standardized conditions to measure fine motor skills and eye-hand coordination.

crazing (krāz'ing) Minute fissures on the surface of natural or artificial teeth.

C-reactive protein The first acute phase protein identified. It binds with phospholipids on foreign substances, acti-

vates the complement system, stimulates the production of cytokines, and inhibits the production of oxygen radicals by neutrophils. Increased blood levels of C-reactive protein (CRP) are present in many infectious and inflammatory diseases. CRP levels are sometimes followed to determine whether these diseases have been effectively treated. SEE: *acute phase protein*.

cream The fat portion of milk. When untreated milk is allowed to stand undisturbed, the cream rises to the top of the container. Approx. 90% of the calories in cream come from fat.

crease (krēs) [ME. *crest*, *crest*] A line produced by a fold.

gluteofemoral c. The crease that bounds the inferior border of the buttocks.

inframammary c. The attachment of the inferior edge of the breast to the chest wall; the location of the film during craniocaudal filming of the breast.

creatinase (krē'ă-tīn-ās") [Gr. *kreas*, flesh, + *-ase*, enzyme] An enzyme that decomposes creatinine.

creatine (krē'ă-tīn) [Gr. *kreas*, flesh] $C_4H_9O_2N_3$; a colorless, crystalline substance that can be isolated from various animal organs and body fluids. It combines readily with phosphate to form phosphocreatine (creatine phosphate), which serves as a source of high-energy phosphate released in the anaerobic phase of muscle contraction. Creatine may be present in a greater quantity in the urine of women than in that of men. Creatine excretion is increased in pregnancy and decreased in hypothyroidism.



creatine kinase An enzyme that catalyzes the reversible transfer of high-energy phosphate between creatine and phosphocreatine and between adenosine diphosphate (ADP) and adenosine triphosphate (ATP). Different isoforms predominate in different tissues (skeletal muscle [CK-MM], cardiac muscle [CK-MB], and the brain [CK-BB]), aiding in differential diagnosis of conditions in which this enzyme is present in the bloodstream.

The serum level of CK-MB may be increased 10 to 25 times the normal level in the first 10 to 14 hr after myocardial infarction and return to normal within 2 to 4 days, provided that no further heart muscle necrosis occurs. Serum levels of CK-MB are also increased in progressive muscular dystrophy, in myocarditis, and following trauma to skeletal muscle. Serum CK-MB levels are not elevated in liver disease or pulmonary infarction.

creatinemia (krē'ă-tīn-ē'mē-ă) [r + *haima*, blood] An excess of creatine in circulating blood.

creatinine (krē-ăt'in-in) [Gr. *kreas*,

flesh] $C_4H_7ON_3$; the decomposition product of the metabolism of phosphocreatine, a source of energy for muscle contraction. Increased quantities of it are found in advanced stages of renal disease. It is a normal, alkaline constituent of urine and blood. The average normal serum creatinine value is less than 1.2 mg/dl. About 0.02 g/kg of body weight is excreted by the kidneys per day. SEE: *blood urea nitrogen*.

creatinine clearance test ABBR: CrCl test. A laboratory test for estimating glomerular filtration rate of the kidney. Creatinine clearance can be estimated by use of the following formula for males: $(140 - \text{age})/(\text{body weight in kg})/72 \times \text{serum creatinine (mg/dl)}$ For females, the formula is multiplied by 0.85. The normal creatinine clearance is about 125 ml/min. Lower levels reflect renal insufficiency and may influence the excretion of many drugs and toxins from the body.

creatinuria (krē-ă'tīn-ū'rē-ă) [r + *ouron*, urine] Excess concentration of creatinine in urine.

creatorrhea (krē'ă-tō-rē'ă) [r + *rhoia*, flow] The presence of undigested muscle fibers in the feces, seen in some cases of pancreatic disease.

credentialing (krē-dēn'shāl-ing) Recognition by licensure, certification, proof of professional competence, or award of a degree in the field in which an individual has met certain educational or occupational standards.

Credé's maneuver SEE: *Credé's method*.

Credé's method (krā-dāz') [Karl S. F.

Credé, Ger. gynecologist, 1819-1892]

1. The means whereby the placenta is expelled by downward pressure on the uterus through the abdominal wall with the thumb on the posterior surface of the fundus uteri and the flat of the hand on the anterior surface, the pressure being applied in the direction of the birth canal. This may cause inversion of the uterus if done improperly. **2.** For treatment of the eyes of the newborn, the use of 1% silver nitrate solution instilled into the eyes immediately after birth for the prevention of ophthalmia neonatorum (gonorrhoeal ophthalmia). **3.** For emptying a flaccid bladder, the method of applying pressure over the symphysis pubis to expel the urine periodically. This technique is sometimes used therapeutically to initiate voiding in bladder retention for persons with paralysis following spinal cord injury (neurogenic bladder).

creep (krēp) [AS.] The time-dependent plastic deformation of a material under a static load or constant stress. In dentistry, creep may be destructive to dental amalgam restoration. In osteopathic medicine, creep is used to alter the responsiveness of tissues to the applica-

tion of repetitively applied tissue loads or tension.

cremains (krĕ-mānz') [contraction of *cremated remains*] That which remains after the body has been prepared for burial by cremation.

cremaster (krĕ-mās'tĕr) [L., to suspend] One of the fascia-like muscles inside the middle layer of the spermatic cord. **cremasteric** (-ĭk), *adj.*

cremate (krĕ'māt) [L. *crematio*, a burning] To reduce a dead body to ash by burning.

crematorium (krĕ'mā-tō'rĕ-ŭm) [L.] A place for the burning of corpses.

crenate (krĕ'nāt) [L. *crenatus*] Notched or scalloped, as a crenated condition of blood corpuscles.

crenation (krĕ-nā'shŭn) The conversion of normally round red corpuscles into shrunken, knobbed, starry forms, as when blood is mixed with salt solution of 5% strength. SEE: *plasmolysis*.

crenocyte (krĕ'nō-sĭt) Crenated red blood cell.

creosote (krĕ'ō-sōt) [Gr. *kreas*, flesh, + *sozein*, to preserve] A mixture of phenols obtained from the destructive distillation of coal or wood. This toxic substance has been used as a disinfectant and as a preserver of wood. Because creosote is a potent carcinogen, contact with it should be avoided by wearing protective garments, gloves, and masks.

crepitant (krĕp'ĭ-tānt) [L. *crepitare*] Crackling; having or making a crackling sound.

crepitation (krĕp-ĭ-tā'shŭn) **1.** A crackling sound heard in certain diseases, e.g., the crackle heard in pneumonia. **2.** A grating sound heard on movement of ends of a broken bone. **3.** A clicking or crackling sound often heard in movements of joints, such as the temporomandibular, elbow, or patellofemoral joints, due to roughness and irregularities in the articulating surfaces. SEE: *temporomandibular joint syndrome*.

crepitan (krĕp'ĭ-tŭs) [L.] A crackling or rattling sound made by a part of the body, either spontaneously or during physical examination.

crepuscular (krĕ-pŭs'kŭ-lăr) [L. *crepusculum*, twilight] Pert. to twilight; used to describe a twilight mental state.

crested (krĕs'ĕnt) [L. *crescens*] Shaped like a sickle or a waxing or waning moon.

c. body Achromocyte.

myopic c. A grayish patch around the optic disk in the fundus of the eye caused by atrophy of the choroid.

c. of Giannuzzi A crescent-shaped group of serous cells lying at the base of or along the side of a mucous alveolus of a salivary gland.

crestcentic (krĕs-ĕn'tĭk) Sickle-shaped.

resol (krĕ'sōl) Yellow-brown liquid obtained from coal tar and containing not

more than 5% of phenol, used as a disinfectant in a 1% to 5% solution for articles or areas that do not come in direct contact with food.

crest [L. *crista*, crest] A ridge or an elongated prominence, esp. one on a bone.

alveolar c. The most coronal portion of the bone surrounding the tooth; the continuous upper ridge of bone of the alveolar process, which is usually the first bone lost as a result of periodontal disease.

iliac c. The anatomical landmark for the superior margin of the pelvis, located between the anterosuperior and posterosuperior iliac spines.

intertrochanteric c. On the posterior femoral shaft, the ridge of bone extending from the greater to the lesser trochanter. SYN: *intertrochanteric line*.

CREST syndrome The presence of calcinosis, Raynaud's phenomenon, esophageal dysfunction, sclerodactyly, and telangiectasia, a variant of progressive systemic sclerosis.

cretin (krĕ'tĭn) [Fr.] A person afflicted with congenital hypothyroidism. SEE: *cretinism*. **cretinous** (-ŭs), *adj.*

cretinism (krĕ'tĭn-ĭzm) [r + Gr. *-ismos*, condition] A congenital condition caused by a lack of thyroid hormones, characterized by arrested physical and mental development, myxedema, dystrophy of the bones and soft tissues, and lowered basal metabolism. The treatment consists of administration of synthetic thyroid hormones. The acquired form of severe hypothyroidism is referred to as myxedema.

cretinoid (krĕ'tĭ-noyd) [r + Gr. *eidōs*, form, shape] Having the symptoms of cretinism, or resembling a cretin, owing to a congenital condition.

Creutzfeldt-Jakob disease (kroyts'fĕlt-yah'kōp) [Hans Gerhard Creutzfeldt, 1885–1964; Alfons Maria Jakob, 1884–1931, German psychiatrists] ABBR: CJD. A central nervous system disease that causes rapidly progressive dementia usually accompanied by muscle jerking, difficulty walking, and aphasia. The causative agent is assumed to be a prion and may be related to the agent that causes bovine spongiform encephalopathy ("mad cow disease"). Creutzfeldt-Jakob disease has developed in the recipient of a cornea from a donor with the disease and in a few recipients of human growth hormone. There is no treatment, and the disease is fatal.



The causative agent of CJD is extremely resistant to most sterilization procedures. SEE: *Standard Precautions Appendix*.

crevice (krĕv'ĭs) [Fr. *crever*, to break] A small fissure or crack.

- gingival c.** The fissure produced by the marginal gingiva with the tooth surface. SYN: *gingival pocket*; *periodontal pocket*; *sulcus*.
- revicular** (krěv-ik'ū-lār) Pert. to the gingival crevice or sulcus. SYN: *sulcus*; *gingival pocket*; *periodontal pocket*.
- CRF** *corticotropin-releasing factor*.
- CRH** *corticotropin-releasing hormone*.
- crib** (krīb) [AS. *cribbe*, manger] **1.** A framework around a denture or a natural tooth to serve as a brace or supporting structure. **2.** A small bed with long legs and high sides for an infant or young child.
- cribrate** (krīb'rāt) [L. *cribratus*] Profusely pitted or perforated like a sieve.
- cribriform** (krīb'rī-form) [L. *cribrum*, a sieve, + *forma*, form] Sievelike; cribrate.
- crick** (krík) A muscle spasm or cramp, esp. in the neck.
- cricoarytenoid** (krī'kō-ā-rīt'ēn-oyd) [Gr. *krikos*, ring, + *arytaina*, pitcher, + *eidōs*, form, shape] Extending between the cricoid and arytenoid cartilages.
- cricoid** (krī'koyd) [" + "] **1.** Shaped like a signet ring. **2.** Pert. to the cricoid cartilage. **3.** The cricoid cartilage.
- cricoidectomy** (krī'koyd-ēk'tō-mē) [" + "] + *ektome*, excision] Excision of the cricoid cartilage.
- cricoidynia** (krī'koy-dīn'ē-ā) [" + " + *odyne*, pain] Pain in the cricoid cartilage.
- cricopharyngeal** (krī'kō-fār-in'jē-āl) [" + *pharynx*, throat] Pert. to the cricoid cartilage and pharynx.
- cricothyroid** (krī'kō-thī'royd) [" + *thyreos*, shield, + *eidōs*, form, shape] Pert. to the thyroid and cricoid cartilages.
- cricothyrotomy** (krī'kō-thī-rōt'ō-mē) [" + " + *tome*, incision] An emergency surgical airway procedure involving an incision between the cricoid and thyroid cartilages in the midline of the anterior neck. SYN: *coniotomy*.
- cricotomy** (krī-kōt'ō-mē) [" + *tome*, incision] Division of the cricoid cartilage.
- cricotracheotomy** (krī'kō-trā'kē-ōt'ō-mē) [" + *tracheia*, windpipe, + *tome*, incision] Division of the cricoid cartilage and upper trachea in closure of the glottis.
- cri du chat syndrome** (krī dē shah) A sporadically inherited congenital anomaly in which affected infants have mental retardation, microcephaly, dwarfism, and a laryngeal defect that results in unusual vocalizations.. An affected infant is said to cry like a cat (*cri du chat* in French). It results from a deletion of the short arm of chromosome 5.
- Crigler-Najjar syndrome** (krīg'lēr-nah'jāhr) [John Fielding Crigler, U.S. physician, b. 1919; Victor A. Najjar, U.S. physician, b. 1914] One of two familial forms of congenital hyperbilirubinemia

associated with brain damage as a result of bilirubin deposition in the brain (kernicterus). The syndrome is caused by an enzyme deficiency in the liver that causes faulty bilirubin conjugation. It is transmitted as an autosomal recessive trait; death may occur within 15 months after birth in the more severe form.

crimp (krimp) [AS. *gecrympan*, to curl] To bind or mold with applied pressure; to crease.

-crine, -crin, -crino Suffixes meaning *secrete*.

crinogenic (krīn"ō-jěn'ík) [Gr. *krinein*, to secrete, + *gennan*, to produce] Producing or stimulating secretion.

crisis (krī'sīs) *pl. crises* [Gr. *krisis*, turning point] **1.** The turning point of a disease; a very critical period often marked by a long sleep and profuse perspiration. **2.** The term used for the sudden descent of a high temperature to normal or below; generally occurs within 24 hr. **3.** Sharp paroxysms of pain occurring over the course of a few days in certain diseases. **4.** In counseling, an unstable period in a person's life characterized by inability to adapt to a change resulting from a precipitating event. SEE: *crisis intervention*.

abdominal c. Severe pain in the abdomen caused by biliary or renal colic, testicular or ovarian torsion, sickle cell anemia, bowel obstruction, aortic dissection, among other illnesses.

addisonian c. Acute adrenal insufficiency.

adrenal c. Acute adrenal insufficiency. SEE: *Addison's disease*; *Waterhouse-Friderichsen syndrome*.

bronchial c. A paroxysm of coughing in persons with locomotor ataxia due to syphilis.

celiac c. The rapid onset of dehydration and metabolic disarray in fulminant celiac disease. Patients are treated with intravenous hydration, electrolytes, and parenteral nutrition.

Dietl's c. SEE: *Dietl's crisis*.

hypertensive c. Any severe elevation in blood pressure (usually a diastolic pressure greater than 130 mm Hg) with or without damage to internal organs or other structures (e.g., brain, heart, aorta, kidneys). In hypertensive *emergencies*, end organs are damaged, and antihypertensive drugs usually are given intravenously to try to lower the blood pressure within an hour. Agents used in hypertensive emergencies include sodium nitroprusside, nitroglycerin, labetalol, and enalaprilat.

In hypertensive *urgencies*, the blood pressure is extremely elevated, but there is no sign or immediate threat of organ damage. Typically, oral beta blockers, ACE inhibitors, or clonidine, alone or in combination, are given to lower pressures over 1 or 2 days.

oculogyric c. A spasm of involuntary deviation and fixation of the eyeballs, usually upward, often occurring as an adverse reaction to the use of phenothiazine medications. It may last for only several minutes or for hours. This condition is a dystonic reaction. SEE: *dystonia*.

rectal c. Tenesmus and rectal pain in locomotor ataxia.

salt-losing c. Acute vomiting, dehydration, hypotension, and sudden death as a result of acute loss of sodium; may be caused by adrenal hyperplasia, salt-losing nephritis, or gastrointestinal disease.

sickle cell c. Vaso-occlusive c. (in sickle cell disease).

tabetic c. Abdominal pain due to tabes dorsalis in patients with syphilis.

thyroid c. Thyroid storm.

thyrotoxic c. Thyroid storm.

transient aplastic c. ABBR: TAC. A serious complication of infection with human parvovirus B-19 infection in patients with chronic hemolytic anemia such as sickle cell disease. This virus causes erythema infectiosum. SEE: *erythema infectiosum*.

true c. Temperature drop accompanied by a fall in the pulse rate.

vaso-occlusive c. (in sickle cell disease) Painful occlusions of blood vessels in bones, the chest, the lungs, or the abdomen in patients with sickle cell anemia. The syndrome is caused by sickling of blood cells in small blood vessels, with resulting infarction and tissue death. SYN: *sickle cell crisis*.

crisis intervention A problem-solving activity for correcting or preventing the continuation of an emergency, esp. one caused by psychological distress or drug overdose.

crista (krís'tā) *pl. cristae* [L.] 1. A crest or ridge. 2. A fold of the inner membrane of a mitochondrion into its fluid-filled cavity.

c. ampullaris A localized thickening of the membrane lining the ampullae of the semicircular canals; it is covered with neuroepithelium containing hair cells that are stimulated by movement of the head.

c. galli A ridge on the ethmoid bone to which the falx cerebri is attached.

-crit Suffix meaning *separate*.

criterion (krī-tē'rē-ōn) *pl. criteria* [Gr. *kriterion*, a means for judging] A standard or attribute for judging a condition or establishing a diagnosis.

critical (krīt'ī-kāl) [Gr. *kritikos*, critical] 1. Pert. to a crisis. 2. Dangerous. 3. Extremely ill.

critical care unit SEE: *intensive care unit*.

critical incident stress debriefing, critical incident stress defusing ABBR: CISD. A group session conducted by mental health professionals and emergency

medical service peers for rescuers after a tragic incident, such as the death of a partner, serious injuries to children, a mass casualty incident, or other disaster. A CISD is not a critique but rather an open discussion about rescuers' thoughts about an incident, combined with some teaching about the effects of stress that can be expected over the next few days to weeks.

critical period 1. The phase of the life cycle during which cells are responsive to certain regulators. 2. The first trimester of pregnancy when organ systems are being formed, and the fetus is most vulnerable to environmental factors that may cause deformities.

critical thinking 1. The ability to interpret argument, evidence, or raw information in a logical and unbiased fashion. 2. The ability to solve complex problems effectively.

CRM *Certified Reference Material*.

CRNA *certified registered nurse anesthetist*.

Crohn's disease, Crohn disease (krōnz) [Burrill B. Crohn, U.S. gastroenterologist, 1884–1983] An inflammatory bowel disease marked by patchy areas of full-thickness inflammation anywhere in the gastrointestinal tract, from the mouth to the anus. It frequently involves the terminal ileum of the small intestine or the proximal large intestine and may be responsible for abdominal pain, diarrhea, malabsorption, fistula formation between the intestines and other organs, and bloody stools. Like ulcerative colitis, it is most common in the second and third decades of life. SEE: *inflammatory bowel disease*; *Nursing Diagnoses Appendix*.

TREATMENT: Medical therapies include anti-inflammatory drugs (e.g., corticosteroids), aminosalicylates (e.g., mesalamine), and antibodies to tumor necrosis factor. Nutritional support of the patient may be needed during flares of the disease. Surgical removal of diseased bowel segments is often followed by relapse and may result in malnutrition.

Crosby capsule (krōz'bē) [William Holmes Crosby, Jr., U.S. physician, 1914–2005] A device attached to a flexible tube that is introduced into the gastrointestinal tract per os. It is designed so that a sample of tissue may be obtained from the mucosal surface with which it is in contact. The capsule is then removed and the tissue examined for evidence of pathological changes.

cross [L. *crux*] 1. Any structure or figure in the shape of a cross. 2. In genetics, the mating or the offspring of the mating of two individuals of different strains, varieties, or species.

crossbirth Presentation of the fetus in which the long axis of the fetus is at

right angles to that of the mother and requires version or cesarean delivery. Also called *transverse lie*.

crossbreeding Mating of individuals of different breeds or strains.

cross-bridge In the sarcomere of a muscle cell, the portion of the myosin filaments that pulls the actin filaments toward the center of a sarcomere during contraction.

cross-cultural Concerning the physiological and social differences and similarities of two or more cultures.

cross-dress To dress in clothing worn by members of the opposite sex.

crossed Passing from one side to the other, as the crossed corticospinal tract, in which nerve fibers cross from one side of the medulla to the other.


crossed finger technique A hazardous method of opening an unconscious patient's mouth by placing the thumb and index finger of a gloved hand on opposite rows of teeth and spreading the jaw open.

cross education Contralateral facilitation or changes resulting from exercise.

cross-eye SEE: *crossed-eye* under *eye*.

cross-fertilization Fusion of male and female gametes from different individuals.

crossing over In genetics, the mutual interchange of blocks of genes between two homologous chromosomes. It occurs during synapsis in meiosis. In this process, there is no gain or loss of genetic material, but a recombination does occur.

 **crossmatching** 1. The process of mixing a sample of the donor's red blood cells with the recipient's serum (major cross-matching) and mixing a sample of the recipient's blood with the donor's serum (minor crossmatching). It is done before transfusion to determine compatibility of blood. 2. The determination of the compatibility of a donated organ's human leukocyte antigens with the recipient's antigens.

crossover trial Any scientific study of a therapeutic agent in which participants are exposed in sequence to the putative cure and subsequently (or previously) to an inactive agent or an agent whose efficacy has been previously established. The participants "cross over" from one arm of the study to the other and serve as their own control group.

cross reaction A reaction between an antibody and an antigen that is similar to the specific antigen for which the antibody was created. It enables immunoglobulins to cross-link and activate B cells.

cross-tolerance The development of tolerance to all the medications within a particular class of agents rather than simply to one agent.

cross-training 1. A cost-containment

measure whereby instruction and experience are provided to enable health care workers to perform procedures and provide services previously limited to other members of the health team. 2. In physical fitness training, the use of one or more sports to train for another. For example, training in both cycling and running strengthens all of the leg muscle groups and makes them less vulnerable to injury.

crotaline (krō'tā-lin, -līn") Pert. to poisonous snakes of the genus *Crotalus*.

Crotalus (kröt'ā-lūs) [Gr. *krotalon*, rattle] A genus of venomous snakes that includes most rattlesnakes.

crotonism (krō'tōn-izm) Poisoning from croton oil.

croton oil (krō'tōn) [Gr. *kroton*, castor oil plant seed] *Oleum tiglii*; a fixed oil expressed from the seed of the croton plant, *Croton tiglium*. It is toxic to skin, heart, muscle, and the gastrointestinal tract.

crouch (krowch) [ME. *crouchen*] To bend the knees and bring the upper body down and forward.

croup (croop) An acute viral disease of early childhood, usually occurring from age 6 months to 5 years (and more in males than in females), marked by a resonant barking cough (described as sounding "seal-like"), stridor, and varying degrees of respiratory distress. Inflammation and spasm of the larynx, trachea, and bronchi account for most of the symptoms; thus croup is also known as *laryngotracheobronchitis*.

ETIOLOGY: Although bacterial infections of the larynx can result in "false croup," the condition is caused almost exclusively by viruses, esp. parainfluenza, respiratory syncytial, and influenza viruses.

DIAGNOSIS: Diagnosis is based on characteristic clinical findings and x-ray examination of the neck, which may show subglottic narrowing of air within the trachea.

TREATMENT: Supportive measures include rest and supervised hydration. Positioning in an infant seat or in Fowler's position is helpful. Although cool mist is often provided via inhalation, its effectiveness is unproven. Oral corticosteroids are routinely prescribed and have proved beneficial in mild as well as moderate to severe cases (less sleep loss, better clinical outcomes in early days). Hospitalization may be necessary for more severe cases; nebulized racemic epinephrine and oxygen therapy may be needed. Intubation is rarely required unless the patient shows evidence of respiratory fatigue or hypoxia. Antibiotics are seldom needed because the viruses involved do not predispose to secondary bacterial infections. The vast majority of children, even those

hospitalized, recover without complications.

PATIENT CARE: A quiet, calm environment is maintained; all procedures are explained to the family, and support and reassurance are provided to the child and family to reduce fear and anxiety. Ventilation and heart rate are monitored, as are cough, hoarseness, breath sounds, and ventilatory rate and character. The affected child is observed carefully for retractions, inspiratory stridor, cyanosis, labored breathing, and restlessness. Antipyretics and sponge baths are provided for fever; infants and young children with temperatures above 102°F (38.9°C) are observed for seizures. If the child becomes dehydrated, oral or intravenous rehydration is administered. Sore throat is relieved with water-based ices such as fruit sherbets, and thicker fluids are avoided if the child is producing thick mucus or has difficulty swallowing. Hand hygiene is scrupulously practiced when caring for the child to avoid transmitting respiratory syncytial virus (RSV) or parainfluenza infections to other children. Parents must also wash hands frequently and thoroughly. SEE: *Nursing Diagnoses Appendix*.

diphtheritic c. Laryngeal diphtheria.

membranous c. Inflammation of the larynx with exudation forming a false membrane. SYN: *croupous laryngitis*. SEE: *Nursing Diagnoses Appendix*.

SYMPTOMS: Symptoms include those of laryngitis: loss of voice; noisy, difficult, and stridulous breathing; weak, rapid pulse; livid skin; and moderate fever.

ETIOLOGY: Several viruses may cause this disease. These include parainfluenza, respiratory syncytial virus, and various influenza viruses.

TREATMENT: Antibiotics are indicated only if there is secondary bacterial infection; corticosteroids are of no benefit. If hypoxia is present, inhalation of a 40% concentration of well-humidified oxygen is indicated. This is best accomplished by a face mask.

spasmodic c. A form of croup that typically occurs in the middle of the night. The characteristic barking cough is present, but there are no other signs of viral illness. The child is perfectly fine the next morning, only to have a repeat of symptoms the next 2 or 3 nights. Hospitalization is rarely required. An allergic etiology is suspected. Antihistamines are sometimes helpful.

croupous (kroo'pūs) Pert. to croup or having a fibrous exudation.

Crouzon's disease (kroo-zōnz') [Octave Crouzon, Fr. neurologist, 1874–1938] An autosomal dominantly inherited congenital disease characterized by hypertelorism (widely spaced eyes), cra-

niocfacial dysostosis, exophthalmos, optic atrophy, and divergent squint. The disease is one of the craniosynostoses.

Crow-Fukase syndrome (krō'fū-kā'sē) POEMS syndrome.

crowing (krō'īng) A noisy, harsh sound on inspiration.

crown (krown) [L. *corona*, wreath] The top or highest part of an organ, tooth, or other structure, as the top of the head; the corona.

anatomical c. The part of the tooth covered with enamel.

clinical c. The portion of the natural tooth that is exposed in the mouth, from the gingiva to the occlusal plane or the incisal edge.

dental c. Dental restoration made of porcelain, porcelain fused to metal, stainless steel, gold alloy, and other base metal alloys. The crown usually covers the tooth from the occlusal surface to the gingival margin.

c. lengthening A periodontal procedure often performed for esthetic purposes in which excessive gum tissue is surgically removed in order to expose more of the surface of the teeth. The procedure is also performed to expose caries that lie beneath the gingiva and to restore length to teeth damaged by trauma.

crowning (krown'īng) [L. *corona*, wreath] Visible presentation of the fetal head at the vaginal introitus.

crown-rump ABBR: CR. The axis for measurement of a fetus. SEE: *illus*.

crown work (krown'wūrk) A colloquial term for a dental crown.

CRP *C-reactive protein*.

CRT *cathode ray tube*.

CRTT *certified respiratory therapy technician*.

crucial (kroo'shāl) [L. *crucialis*] **1.** Cross-shaped. **2.** Decisive; of supreme importance; critical.

cruciate (kroo'shē-āt) Cross-shaped, as in the cruciate ligaments of the knee.

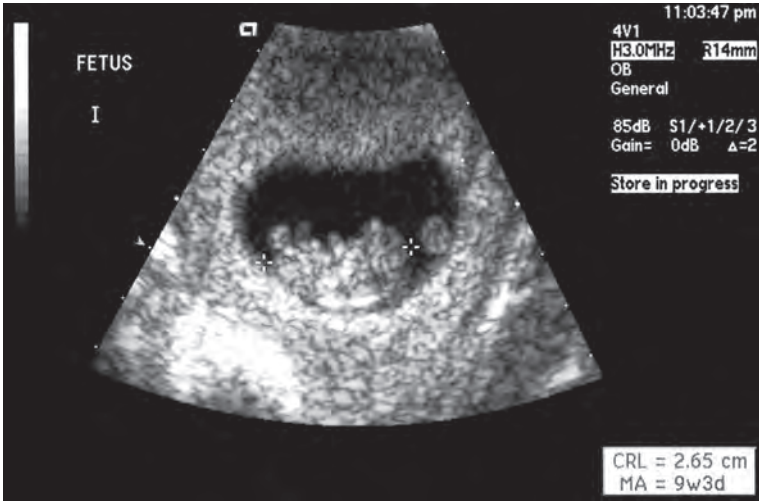
crucible (kroo'sī-b'l) [L. *crucibulum*] A dish or container for substances that are being melted, burned, or dehydrated while exposed to high temperatures.

cruciform (kroo'sī-form) [L. *crux*, cross, + *forma*, shape] Shaped like a cross.

crude (krood) [L. *crudus*, raw] Raw, unrefined, or in a natural state.

crui (krooz) **1.** To walk sideways or diagonally while holding onto people or objects. It is a form of locomotion used by infants and toddlers as they begin to assume an upright posture while exploring their environment. **2.** A colloquial term for surfing the Internet. **3.** To travel for pleasure aboard a ship. Health problems associated with cruising include athletic injuries, excessive use of alcohol, failure to take prescribed medications, and epidemic diarrhea.

crura (kroo'rā) *sing.*, **crus** [L., legs] A



CROWN-RUMP

Ultrasonographic image of a fetus aged 9 weeks and 3 days. The crown-rump length is highlighted.

pair of elongated masses or diverging bands resembling legs.

c. cerebelli Cerebellar peduncles.

c. cerebri A pair of bands joining the cerebrum to the medulla and pons.

c. of diaphragm Two pillars connecting the spinal column and diaphragm.

crural (kroo'rál) [L. *cruralis*] Pert. to the leg or thigh; femoral.

c. palsy Paralysis of the nerves of the legs (e.g., 12th thoracic, first to fifth lumbar, and first to third sacral spinal nerves).

crus (krüs) *pl. crura* [L.] **1.** Leg. **2.** Any structure resembling the leg.

c. cerebri Either of the two peduncles connecting the cerebrum with the pons.

crusher A surgical instrument used to flatten tissues.

crush syndrome (krüş) The tissue damage and systemic effects of prolonged traumatic muscle compression. Crushing injuries may cause compartment syndromes, muscle necrosis, and leakage of muscle cell contents into the systemic circulation, especially after blood flow is restored to damaged tissues. Kidney failure may occur when myoglobin released from injured muscles blocks renal tubules. Electrolyte and acid base disturbances are common. Treatment may include local surgical care, metabolic support, hydration, and alkalization of the urine. SEE: *renal failure, acute; reperfusion; rhabdomyolysis.*

crust, crusta (krüst) [L. *crusta*] **1.** Dried serum, pus, or blood on the skin surface.



Crusts are seen in diseases in which the

skin weeps, such as eczema, impetigo, and seborrhea. They are often yellow-brown, dirty cream- or honey-colored. **2.** An outer covering or coat.

crusted scabies Widespread scabies involving large areas of the skin, usually found in people with immune-suppressing illnesses, malnutrition, or unhygienic living situations. Crusted scabies is very contagious. Scaling skin from affected persons readily distributes mites to individuals in contact with the patient.

crutch (krütch) [AS. *crycc*] **1.** An assistive device prescribed to provide support during ambulation and transfers for individuals with paralysis, weakness, or injury. It also may be used to provide support for balance loss or to minimize or eliminate weight bearing on lower extremities. A variety of crutches are available. The most common is the axillary crutch, which generally is constructed of wood or aluminum. This type of crutch consists of a curved surface that fits directly under the axilla, and double uprights connected by a hand grip that converge into a single contact point at the distal end. A rubber suction tip generally is fitted to this distal end for safety. The axillary crutch should be adjusted to suit the user's height. Other variations include the forearm crutch or Lofstrand crutch. This aluminum crutch consists of a single metal tube, a hand grip, and a metal cuff that surrounds the proximal forearm. Platform adaptations for forearm crutches, which allow individuals to bear weight through the forearm, are available.

PATIENT CARE: Depending on activity restrictions, the patient is taught an appropriate gait pattern for crutch walking, including negotiating stairs and moving safely through doorways. The patient should “walk on his or her hands,” not lean on the crutches during ambulation or when transferring from a standing to sitting position. Prolonged or excessive pressure in the axilla can lead to axillary nerve damage. The patient’s safety and dexterity while on crutches are evaluated, and use of a walker may be recommended if safety is a concern.

2. In psychology, any mechanism used by a person to maintain balance or avoid stress.

Crutchfield tongs (krŭtch'fēld') [William Gayle Crutchfield, U.S. surgeon, 1900–1972] A traction device whose pins are inserted into the skull to distract and/or immobilize the neck. Crutchfield tongs are used to stabilize fractures of the cervical spine.

Cruveilhier-Baumgarten murmur A murmur heard on the abdominal wall over the collateral veins connecting the caval and portal veins.

Cruveilhier-Baumgarten syndrome (kroo-vā-yā'bōm'gār-tēn) [Jean Cruveilhier, Fr. pathologist, 1791–1874; Paul Clemens von Baumgarten, Ger. pathologist, 1848–1928] Cirrhosis of the liver caused by patency of the umbilical or paraumbilical veins and the resultant collateral circulation. It is associated with prominent periumbilical veins, portal hypertension, liver atrophy, and splenomegaly.

cry (krī) The production of inarticulate sounds, with or without weeping, which may be sudden, loud, or quiet, as in a sob.

cry- SEE: *cryo-*.

crystalgia (krī-āl-jē-zē-ā) [Gr. *kryos*, cold, + *algos*, pain] Pain from the application of cold.

cryanesthesia (krī-ēs-thē-zē-ā) [“ + *an-*, not, + *aisthesis*, sensation] Loss of sense of cold.

crysthesia (krī-ēs-thē-zē-ā) [“ + *aisthesis*, sensation] Sensitivity to the cold.

cry for help Any attempt to reach out to others in times of distress.

crymophilic (krī'mō-fil'ik) [“ + *philein*, to love] Cryophilic.

cryo-, cry- [Gr. *krymos*, cold] Combining forms concerning cold. SEE: *psychro-*.

cryoaesthesia (krī'ō-ān-ēs-thē-zē-ā, krī'ō-ān'ēs-thē-zhā) [“ + “] The topical cooling of body parts (e.g., with ice or liquid nitrogen) to reduce pain or permit surgery. SYN: *ice anesthesia*.

cryobank (krī'ō-bānk) A facility that stores and preserves refrigerated or frozen biological specimens.

cryobiology (krī'ō-bī-ōl'ō-jē) [“ + *bios*,

life, + *logos*, word, reason] The study of the effect of cold on biological systems.

cryocautery (krī'ō-kaw'tēr-ē) [“ + *kauter*, a burner] A device for application of cold sufficient to kill tissue.

cryocompression (krī'ō-kōm-prēsh'ūn) The squeezing of a body part in an ice-cold device, wrap, or sleeve to prevent or reduce swelling of an extremity.

cryocrit (krī'ō-krīt) [“ + *krinein*, to separate] The proportion of cold-precipitable protein in a serum sample, usually represented as a percentage. The cryocrit is used as a measure of immune complex formed in response to various agents, such as viruses.

cryoextraction (krī'ō-ēks-trāk'shūn) The use of a cooling probe introduced into the lens of the eye to produce an ice ball limited to the lens. The ice ball, which includes the lens, is then removed. This can be used to treat ophthalmic conditions, such as hemangiomas or cataracts.

cryofibrinogen (krī'ō-fi-brīn'ō-jēn) An abnormal fibrinogen that precipitates when cooled and dissolves when reheated to body temperature.

cryofibrinogenemia (krī'ō-fi-brīn'ō-gē-nē'mē-ā) [Gr. *kryos*, cold, + *L. fibra*, fiber, + Gr. *gennan*, to produce, + Gr. *haima*, blood] The coagulation of blood in small vessels, caused by cryofibrinogens in the plasma. This rare symptomatic illness can cause ulceration, gangrene, necrosis, or purpura, esp. when the skin is exposed to cold. Cryofibrinogenemia usually develops secondarily, e.g., in patients with metastatic cancer, lymphoma, or collagen-vascular disease.

cryogen (krī'ō-jēn) [“ + *gennan*, to produce] A substance that produces low temperatures.

cryogenic (krī'ō-jēn'ik) Producing or pert. to low temperatures.

cryoglobulin (krī'ō-glōb'ū-līn) [“ + *L. globulus*, globule] An abnormal globulin that precipitates when cooled and dissolves when reheated to body temperature. Cryoglobulins are usually composed of IgM, or less commonly IgE or IgA molecules. They may form in response to some viral infections, esp. to chronic infection by hepatitis C virus.

cryoglobulinemia (krī'ō-glōb'ū-līn-ē'mē-ā) [“ + “ + Gr. *haima*, blood] The presence in the blood of an abnormal protein that forms gels at low temperatures. It is found in association with pathological conditions such as hepatitis C viral infection, multiple myeloma, leukemia, and certain forms of pneumonia.

cryohypophysectomy (krī'ō-hī'pō-fiz-ēk'tō-mē) [Gr. *kryos*, cold, + *hypo*, under, + *physis*, growth, + *ektome*, ex-

cision] Destruction of the hypophysis by the use of cold.

cryokinetics (krī'ō-kī-nēt'iks) [r + *kinēsis*, motion] The therapeutic use of cold (such as ice packs or ice immersion) before active exercise. The application of cold increases the amount of motion that is available to a joint by decreasing pain. Active exercise increases range of motion, improves tissue tensile strength, and enhances healing. SEE: *cryotherapy*.

TREATMENT: Cold therapy is administered to the patient until skin numbness is reported. Non-weight-bearing or weight-bearing exercises are then implemented without causing pain.



This technique should not be used in patients for whom cold application cryotherapy or active exercise is contraindicated.

cryolesion (krī'ō-lē'zhūn) **1.** The cooling of an area in order to injure or destroy it. SYN: *cryotherapy*. **2.** A lesion produced by exposure to cold (e.g., frostbite).

cryophilic (krī'ō-fil'ik) [r + *philein*, to love] Showing preference for cold, as in psychrophilic bacteria. SYN: *cryophilic*; *psychrophilic*.

cryo-poor plasma Cryosupernatant.

cryoprecipitate (krī'ō-prē-sip'ī-tāt) **1.** The precipitate formed when serum from patients with rheumatoid arthritis, glomerulonephritis, systemic lupus erythematosus, hepatitis C infection, and other chronic diseases in which immune complexes are found. It is stored at 4°C. **2.** A derivative of plasma that contains fibrinogen, clotting factor VIII, and fibrinectin. It is used for bleeding disorders.

cryopreservation (krī'ō-prē'sēr-vā'shūn) The preservation at very low temperatures of biological materials such as blood or plasma, embryos or sperm, or other tissues. After thawing, the preserved material can be used for its original biological purpose.

cryoprobe (krī'ō-prōb) A device for applying cold to a tissue. Liquid nitrogen is the coolant frequently used. SEE: *cryoextraction*.

cryoprotectant (krī'ō-prō-tēk'tānt) A drug that permits cells to survive freezing and thawing. **cryoprotective** (-tēk'tiv), *adj.*

cryoprotein (krī'ō-prō'tē-īn) Any protein that precipitates when cooled below body temperature. SEE: *cryofibrinogen*; *cryoglobulin*.

cryostat (krī'ō-stāt) A device for maintaining very low temperatures.



cryostretch (krī'ō-strēch) [r + AS. *streccan*, extend] A technique used to reduce muscle spasm by combining cold applications to produce numbness with proprioceptive neuromuscular facilitation.

The body part is numbed using an ice pack and then exercised using proprioceptive neuromuscular facilitation. The ice application and exercise are repeated, to stretch and fatigue the involved muscle group.

cryosupernatant (krī'ō-soop'er-nāt'ānt) The portion of fresh frozen plasma that remains after the removal of cryoprecipitate. It contains very low levels of factor VIII, fibrinogen, and von Willebrand's factor. SYN: *cryo-poor plasma*.

cryosurgery (krī'ō-sēr'jēr-ē) [r + ME. *surgerie*, surgery] The use of extremely cold probes to destroy unwanted, cancerous, or infected tissues. Cryosurgery has been used to treat a variety of lesions, including metastatic liver cancer, prostate cancer, sun-induced skin cancers, warts, cutaneous leishmaniasis, and even abnormal conduction pathways in the heart or nervous system. Liquid nitrogen is often used to produce the extreme cold.

cryothalamotomy (krī'ō-thāl'ā-mōt'ō-mē) [r + L. *thalamus*, inner chamber, + Gr. *tome*, incision] The destruction of a portion of the brain with a hypothermic probe. This procedure is used, rarely, to treat parkinsonism and other movement disorders.

cryotherapy (krī'ō-thēr'ā-pē) [r + *therapeia*, treatment] **1.** The removal of heat (e.g., use of ice compresses) from a body part to decrease cellular metabolism, improve cellular survival, decrease inflammation, decrease pain and muscle spasm, and promote vasoconstriction. SEE: table 2. Cryosurgery.

cryotolerant (krī'ō-tōl'er-ānt) [r + L. *tolerare*, to bear] Able to tolerate very low temperatures.

crypt (krīpt) [Gr. *kryptos*, hidden] **1.** A small sac or cavity extending into an epithelial surface. **2.** A tubular gland, esp. one of the intestine.

dental c. A space in the bony jaw occupied by a developing tooth.

c. of iris An irregular excavation on the anterior surface of the iris near the pupillary and ciliary margins.

c. of Lieberkühn SEE: *Lieberkühn crypt*.

tonsillar c. SEE: *tonsillar crypt*.

crypt- Prefix indicating *hidden*.

cryptdin (krīp'din) A small cation released from intestinal crypts, apparently as a defense against infection with enteric bacteria. It is part of the innate immune response. Cryptdins destroy bacteria by punching holes in their cell membranes.

cryptectomy (krīp-tēk'tō-mē) [r + *ek-tome*, excision] Excision of a crypt.

cryptesthesia (krīp-tēs-thē'zē-ā) [r + *aisthesis*, sensation] Subconscious awareness of facts or occurrences other than through the senses or rational thinking, such as through intuition or alleged clairvoyance.

Contraindications to the Topical Application of Cold to Musculoskeletal Injuries

| Indications | Contraindications |
|--|--|
| Acute injury or inflammation | Anesthetic skin |
| Acute or chronic pain | Cold allergy/cold-induced urticaria |
| Acute or chronic muscle spasm | Cold-induced myocardial ischemia (or other unstable heart or lung disease) |
| Neuralgia | Diabetes mellitus (when complicated by vascular disease or sensory loss) |
| Postsurgical pain and edema | Peripheral vascular disease |
| Use prior to rehabilitation exercises | Raynaud's phenomenon |
| Small, superficial, first-degree burns | Systemic lupus erythematosus |
| Spasticity accompanying central nervous system disorders | Uncovered open wounds |

SOURCE: Adapted from Starkey, C: Therapeutic Modalities, ed 3., F. A. Davis Co., Philadelphia, 2004.

cryptic (krīp'tik) [Gr. *kryptikos*, hidden]

1. Having a hidden meaning; occult.
2. Tending to hide or disguise.

cryptitis (krīp-tī'tis) [Gr. *kryptos*, hidden, + *itis*, inflammation] Inflammation of a crypt or follicle.

cryptocephalus (krīp'tō-séf'ā-lūs) [ʹ + *kephale*, head] A congenital deformity in which the head is inapparent.

cryptococcosis (krīp'tō-kōk-ō'sīs) [ʹ + *kokkos*, berry, + *osis*, condition] Infection with the opportunistic fungus *Cryptococcus neoformans*, a spore-forming yeast present worldwide in the soil and in bird droppings. Humans contract the disease by inhalation. It may occur in healthy persons but is most common in immunosuppressed patients such as those with AIDS, leukemia, or organ transplants. Infection typically involves the brain and meninges but may affect the lungs, skin, liver, or bone. Immune-competent persons respond to short-term treatment with amphotericin B and fluconazole, but many months of suppressive therapy with these drugs are needed in patients with AIDS. SYN: *torulosis*. SEE: AIDS; *amphotericin B*.

Cryptococcus (krīp'tō-kōk'ūs) A genus of pathogenic yeastlike fungi.

C. neoformans A species that is the causative agent of cryptococcosis, i.e., meningitis. SEE: *illus.*

cryptodidymus (krīp-tō-dīd'ī-mūs) [ʹ + *didymos*, twin] A congenital anomaly in which one fetus is concealed within another.

cryptogenic (krīp'tō-jěn'ik) [ʹ + *genan*, to produce] Of unknown or indeterminate origin.

cryptolith (krīp'tō-līth) [ʹ + *lithos*, stone] A stone within a crypt.

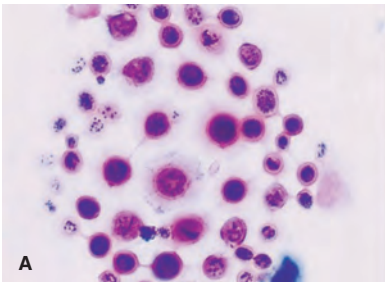
cryptomenorrhea (krīp'tō-mēn'ō-rē'ā) [ʹ + *men*, month, + *rhoia*, flow] Monthly subjective symptoms of menses without flow of blood; may be caused by an imperforate hymen.

cryptomerorachischisis (krīp'tō-mē'rō-rā-kīs'kī-sīs) [ʹ + *meros*, part, + *rhachis*, spine, + *schisis*, a splitting] Spina bifida occulta without a tumor but with bony deficiency.

cryptophthalmus (krīp'tōf-thāl'mūs) [ʹ + *ophthalmos*, eye] Complete congenital adhesion of the eyelid to the globe of the eye.

cryptoplasmic (krīp'tō-plāz'mīk) [ʹ + LL. *plasma*, form, mold] Having existence in a concealed form.

cryptorchid, cryptorchis (krīpt-or'kīd,



CRYPTOCOCCUS NEOFORMANS

(A) Cerebrospinal fluid (orig. mag. $\times 1000$), (B) India ink preparation showing large capsule (orig. mag. $\times 400$)

-or'kīs) [ʹ + *orchis*, testis] An individual in whom either or both testicles have not descended into the scrotum. SEE: *monorchid*.

cryptorchidectomy (krīp'or-kī-dēk'tō-mē) [ʹ + " + *ektome*, excision] Operation for correction of an undescended testicle.

cryptorchidism, cryptorchism (krīpt-or'-kīd-izm, -kīzm) [ʹ + *orchis*, testis, + *-ismos*, condition] Failure of the testicles to descend into the scrotum.

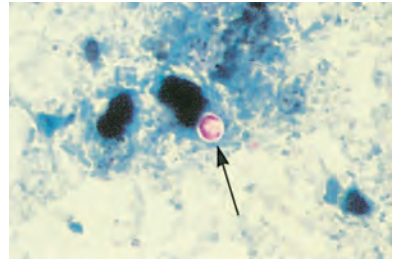
cryptosporidiosis (krīp'tō-spōr-id'ē-ō-sīs) A diarrheal disease caused by protozoa of the genus *Cryptosporidium* and often transmitted to humans after exposure to water or food that has been contaminated with cysts found in animal waste. *C. parvum* is the most common species that infects humans. The typical infection in immunocompetent people is characterized by explosive, watery diarrhea and abdominal cramping, occurring after an incubation period of between 4 and 14 days. Symptoms typically last a week or two but may continue for a month. In immunocompromised people, including cancer chemotherapy patients, those with organ transplants, and people with AIDS, chronic or fulminant infection may be found. Profuse diarrhea and dehydration or infection of the biliary tract occurs often. Treatment for people with normal immune function includes hydration and antidiarrheal drugs. Immunocompromised patients improve most when their immune status is restored. In a small percentage of people, asymptomatic carriage of the organism results in long-term shedding of the parasite in stool.

When the organism contaminates public water supplies, hundreds of thousands of those drinking that water may develop diarrhea. A water-borne infection with *Cryptosporidium* caused an estimated 400,000 cases of diarrhea in Milwaukee in the 1990s. This outbreak was attributed to contamination of the municipal water supply by grazing livestock. Resistant to chlorine, cryptosporidial cysts are incompletely removed by standard water-filtration systems. The least expensive method of killing the organism in water is to boil the water. Some types of bottled water that come from above-ground sources may contain cryptosporidia. Water filters effective against the organism are labeled "absolute 1 micron" or "National Sanitation Foundation (NSF) certified for Standard 53 cyst removal."



Stools from affected patients are highly infectious. Standard techniques must be used in handling and disposing of them. SEE: *Standard Precautions Appendix*.

Cryptosporidium (krīp'tō-spōr-id'ē-ūm) A genus of protozoa in the kingdom Protista classed as a coccidian parasite. It is an important cause of diarrhea, esp. in immunocompromised patients, but may cause large outbreaks in the general population when it contaminates supplies of drinking water. SEE: *ilus.*; *cryptosporidiosis*.



CRYPTOSPORIDIUM IN STOOL SPECIMEN

(Orig. mag. ×500)

cryptoxanthin (krīp'tō-zān'thīn) A substance present in a variety of foods (e.g., eggs and corn) that can be converted to vitamin A in the body. SYN: *beta cryptoxanthin*.

cry reflex 1. The normal ability of an infant to cry. It is not usually present in premature infants. 2. The spontaneous crying by infants during sleep.

crystal (krīs'tāl) [Gr. *krystallos*, ice] A solid in which atoms are arranged in a specific symmetrical pattern, forming distinct lattices, with definable fixed angles, faces, walls, and interatomic relationships. Examples include ice and many salts.

apatite c. In dentistry, the hydroxyapatite crystal typical of calcified tissues; a complex of calcium phosphate and other elements, present in bone and in the cementum, dentin, and enamel layers of teeth. The most dense crystalline pattern is found in enamel, the hardest tissue of the body.

Charcot-Leyden c. SEE: *Charcot-Leyden crystal*.

Charcot-Neumann c. A spermine crystal found in semen and some animal tissues.

Charcot-Robin c. A type of crystal formed in the blood in leukemia.

c. of hemin Hemin.

liquid c. A substance that alters its color or changes from opaque to transparent when subjected to changes in temperature, electric current, pressure, or electromagnetic waves, or when impurities are present. Liquid crystals have been used to detect temperature fluctuation in infants and may be divided into two general classes: cholesteric, which change color; and nematic,

which can change back and forth from transparent to opaque.

spermine c. A crystal composed of spermine phosphate and seen in prostatic fluid on addition of a drop of ammonium phosphate solution.

crystallin (krís'täl-in) Globulin of the crystalline lens.

crystalline (krís'tä-lin) Resembling crystal.

c. deposits An acid group including the urates, oxalates, carbonates, and sulfates. The alkaline group includes the phosphates and cholesterin ammonium urate.

crystallization (krís'tä-lī-zä'shūn) [Gr. *krystallos*, ice] The formation of crystals.

crystallography (krís'tä-lög'rä-fē) [" + *graphein*, to write] The study of crystals; useful in investigating renal calculi.

crystalloid (krí'stäl-oyd") [" + *eidōs*, form, shape] **1.** Like a crystal. **2.** A substance capable of crystallization, which in solution can be diffused through animal membranes; the opposite of colloid.

crystalloids (krís'täl-oyd-'tis) [" + *itis*, inflammation] Inflammation of the crystalline lens.

crystalluria (krís-tä-lū-rē-ä) [" + *ouron*, urine] The appearance of crystals in the urine. It may occur following the administration of many drugs, including sulfonamides. It can be prevented by adequate hydration.

CS *cesarean section*.

Cs Symbol for the element cesium.

c-section ABBR: CS. Operative delivery of the fetus. SYN: *cesarean section*.

CSF *cerebrospinal fluid*.

CSPOMM Certification of Special Proficiency in Osteopathic Manipulative Medicine

CSR Center for Scientific Review (of the National Institutes of Health)

CST *Certified Surgical Technologist*.

C substance A complex carbohydrate present in the cell wall of pneumococcal bacteria. SEE: *C-reactive protein*.

CT *computed tomography*. Also abbreviated as *CAT*, for the former term *computerized axial tomography*.

CTD *connective tissue disease*.

Ctenocephalides (tën-ō-séf-äl'ī-dēz) [Gr. *ktenodes*, like a cockle, + *kephale*, head] A genus of fleas belonging to the order Siphonaptera. Common species are *C. canis* and *C. felis*, the dog flea and cat flea, respectively. The adults feed on their hosts, whereas the larvae live on dried blood and feces of adult fleas. Adults may attack humans and other animals. They are intermediate hosts of the dog tapeworm, *Dipylidium caninum*, and may transmit other helminth and protozoan infections.

C-terminal In chemical nomenclature,

the alpha-carboxyl group of the last amino acid of a molecule.

CTZ *chemoreceptor trigger zone*.

Cu [L. *cuprum*] Symbol for the element copper.

cubic measure A unit or a system of units used to measure volume or capacity as distinguished from liquid measure. SEE: *Weights and Measures Appendix*.

cubital (kū'bī-täl) [L. *cubitum*, elbow] Pert. to the ulna or to the elbow.

cubital tunnel syndrome Medial elbow pain, hand fatigue, and sensations in the fourth and fifth fingers resulting from ulnar nerve damage in the cubital tunnel. This condition is frequently seen in athletes who throw objects.

cubitus (kū'bī-tüs) [L] Elbow; forearm; ulna.

c. valgus A posture of the arm in which the forearm deviates laterally; may be congenital or caused by injury or disease. In women, slight cubitus valgus is normal and is one of the secondary sex characteristics.

c. varus A posture of the arm in which the forearm deviates medially.

cuboid (kū'boyd) [Gr. *kubos*, cube, + *eidōs*, form, shape] Like a cube.

cue (kū) In psychology, a symbol, prompt, hint, or stimulus to remind an organism to respond in a certain way or to initiate a particular set of behaviors.

cue acquisition The initial information-gathering stage during the process of clinical reasoning. The practitioner must pay attention to both objective (physical) signs and subjective (reported) symptoms as well as contextual information gathered from observation and interviews.

cued speech A method of communicating that uses both lip reading and manual gestures made near the mouth. It is used to help hearing-impaired people clarify the difference between words that are otherwise easily misinterpreted during speech reading.

cuff (küf) [ME. *cuffe*, glove] **1.** An anatomical structure encircling a part. **2.** A belt or rim positioned at the end of a structure, designed to help fasten it in place.

attached gingival c. Attachment or junctional epithelium attached to the calcified root of the tooth apical to the gingival sulcus.

gingival c. The most coronal portion of the gingiva around the tooth.

rotator c. A musculotendinous structure consisting of supraspinatus, infraspinatus, teres minor, and subscapularis tendons blending with the shoulder joint capsule. The muscles, which surround the glenohumeral joint below the superficial musculature, stabilize and control the head of the humerus in all arm motions, function with the deltoid to abduct the arm, and rotate

the humerus. Weakness in the cuff muscles may lead to impingement syndromes and tendinitis; tears in the cuff may lead to subluxations; and calcification may lead to immobilization of the shoulder.

cuffed endotracheal tube An airway catheter used to provide an airway through the trachea and at the same time to prevent aspiration of foreign material into the bronchus. This is accomplished by an inflatable cuff that surrounds the tube. The cuff is inflated after the tube is placed in the trachea. SEE: *endotracheal tube* for illus.

cuffing (kūf'ing) A collection of inflammatory cells in the shape of a ring around small blood vessels.

cuirass (kwē-rās') [Fr. *cuirasse*, breastplate] A firm bandage around the chest.

cul-de-sac (kūl'dī-sāk') [Fr., bottom of the sack] **1.** A blind pouch or cavity. **2.** The rectouterine pouch or pouch of Douglas, an extension of the peritoneal cavity, which lies between the rectum and posterior wall of the uterus.

culdocentesis (kūl'dō-sēn-tē'sis) [C. + Gr. *kentesis*, puncture] The procedure for obtaining specimens from the posterior cul-de-sac by aspiration or surgical incision through the vaginal wall, performed for therapeutic or diagnostic reasons.

culdoscope (kūl'dō-skōp) An endoscope used in performing a culdoscopic examination.

culdoscopy (kūl-dōs'kō-pē) Examination of the viscera of the female pelvic cavity after introduction of an endoscope through the wall of the posterior fornix of the vagina.

-cule, -cle [L.] Suffixes indicating little, as molecule, corpuscle.

Culex (kū'lēks) [L., gnat] A genus of small to medium-sized mosquitoes of cosmopolitan distribution. Some species are vectors of disease organisms.

C. pipiens The common house mosquito; it serves as a vector of several illnesses, including *Wuchereria bancrofti* and West Nile virus.

C. quinquefasciatus Mosquito common in the tropics and subtropics; the most important intermediate host of *Wuchereria bancrofti*.

Culicidae (kū-lis'ī-dē) A family of insects belonging to the order Diptera; includes the mosquitoes.

culicide (kū'lī-sīd) [L. *culex*, gnat, + *caedere*, to kill] An agent that destroys gnats and mosquitoes.

Cullen's sign (kūl'ēnz) [Thomas Stephen Cullen, U.S. gynecologist, 1868–1953] Bluish discoloration of the periumbilical skin caused by intraperitoneal hemorrhage. This may be caused by ruptured ectopic pregnancy or acute pancreatitis.

culling (kūl'ing) The process of removal of abnormal or damaged blood cells from the circulation by the spleen. SEE: *pitting*; *spleen*.

cult (kūlt) [L. *cultus*, care] A group of people with an obsessive commitment to an ideal or principle or to an individual personifying that ideal.

cultivation (kūl'tī-vā'shūn) [L. *cultivare*, to cultivate] The propagation of living organisms, esp. growing microorganisms in an artificial medium.

cultural (kūl'tū-rāl) [L. *cultura*, tillage] Pert. to cultures of microorganisms.

cultural competence Sensitivity to the cultural, philosophical, religious, and social preferences of people of varying ethnicities or nationalities. Professional skill in the use of such sensitivities facilitates the giving of optimal patient care.

cultural formulation A systematic review of a person's cultural background and the role of culture in the manifestation of symptoms and dysfunction. It includes the cultural identity of the individual, cultural explanations of the illness, cultural factors related to the environment and individual functioning, cultural elements of the clinician-patient relationship, and a general discussion of how cultural considerations may influence the diagnosis and treatment of a psychiatric illness.

culture (kūl'tūr) **1.** The propagation of microorganisms or of living tissue cells in special media that are conducive to their growth. **2.** Shared human artifacts, attitudes, beliefs, customs, entertainment, ideas, language, laws, learning, and moral conduct.

biphasic c. A culture in which solid and liquid growth media are combined in a single vial or tube.

blood c. A culture used to identify bacteria, fungi, or viruses in the blood. This test consists of withdrawing blood from a vein under sterile precautions, placing it in or on suitable culture media, and determining whether or not microbes grow in the media. If organisms do grow, they are identified by bacteriological methods. Multiple blood cultures may be needed to isolate an organism.

cell c. The growth of cells in vitro for experimental purposes. The cells proliferate but do not organize into tissue.

contaminated c. Culture in which bacteria from a foreign source have infiltrated the growth medium.

continuous flow c. A bacterial culture in which a fresh flow of culture medium is maintained. This allows the bacteria to maintain their growth rate.

corporate c. Institutional values, for example, of a corporation, hospital, professional association, or other health care entity.

gelatin c. A culture of bacteria on a gelatin medium.

hanging block c. A thin slice of agar seeded on its surface with bacteria and then inverted on a coverslip and sealed in the concavity of a hollow glass slide.

hanging drop c. A culture accomplished by inoculating the bacterium into a drop of culture medium on a cover glass and mounting it upside down over the depression on a concave slide.

negative c. A culture made from suspected matter that fails to reveal the suspected organism.

nonradiometric c. A culture medium in which the growth of microorganisms is detected without the use of radioactive isotopes.

positive c. A culture that reveals the suspected organism.

pure c. A culture of a single form of microorganism uncontaminated by other organisms.

radiometric c. A method for detecting the presence of microorganisms in a sample body fluid or tissue in which the metabolism of infecting organisms is demonstrated by their incorporation or release of specifically radiolabeled chemicals in the culture medium, e.g., carbon dioxide labeled with ^{14}C . Radiometric culture media have been used to detect bacteria, fungi, mycobacteria, and viruses in clinical specimens.

c. shock The emotional trauma of being exposed to the culture, mores, and customs of a culture that is vastly different from the one to which one has been accustomed.

slant c. A culture in which the medium is placed in a tube that is slanted to allow greater surface for growth of the inoculum of bacteria.

stab c. A bacterial culture made by thrusting into the culture medium an inoculating needle with the bacterial specimen.

stock c. A permanent culture from which transfers may be made.

streak c. The spreading of the bacteria inoculum by drawing a wire containing the inoculum across the surface of the medium.

tissue c. A culture in which tissue cells are grown in artificial nutrient media.

type c. A culture of standard strains of bacteria that are maintained in a suitable storage area. These permit bacteriologists to compare known strains with unknown or partially identified strains.

culture-bound syndrome A recurrent, locality-specific pattern of behavior or disease; a folk illness; an illness that affects a specific ethnic group, tribe, or society.

cumulative (kū'mū-lā-tív) [L. *cumulus*,

a heap] Increasing in effect by successive additions.

cumulative drug action The action of repeated doses of drugs that are not immediately eliminated from the body. For example, preparations containing lead, silver, and mercury tend to accumulate in the body and gradually produce symptoms of poisoning.

cumulative effect A drug effect that is apparent only after several doses have been given. It is caused by excretion or metabolic degradation of only a fraction of each dose given.

Cumulative Index to Nursing and Allied Health Literature ABBR: CINAHL. A specialized literature database covering nursing, allied health, alternative health, consumer health, and selected biomedical information resources. Print volumes date back to 1956, and an electronic database dates back to 1982. The database indexes more than 300 nursing journals and more than 900 journals.

cumulative trauma syndrome Overuse syndrome.

cumulus (kū'mū-lūs) [L., a little mound] A small elevation; a heap of cells.

c. oophorus A solid mass of follicular cells that surrounds the developing ovarian follicle. It projects into the antrum of the graafian follicle. SYN: *discus proligerus*.

cuneate (kū'nē-āt) [L. *cuneus*, wedge] Wedge-shaped; cuneiform.

cuneiform (kū-nē'ī-form) [f + *forma*, shape] Wedge-shaped.

cuneo- (kū'nē-ō) [L. *cuneus*, wedge] Combining form rel. to a wedge.

cuneus (kū'nē-ūs) *pl. cunei* [L., wedge] A wedge-shaped lobule of the brain on the mesial surface of the occipital lobe.

cuniculus (kū-nīk'ū-lūs) *pl. cuniculi* [L., an underground passage] A burrow in the epidermis made by scabies.

cunnilinguist (kūn-ī-līn'gwīst) [L. *cun-nus*, pudenda, + *lingua*, tongue] One who practices cunnilingus.

cunnilingus (kūn-ī-līn'gūs) Sexual activity in which the mouth and tongue are used to stimulate the female genitalia. SEE: *fellatio*; *oral sex*.

cunus (kūn'ūs) [L.] The vulva; pudenda.

cup (kūp) [LL. *cuppa*, drinking vessel]

1. Small drinking vessel. 2. A cupping glass. SEE: *cupping*. 3. An athletic supporter (jock strap) reinforced with a piece of firm material to cover the male genitalia; worn to protect the penis and testicles during vigorous and contact sports. 4. Either of the two cup-shaped halves of a brassiere that fit over a breast. 5. A method of producing counterirritation. SEE: *cupping*.

favus c. A cup-shaped crust that develops in certain fungal infections. SEE: *favus*.

glaucomatous c. An enlargement of the normal physiological cup due to glaucomatous nerve damage.

optic c. In the embryo, a double-layered cuplike structure connected to the diencephalon by a tubular optic stalk. It gives rise to the sensory and pigmented layers of the retina.

physiological c. A depression in the center of the optic nerve through which the blood vessels pass; normal cup to disc ratios range from 0.3 to 0.5 of the disk diameter.

cup arthroplasty of hip Surgical technique for remodeling the femoral head and acetabulum and then covering the head with a metal cup. It is rarely used in treating arthritis of the hip. Total hip replacement is usually the procedure of choice in the elderly as well as in young adults on a selective basis.

cupola, cupula (kū'pō-lā, -pū-lā) [L. *cupula*, little tub] **1.** The little dome at the apex of the cochlea and spiral canal of the ear. **2.** The portion of costal pleura that extends superiorly into the root of the neck. It is dome-shaped and accommodates the apex of the lung.

cupping (kūp-īng) Application to the skin of a glass or bamboo vessel from which air has been exhausted by heat or of a special suction apparatus in order to draw blood to the surface. This is done to produce counterirritation.

cupric (kū'prīk) Concerning divalent copper, Cu⁺⁺, in solution; also referred to as Cu II or copper II.

c. sulfate The pentahydrate salt of copper, CuSO₄·5H₂O, used as an antidote in treating phosphorus poisoning.

cuprous (kū'prūs) Concerning monovalent copper, Cu⁺, in a compound; also referred to as Cu I or Cu (I).

cupruresis (kū'proo-rē'sis) [L. *cuprum*, copper, + Gr. *ouresis*, to void urine] Excretion of copper in the urine.

CUPS *Critical, unstable, potentially unstable, and stable*; patient priority classifications used during the initial assessment of a patient.

cupulolithiasis (kū'pū-lō-līth-ī'ā-sis) [L. dim. of *cupa*, a tub, + Gr. *lithos*, stone, + *iasis*, state or condition of] A disease of calculi in the cupula of the posterior semicircular canal of the middle ear. The condition may be associated with positional vertigo.

curanderismo (kū-rān-dār-ēs'mō) A traditional Mexican-American folk medicine based on a belief that magic and ritual can be used to treat a broad spectrum of illnesses. Practitioners are known as *curanderas* (females) and *curanderos* (males).

curare (kū-, koo-rār'ē) [phonetic equivalent of a South American Indian name for extracts of plants used as arrow poisons] A paralytic drug, derived from natural plant resins, that is used by in-

digenous South American hunters to immobilize prey. Synthetic derivatives of this agent are used medicinally to relax skeletal muscles during anesthesia and critical care.

curarization (kū'rār-ī-zā'shūn) Paralysis induced by curare or by a drug like curare (e.g., pancuronium or vecuronium).

curative (kū'rā-tīv) [L. *curare*, to take care of] Having the ability to heal or remedy an illness.

curative ratio Therapeutic ratio.

curb cut (kērb) An area in which a sidewalk has been modified or designed to eliminate the vertical curb. By providing a gradual slope to the street at this point, an environmental obstacle has been removed, thus improving access for persons with wheelchairs, those who have difficulty walking, or for persons pushing wheeled vehicles.

curcumin (kūr-kūm'in) [F. *Curcuma*, genus name of the ginger family] ABBR: CMN. A yellow compound (diferuloylmethane) found in the spice turmeric. It is an anti-inflammatory and antioxidant and has been used on the Indian subcontinent for hundreds of years to treat a variety of illnesses.

curd (kērd) [ME] Milk coagulum, composed mainly of casein.

cure [L. *cura*, care] **1.** Course of treatment to restore health. **2.** Restoration to health.

curet, curette (kū-rēt') [Fr. *curette*, a cleanser] **1.** A spoon-shaped scraping instrument for removing tissue matter from a cavity. **2.** In dentistry, one of a variety of sharp instruments used to remove calculus and to smooth tooth roots or to remove soft tissues from a periodontal pocket or extraction site.

Gracey c. A curet used to remove subgingival calculus from a tooth during periodontal débridement.

curetteage (kū'rē-tāzh') [Fr.] **1.** Scraping of a cavity. SYN: *curettement*. **2.** The use of a curet in removal of necrotic tissue from around the tooth, dental granulomata, or cysts and tissue fragments or debris from the bony socket after tooth extraction; also called débridement.

periapical c. Use of a curet to remove pathological tissues from around the apex of the tooth root.

suction c. Vacuum aspiration.

uterine c. Scraping to remove the contents of the lining of the uterus. This procedure is used to evacuate the uterus following inevitable or incomplete abortion, to produce abortion, to obtain specimens for use in diagnosis, and to remove growths, such as polyps.

PATIENT CARE: *Preoperative:* The health care provider explains and clarifies the procedure, answers any ques-

tions, and describes expected sensations. Physical preparation of the patient is completed according to protocol, and the patient is placed in the lithotomy position. Asepsis is maintained throughout the procedure.

Postoperative: Vital signs are monitored until they are stable, and the patient is monitored until she is able to tolerate liquids by mouth and to urinate without difficulty. A perineal pad count is performed to determine the extent of uterine bleeding, and excessive bleeding is documented and reported to the health care provider. Prescribed analgesics are administered to relieve pain and discomfort. Before discharge, the patient is instructed to report profuse bleeding immediately; to report any bleeding lasting longer than 10 days; to avoid use of tampons, diaphragms, and douches; and to report severe pain and signs of infection such as fever or foul-smelling vaginal discharge. Gradual resumption of usual activities is encouraged as long as they do not result in vaginal bleeding. The woman is counseled to avoid the use of tampons or douches and to abstain from intercourse for 2 weeks or until after the follow-up examination.

curettement (kū-rēt'měnt) [Fr.] Curettage.

Curie (kūr'ē, kū-ré') 1. Marie, the Polish-born Fr. chemist, 1867–1934, who discovered the radioactivity of thorium, discovered polonium and radium, and isolated radium from pitchblende. She was awarded the Nobel Prize in physics in 1903 with her husband, and in chemistry in 1911. 2. Pierre, Fr. chemist, 1859–1906, who, with his wife, was awarded the Nobel Prize in 1903.

curie [Marie Curie] ABBR: Ci. The quantity of a radioactive substance which has 3.7×10^{10} transitions, or disintegrations, per second. One gram of radium has almost exactly 3.7×10^{10} transitions per second. Thus 1 Ci of radium has a mass of almost exactly 1 g. SEE: *becquerel*.

curium (kūr'ē-ūm) [Pierre and Marie Curie] SYMB: Cm. An artificially made element of the actinide series; atomic weight of the longest-lived isotope, 247, atomic number 96. The half-life of the most stable isotope is 16 million years.

Curling's ulcer (kūr'lingz) [Thomas Curling, Brit. physician, 1811–1888] A peptic ulcer that sometimes occurs following severe burns to the body; a form of stress ulcer.

current (kēr'ěnt) [L. *currere*, to run] A flow, as of water or the transference of electrical impulses.

alternating c. ABBR: ac; AC. A current that periodically flows in opposite directions; may be either sinusoidal or

nonsinusoidal. The alternating current wave usually used therapeutically is the sinusoidal.

direct c. ABBR: dc; DC. A current that flows in one direction only, used medically for cardioversion and defibrillation of dysrhythmias.

current density The amperage divided by the surface area to which it is applied, e.g., in electrosurgery.

curriculum (kūr'rik'ū-lūm) [L.] 1. A course of study. 2. An outline or summary of available courses of study in an academic discipline or educational institution.

Curschmann's spirals (koorsh'mānz) [Heinrich Curschmann, Ger. physician, 1846–1910] Coiled spirals of mucus occasionally seen in sputum of asthma patients. SEE: *sputum*.

curse (kērs) 1. To attempt to inflict injury by appeal to a malevolent supernatural power. 2. Injury assumed to have been inflicted by a malevolent supernatural power. 3. To use foul, offensive language.

curvature (kēr'vā-chūr) [L. *curvatura*, a slope] A normal or abnormal bending or sloping away; a curve.

angular c. A sharp bending of the vertebral column.

cervical c. The anterior curvature of the cervical vertebrae. The cervical curvature is a secondary spinal curve that begins to develop in the fetus and continues to form throughout infancy.

c. of spine One of four normal curves or flexures of the vertebral column as seen in profile: cervical, thoracic, lumbar, and sacral. Abnormal curvatures may occur as a result of maldevelopment or disease processes. SEE: *kyphosis*; *lordosis*; *scoliosis*.

lumbar c. The anterior curvature of the lumbar vertebrae. The lumbar curvature is a secondary spinal curve that begins to develop in the fetus and continues to form throughout infancy.

sacral c. The posterior curvature of the sacral vertebrae. The sacral curvature is a primary spinal curve that develops during the embryonic period.

thoracic c. Posterior curvature of the thoracic vertebrae. The thoracic curvature is a primary spinal curve that develops during the embryonic period.

curve (kūrṽ) [L. *curvus*] A bend, chart, or graph.

area under the c. SEE: *area under the curve*.

c. of Carus SEE: *curve of Carus*.

characteristic c. Sensitometric c.

dental c. Curve of Spee.

D log E c. Sensitometric c.

dose response c. A graph charting the effect of a specific dose of drug, chemical, or ionizing radiation. In radiology, also called *survival curve*.

dye-dilution c. A graph of the disap-



pearance rate of a known amount of injected dye from the circulation; used to measure cardiac function.

epidemic c. A chart or graph in which the number of new cases of an illness is plotted over time.

growth c. A graph of heights and weights, head circumference, and body mass index of infants and children of various ages. A line connecting the data points produces the curve. Usually the changes in height and weight are shown on the same chart. Growth charts are specific for age and gender.

Hurter and Driffield c. ABBR: H and D curve. Sensitometric curve.

learning c. The effect of learning or practice on the performance of an intellectual or physical task.

normal c. Normal distribution.

sensitometric c. In radiographic film analysis, the curve derived by graphing the exposure to the film versus the film density. Analysis yields information about the contrast, speed, latitude, and maximum and minimum densities of the film or film-screen system. Digital radiography systems exhibit linear curves. SYN: *characteristic curve*; *D log E curve*; *Hurter and Driffield curve*.

c. of Spee SEE: *curve of Spee*.

Stephan's c. SEE: *Stephan's curve*.

time-temperature cooling c. The mathematical relation that plots the physical and chemical behaviors of dental (and other) materials as their temperature decreases over time.

curve of Carus An arc corresponding to the pelvic axis. At the end of the second stage of labor, when the fetal head reaches the curve of Carus, it is directed upward toward the vaginal introitus and forced into extension by the resistance of the pelvic floor.

curve of Spee A curve established by viewing the occlusal alignment of teeth, beginning with the tip of the lower canine and extending back along the buccal cusps of the natural premolar and molar teeth to the ramus of the mandible. SYN: *dental curve*.

curvilinear (kér'vè-lîn'è-âr) Concerning or pert. to a curved line.

Cushing, Harvey (koosh'ing) U.S. surgeon, 1869–1939.

C.'s disease Cushing's syndrome caused by excessive production of adrenocorticotropic hormone.

C.'s syndrome The symptoms from prolonged exposure to excessive glucocorticoid hormones. Glucocorticoids are naturally excreted by the adrenal glands; however, Cushing's syndrome is a side effect of the pharmacological use of steroids in the management of inflammatory illnesses (e.g., reactive airways disease or arthritis). Glucocorticoid excess from pituitary or adrenal adenomas or from the production of ex-

cess levels of adrenocorticotropic hormone by lung cancer is exceptionally rare (and is called Cushing's disease).

SYMPTOMS: The affected patient may complain of muscular weakness, thinning of the skin, easy bruising due to capillary fragility, weight gain, rounding of facial features ("moon-like" facies), cervicodorsal fat (buffalo hump) on the upper back, poor wound healing related to immunosuppression, decreased sexual drive and function, menstrual irregularities, insomnia, or psychological depression. Symptoms of diabetes mellitus (e.g., thirst, polyuria, and polyphagia) may be present because glucocorticoid hormones oppose the action of insulin. On physical examination, patients may have excessive fat in the face, upper back, and trunk, but none on the limbs. The abdominal skin may be marked by purplish lines (striae). Women may have excessive hair growth on the face and extremities due to increased androgen production. Increased catabolism leads to muscle wasting and osteopenia or osteoporosis. Hypertension is often present.

TREATMENT: Cushing's syndrome caused by the chronic use of steroid hormones may improve if steroids can be given every other day or if high doses of these medications can be gradually tapered. When Cushing's disease is present, surgery to remove the causative adenoma is usually needed, sometimes with adjunctive radiation therapy. Before surgery a medication to inhibit cortisol production (e.g., mitotane) may be prescribed along with drugs to reduce blood glucose and blood pressure.

PATIENT CARE: When prolonged administration of therapeutic, as opposed to replacement, doses of adrenocortical hormones is required, the patient is monitored for development of adverse reactions. A diet is provided that is high in protein and potassium but low in calories, carbohydrates, and sodium. The patient is assisted to adjust to changes in body image and strength. Realistic reassurance and emotional support are provided, and the patient is encouraged to verbalize feelings about losses and to develop positive coping strategies. Intermittent rest periods are recommended, and assistance is provided with mobility, esp. with movements requiring arm-shoulder strength. Safety measures are instituted to prevent falls. Instruction to the patient should include information about the risk for the development of diabetes mellitus, cataracts, easy bruising, and infections. For information and support, refer the patient to The National Adrenal Diseases Foundation. SEE: *Nursing Diagnoses Appendix*.

C.'s ulcer A stress ulcer in patients with increased intracranial pressure. Cushing's ulcer may be caused by increased secretion of gastric acid due to vagus nerve stimulation. SEE: *stress ulcer*.

cushingoid (koosh'ing-oyd) Having physical characteristics that result from excess exposure to corticosteroids, such as a rounded face, weight gain, or thin, easily bruised skin.

Cushing response A reflex due to cerebral ischemia that causes an increase in systemic blood pressure. This maintains cerebral perfusion during increased intracranial pressure.

cushion (koosh'in) In anatomy, a mass of connective tissue, usually adipose, that acts to prevent undue pressure on underlying tissues or structures.

wheelchair c. A padded surface for wheelchair seats designed to prevent pressure sores. There are several static varieties, including air-filled, polyurethane foam, and flotation, the latter filled with water or gel. Dynamic surfaces, which require an external power source, protect pressure points by alternating high and low air pressures through a system of valves and pumps. SYN: *pressure relief device*.

cuspid (küsp) [L. *cuspidis*, point] **1.** A rounded or cone-shaped point on the crown of a tooth. **2.** One of the leaflike divisions or parts of the valves of the heart. SEE: *bicuspid valve*; *semilunar cuspid*; *tricuspid valve*.

Carabelli's c. An accessory cuspid found on the upper first molar.

plunger c. A cuspid of a tooth that tends to forcibly wedge food into interproximal areas, causing an impaction. Cusp points should be rounded, shortened, or reduced with a dental drill.

cuspid (kü's'pid) The canine teeth. There are two cuspids in the maxillary arch and two cuspids in the mandibular arch. They fall between the lateral incisors and the first premolars. SEE: *dentition* for illud.

cuspidate (kü's'pī-dāt) [L. *cuspidatus*] Having cuspids.

custom A generally accepted practice or behavior by a particular group of people or a social group.

cut (küt) **1.** Separating or dividing of tissues by use of a sharp surgical instrument such as a scalpel. **2.** To dilute a substance in order to decrease the concentration of the active ingredient.

cutane-, cutaneo- Combining forms meaning *skin*.

cutaneous (kü-tā'nē-üs) [L. *cutis*, skin] Pert. to the skin. SYN: *integumentary*.

cutaneous nerves Nerves that provide sensory pathways for stimuli to the skin.

cutaneous radiation syndrome ABBR: CRS. The damaging effects of radiation

exposure on the skin. In limited exposures, CRS may be limited to mild sunburning. Blistering, hair loss, necrosis, or permanent scarring may occur with more extensive exposures.

cutdown (küt'down) A surgical procedure for locating a vein or artery to permit intravenous or intra-arterial administration of fluids or drugs; required in patients with vascular collapse caused by shock or other conditions.

cuticle (kü'tī-k'l) [L. *cuticula*, little skin] A layer of solid or semisolid tissue that covers the free surface of a layer of epithelial cells. It may be horny or chitinous and sometimes is calcified. Examples include the enamel cuticle of a tooth and the capsule of the lens of the eye.

acquired c. A layer of salivary products, bacteria, and food debris on the surface of the teeth; not a true cuticle. SYN: *pellicle*.

attachment c. Dental c.

dental c. The glycosaminoglycans layer produced by attachment epithelium on the cementum of the tooth root. It is continuous with and identical in origin and function to enamel cuticle, which is present on the enamel crown. SYN: *attachment cuticle*.

enamel c. The thin, calcified layer that covers the enamel crown of the tooth prior to eruption. Remnants that persist after decalcification of the tooth for microscopy are called Nasmyth's membrane. SYN: *cuticula dentis*.

cuticula (kü-tik'ū-lā) [L.] Cuticle.

c. dentis A skinlike membrane that may cover the teeth after they have erupted and usually is lost in ordinary mastication of food. The membrane is easily removed by a dentist. SYN: *enamel cuticle*; *Nasmyth's membrane*.

cuticularization (kü-tik'ū-lār-ī-zā'shūn) Growth of skin over a sore or wound.

cutin (kü'tin) [L. *cutis*, skin] A wax that combines with cellulose to form the cuticle of plants.

cutireaction (kü'tē-rē-āk'shūn) An inflammatory or irritative reaction appearing on the skin; skin reaction.

von Pirquet's c. The reaction of the skin after inoculation with tuberculosis toxins.

cutis (kü'tis) [L.] The skin, consisting of the epidermis and the corium (dermis) and resting on the subcutaneous tissue.

c. asnerina Piloerection.

c. aurantiasis Yellow discoloration of the skin resulting from ingesting excessive quantities of vegetables, such as carrots, which contain carotenoid pigments. SEE: *carotenemia*.

c. hyperelastica Ehlers-Danlos syndrome.

c. laxa A rare inherited condition in

which there is loss of elastic fibers of the skin. The skin becomes so loose it hangs and sags. Pulmonary emphysema, intestinal diverticula, and hernias also may be present. There are at least three inheritable patterns of this disease. There is no known treatment. SYN: *cutis pendula*.

c. marmorata Transient mottling of the skin caused by exposure to decreased temperature. SYN: *mottling*.

c. pendula *Cutis laxa*.

c. vera Dermis.

c. verticis gyrata Convoluted scalp folds 1 to 2 cm thick. It may develop any time from birth to adolescence and is more common in males. The skin cannot be flattened by traction.

Cutivate SEE: *fluticasone*.

cutization (kū-tī-zā'shūn) Skinlike changes in a mucous membrane as a result of continued inflammation.

cut point In any analysis of data, a specified value used to sort continuous variables into discrete categories. It may be set according to its usefulness in predicting abnormal clinical events or arbitrarily.

Blood pressure measurements, for example, are continuous variables; in general, the higher one's pressure, the greater one's risk of congestive heart failure, kidney disease, myocardial infarction, or stroke. The analysis of blood pressure measurements from hundreds of thousands of people has shown that the risk for these events climbs sharply as systolic blood pressures rise above 139 mm Hg. Therefore hypertension is defined by the cut point of 140 mm Hg, even though lower pressures may be harmful for some patients and higher pressures may be relatively well tolerated by a small number of other patients.

cut throat Laceration of the throat. The seriousness of the injury depends on the angle of thrust of the cutting object, the location of the injury, and the amount of tissue damage.

PATIENT CARE: The patient should be transported to the nearest trauma center for evaluation. If there is evidence of bleeding into the airway, the patient should be positioned so that blood is not aspirated. Suction devices should be available at the bedside. If the trachea is severed, it should be kept open and free of clots. Bleeding sites should be compressed until definitive therapy is available. Vital signs and cardiac rhythms should be continuously monitored. For patients who cannot protect their airways, intubation and mechanical ventilation are required.

cuvette (kū-vēt') [Fr. *cuve*, a tub] A small transparent glass or plastic con-

tainer, esp. one used to hold liquids to be examined photometrically.

cv *coefficient of variation*.

CVA *cerebrovascular accident*.

CVD *cardiovascular disease*.

CVP *central venous pressure*.

CVS *chorionic villus sampling*.

cyan- SEE: *ciano-*.

cyanhemoglobin (sī''ān-hē''mō-glō'bīn) Hemoglobin combined with cyanide.

cyanide (sī''ā-nīd'') A compound containing the radical -CN, such as potassium cyanide (KCN), or sodium cyanide (NaCN).

cyanide poisoning SEE: under *poisoning*.

cyanmethemoglobin (sī''ān-mēt''hē-mō-glō'bīn) Combination of cyanide and methemoglobin.

ciano-, cyan- [Gr. *kyanos*, dark blue] Combining forms meaning *blue*.

cianoacrylate adhesives (sī''ā-nō-āk''rī-lāts'') Monomers of *N*-alkyl cyanoacrylate that have been used as a tissue adhesive in the repair of simple lacerations (e.g., of the arms or legs). Commercially available versions are called "superglue."



"Superglues" can cause tissues to adhere firmly to each other. They should not be used near the eyes or mouth or on the hands in order to avoid bonding these tissues together.

cyanocobalamin (sī''ān-ō-kō-bāl'ā-mīn) The form of vitamin B₁₂ available for use in the U.S. SEE: *cobalamin*; *vitamin B₁₂*.

cyanogen (sī-ān'ō-jēn) ['' + *gennan*, to produce] **1.** The radical CN. **2.** A poisonous gas, CN—CN.

cyanophilous (sī-ān-ōf'il-ūs) Having an affinity for a blue dye or stain.


cyanopia, cyanopsia (sī-ān-ō'pē-ā, -ōp'sē-ā) ['' + *opsis*, vision] Vision in which all objects appear to be blue.

cyanosed (sī'ā-nōst'') Affected with cyanosis.

cyanosis (sī-ā-nō'sīs) ['' + *osis*, condition] A blue, gray, slate, or dark purple discoloration of the skin or mucous membranes caused by deoxygenated or reduced hemoglobin in the blood. Cyanosis is found most often in hypoxic patients and rarely in patients with methemoglobinemias. Occasionally, a bluish skin tint that superficially resembles cyanosis results from exposure to the cold. In the very young patient, cyanosis may point to a congenital heart defect.

ETIOLOGY: This condition usually is caused by inadequate oxygenation of the bloodstream.

TREATMENT: Supplemental oxygenation is supplied to cyanotic patients who are proven to be hypoxicemic. SEE: *asphyxia*.

 Oximetry or arterial blood gas analysis should be used to determine whether a patient is adequately oxygenated. Relying only on the appearance of the skin or mucous membranes to determine hypoxemia may result in misdiagnosis.

central c. A bluish discoloration of the mucous membranes in the mouth, indicating hypoxemia and respiratory failure.

TREATMENT: If hypoxemia is confirmed by oximetry or arterial blood gas analysis, supplemental oxygen is provided.

PATIENT CARE: The patient's vital signs, blood gases, and sensorium should be monitored closely, as this sign may indicate hypoxemia accompanying impending respiratory failure. SYN: *circumoral cyanosis*.

circumoral c. Central c.

congenital c. Cyanosis usually associated with stenosis of the pulmonary artery orifice, ventricular septal defect, or a patent foramen ovale or ductus arteriosus. SEE: *tetralogy of Fallot*.

delayed c. Tardive c.

enterogenous c. Cyanosis induced by intestinal absorption of toxins or by certain drugs. SEE: *methemoglobinemia*.

peripheral c. A bluish discoloration of the digits.

PATIENT CARE: The patient's vital signs, oxygen saturation, blood gases, and mental status should be monitored closely.

c. retinae Bluish appearance of the retina seen in congenital heart disease, polycythemia, and in certain poisonings, such as dinitrobenzol.

tardive c. Cyanosis caused by congenital heart disease and appearing only after cardiac failure. SYN: *delayed cyanosis*.

cyanotic (sī-ān-ōt'ik) Of the nature of, affected with, or pert. to cyanosis.

cyanuria (sī'ā-nū-rē-ā) The voiding of blue urine.

cybernetics (sī'bēr-nēt'iks) [Gr. *kybernetes*, helmsman] The science of control and communication in biological, electronic, and mechanical systems. This includes analysis of feedback mechanisms that serve to govern or modify the actions of various systems.

cyberphilia (sī'bēr-flī'ē-ā) [n + *philein*, to love] Fascination with the use of machines, esp. computers, their use, and their programming.

cyberphobia (sī'bēr-fō'bē-ā) [n + *phobos*, fear] Tension, anxiety, and stress in persons required to work with a computer.

cycad (sī'kād) A variety of plants, in-

cluding *Cycas revoluta* and *C. circinalis*, from which cycasin has been isolated.

cycasin (sī'kā-sīn) A carcinogenic substance present in cycad plants.

cycl- SEE: *cyclo-*.

cyclamate (sī'klā-māt) The calcium salt of cyclamic acid, formerly used as a non-nutritive sweetener and now banned because of possible cancer-causing effects.

cycle (sī'kl) [Gr. *kyklos*, circle] A regular, complete series of movements or events.

anovular c. Menstrual cycle in which ovulation is absent.

cardiac c. The period from the beginning of one heartbeat to the beginning of the succeeding beat, including *systole* and *diastole*. Normally, the atria contract immediately before the ventricles. The ordinary cycle lasts 0.8 sec with the heart beating approx. 60 to 85 times a minute in the adult at rest. Atrial systole lasts 0.1 sec, ventricular systole 0.3 sec, and diastole 0.4 sec. Although the heart seems to be working continuously, it actually rests for a good portion of each cardiac cycle. SEE: *illus*.

cell c. The cycle of the growth and development of a cell. SEE: *meiosis* and *mitosis* for *illus*.

gastric c. The progression of peristalsis through the stomach.

genesial c. 1. The period from puberty to menopause. 2. The period of sexual maturity.

glycolytic c. The cycle by which glucose is broken down in living tissue.

life c. All of the developmental history of an organism, whether in a free-living condition or in a host (e.g., as a parasite that experiences part of its cycle inside another organism).

menstrual c. SEE: *menstrual cycle*.

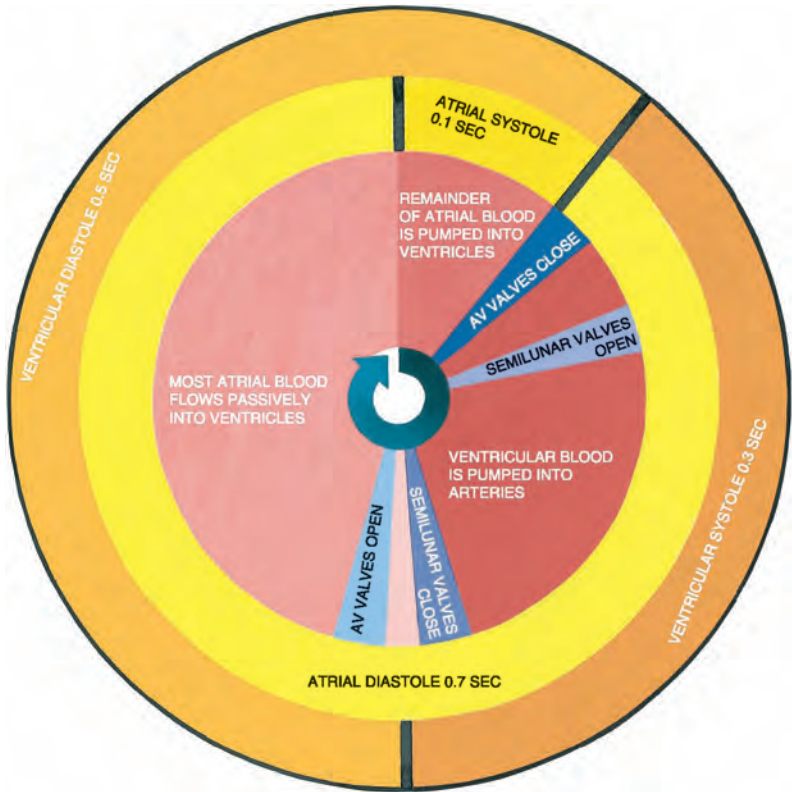
stimulated c. A cycle in assisted reproduction in which a woman receives drugs to stimulate her ovaries for production of additional follicles. SEE: *unstimulated c.*

stretch-shortening c. An eccentric muscle contraction followed immediately by a concentric contraction. The elastic potentiation that occurs during the eccentric phase increases the force of output of the concentric contraction. Exercises incorporating this phenomenon are called plyometrics. SEE: *plyometrics*.

unstimulated c. A cycle in assisted reproduction in which a woman does not receive drugs to stimulate her ovaries for production of additional follicles. SEE: *stimulated c.*

cyclectomy (sī-klēk'tō-mē) [Gr. *kyklos*, circle, + *ektome*, excision] 1. Excision of part of the ciliary body or muscle. 2. Excision of the ciliary border of the eyelids.

cycles per second ABBR: cps. SEE: *hertz*.



CARDIAC CYCLE (ONE HEARTBEAT, PULSE 75)

The outer circle represents the ventricles, the middle circle the atria, and the inner circle the movement of blood and its effect on the heart valves.

cyclic (sī'klik) **1.** Periodic. **2.** Having a ring-shaped structure.

cyclic AMP Adenosine 3',5'-cyclic monophosphate.

cyclic AMP synthetase Adenylate cyclase.

-cycline (sī'klēn, klīn) [Fm (*tetra*)*cycline*] A suffix used in pharmacology to designate an antibiotic derived from tetracycline.

cyclins (sī'klīnz) A group of intracellular proteins that regulate the cell cycle, i.e., cell growth and division. Some cyclins, including cyclins D and E, are overexpressed in human breast cancer cells.

cyclo-, cycl- [Gr. *kyklos*, circle] **1.** Combining form meaning *circular* or *pert. to a cycle*. **2.** Combining form meaning *pert. to the ciliary body of the eye*.

cyclobenzaprine (sī'klō-bēn'zā-prēn) A tricyclic antidepressant analog and centrally acting skeletal muscle relaxant. It is administered orally to manage acute painful musculoskeletal conditions associated with muscle spasm.

cyclochoroiditis (sī'klō-kō'royd-ī'tīs) ["

+ *chorioeides*, skinlike, + *itis*, inflammation] Inflammation of the ciliary body and choroid coat of the eye.

cyclodextrin (sī-klō-dēks'trīn) A molecule made of linked dextrose subunits that can be used in drug delivery in the body. Cyclodextrins have lipid centers surrounded by water-soluble exteriors. This combination allows fat-soluble medicines to be carried through the bloodstream to lipid-rich organs like the brain.

cyclodialysis (sī'klō-dī-āl'ī-sīs) ["/ + *dialysis*, dissolution] An operation performed in certain types of glaucoma to produce communication between the anterior chamber and suprachoroidal space for the escape of aqueous humor.

cycloheximide (sī'klō-hēks'ā-mīd) A cytotoxic protein that inhibits the synthesis of proteins by cells.

cycloid (sī'kloyd) ["/ + *eidos*, form, shape] **1.** Resembling a circle. **2.** Denoting a ring of atoms. **3.** Extreme variations of mood from elation to melancholia.

cyclokeratitis (sī'klō-kēr-ä-ti'tis) [" + *keras*, cornea, + *itis*, inflammation] Keratouveitis.

cyclooxygenase (sī'klō-ōks'ī-jīn-äs") One of several enzymes (e.g., COX-1, COX-2) that make prostaglandins from arachidonic acids. They play a central role in inflammatory diseases, blood clotting, pain, and cellular proliferation.

cyclophoria (sī'klō-fō'rē-ä) [" + *phoros*, bearing] Deviation of the eye around its anteroposterior axis due to weakness of the oblique muscles. SYN: *periphoria*.

cyclopia (sī-klō'pē-ä) [Gr. *kyklos*, circle, + *ops*, eye] The condition of having a single eye.

cycloplegia (sī'klō-plē'jē-ä) [" + *plege*, a stroke] Paralysis of the ciliary muscle. This can be an anticholinergic side effect of antipsychotic or antidepressant medications.

cycloplegic (sī'klō-plē'jik) Producing cycloplegia.

cyclops (sī'klōps) A fetal malformation in which there is only one eye. SYN: *monoculus* (2).

cyclosis (sī-klō'sis) [Gr. *kyklosis*, circulation] A streaming of cytoplasm within a cell.

cyclosporiasis (sī'klō-spōr-ī-ä-sis) [Genus name + "'] Infection with any species of *Cyclospora*.

cyclotomy (sī-klōt'ō-mē) [" + *tome*, incision] Surgical incision of the ciliary muscle of the eye.

cyclotron (sī'klō-trōn) A particle accelerator in which the particle is rotated between magnets, gaining speed with each rotation.

cycloptropia (sī'klō-trō'pē-ä) Manifest cyclophoria.

cyesis (sī-ē'sis) [Gr. *kyesis*] Pregnancy.

cylinder (sīl'in-dēr) [Gr. *kylindros*] A hollow, tube-shaped body.

crossed c. Two cylindrical lenses at right angles to each other; used in diagnosing astigmatism.

extension c. A hollow tube attached to the end of the collimator apparatus of an x-ray tube. It limits the size of the beam, decreasing scatter radiation and increasing detail.

gas c. A high-pressure, nonreactive, seamless tempered steel container for compressed gas used for medical, therapeutic, or diagnostic purposes.

urinary c. An obsolete term for urinary casts.

cylindroadenoma (sī-līn'drō-äd"ē-nō'mä) [Gr. *kylindros*, cylinder, + *aden*, gland, + *oma*, tumor] An adenoma containing cylindrical masses of hyaline material.

cylindroid (sīl'in'droyd) [" + *eidōs*, form, shape] **1.** Cylinder-shaped. **2.** A mucous, spurious cast in urine, recognized by its twists and turns, varying markedly in diameter in different places, most frequently pointed at the

ends, and frequently crossing an entire field. It does not usually have cellular intrusions.

cylindroma (sīl'in-drō'mä) [" + *oma*, tumor] A skin tumor of apocrine origin usually found on the face or forehead containing a collection of cells forming cylinders.

cylindruria (sīl'in-drū'rē-ä) [" + *ouron*, urine] The presence of cylindroids in the urine.

cymatic therapy (sī-mät'ik) [Gr. *kymatikos*, swollen, wavy] The therapeutic uses of music and sound.

cynanthropy (sīn-än'thrō-pē) [Gr. *kyon*, dog, + *anthropos*, man] Insanity in which the patient behaves like a dog.

cynic spasm [Gr. *kynikos*, doglike] Spasm of the facial muscles causing a grin or snarl like a dog. SYN: *risus sardonius*.

cynophobia (sī'nō-fō'bē-ä) [" + *phobos*, fear] Unreasonable fear of dogs.

CYP3A4 One isoenzyme form of the cytochrome P450 system involved in the metabolism of many drugs. Drugs that alter this enzyme system can influence the metabolism of other agents taken by patients and cause unanticipated toxic effects.

cyrtosis (sīr-tō'sis) [" + *osis*, condition] Any abnormal curvature of the spine. SEE: *kyphosis*.

cyst (sist) [Gr. *kystis*, bladder, sac] **1.** A closed sac or pouch with a definite wall that contains fluid, semifluid, or solid material. It is usually an abnormal structure resulting from developmental anomalies, obstruction of ducts, or parasitic infection. SEE: *illu.* **2.** In biology, a structure formed by and enclosing certain organisms in which they become inactive, such as the cyst of certain protozoans or of the metacercariae of flukes.

adventitious c. A cyst formed around a foreign body.

alveolar c. Dilation and rupture of pulmonary alveoli to form air cysts.

apical c. A cyst near the apex of the tooth root.

Baker's c. SEE: *Baker's cyst*.

Bartholin's c. SEE: *Bartholin's cyst*.

blood c. Hematoma.

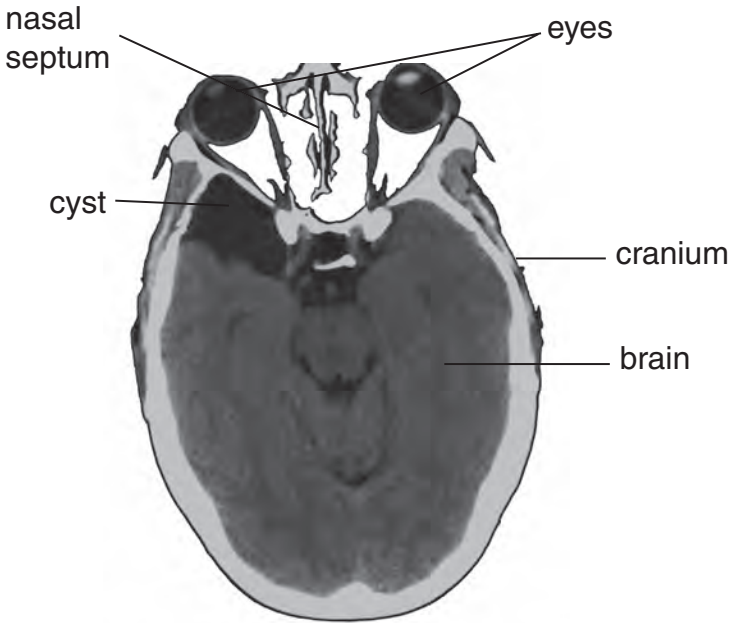
blue dome c. **1.** A mammary cyst containing light, straw-colored fluid, which appears blue when seen through the surrounding tissue. **2.** A small dark-blue cyst in the vagina caused by retained menstrual blood seen in endometriosis.

branchial c. Cervical c.

bone c. A cystic mass in bone, usually a normal variant or a benign tumor.

Boyer's cyst SEE: *Boyer's cyst*.

cervical c. A closed epithelial sac derived from a branchial groove of its corresponding pharyngeal pouch. SYN: *branchial cyst*.



CYST

Frontal lobe of the brain

chocolate c. An ovarian cyst with darkly pigmented gelatinous contents.

colloid c. A cyst with gelatinous contents.

complex c. A cyst that consists of solid material and fluid-filled cavities; it may have walls of tissue inside it or internal echoes. When a complex cyst is identified on ultrasound, surgical removal is generally indicated to exclude malignancy.

congenital c. A cyst present at birth resulting from abnormal development, such as a dermoid cyst, imperfect closure of a structure as in spina bifida cystica, or nonclosure of embryonic clefts, ducts, or tubules, such as cervical cysts.

daughter c. A cyst growing out of the walls of another cyst.

dental c. A cyst that forms from any of the odontogenic tissues.

dentigerous c. A fluid-filled cyst usually surrounding the crown of an unerupted tooth; often involves incomplete enamel formation. SYN: *eruption cyst*; *follicular cyst*; *follicular odontoma*. SEE: *dermoid c.*

dermoid c. 1. An ovarian teratoma. 2. A nonmalignant cystic tumor containing elements derived from the ectoderm, such as hair, teeth, or skin. These tumors occur frequently in the ovary but may develop in other organs such as the lungs.

distention c. A cyst formed in a natural enclosed cavity, such as a follicular cyst of the ovary.

echinococcus c. Hydatid c.

endometrial c. An ovarian cyst or tumor lined with endometrial tissue, usually seen in ovarian endometriosis.

epidermoid c. A cyst filled with keratin, sebum, and skin debris that may form on the scalp, the back of the neck, or the axilla. It is benign but can be removed surgically. SYN: *sebaceous cyst*.

eruption c. Dentigerous c.

extravasation c. A cyst arising from hemorrhage or escape of other body fluids into tissues.

exudation c. A cyst caused by trapping of an exudate in a closed area.

follicular c. A cyst arising from a follicle, as a follicular cyst of the thyroid gland, the ovary, or a forming tooth. SYN: *dentigerous cyst*. SEE: *illus.*

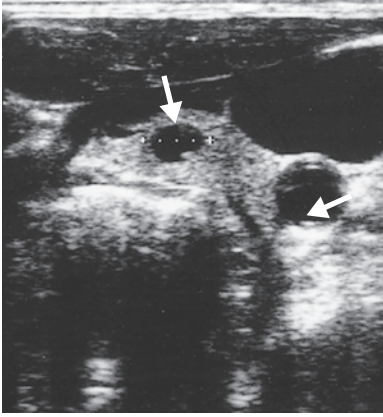
Gartner's c. SEE: *Gartner's cyst*.

hydatid c. A cyst formed by the growth of the larval form of *Echinococcus granulosus*, usually in the liver. SYN: *echinococcus cyst*.

implantation c. A cyst resulting from displacement of portions of the epidermis, as may occur in injuries.

intra-ligamentary c. A cystic formation between the layers of the broad ligament.

involutional c. A cyst occurring in



FOLLICULAR CYST

Follicular cysts seen on ultrasonography of the thyroid gland.

the normal involution of an organ or structure, as in the mammary gland.

keratin c. A cyst containing keratin.

meibomian c. Chalazion.

meniscus c. A fluid-filled cyst often associated with a degenerative horizontal meniscal tear, more frequently seen in the lateral meniscus of the knee. This ganglion-like cyst may present with a palpable mass at the joint line of the knee and can be visualized by magnetic resonance imaging.

morgagnian c. SEE: under *Morgagni, Giovanni B.*

mother c. A hydatid cyst enveloping smaller ones.

mucous c. A retention cyst composed of mucus.

nabothian c. SEE: *nabothian cyst.*

odontogenic c. A cyst associated with the teeth, such as a dentigerous or radicular cyst.

ovarian c. SEE: *ovarian cyst.*

parasitic c. A cyst enclosing the larval form of certain parasites, such as the cysticercus or hydatid of tapeworms or the larva of certain nematodes (i.e., *Trichinella*).

parovarian c. A cyst of the parovarium.

pilar c. An epithelial cyst with a wall that resembles the follicular epithelium. It is filled with a homogeneous mixture of keratin and lipid. SYN: *trichilemma cyst.*

pilonidal c. A cyst most often in the sacrococcygeal region, usually at the upper end of the intergluteal cleft. It is due to a developmental defect that permits epithelial tissue to be trapped below the skin or may be acquired. This type of cyst may become symptomatic in early adulthood when an infected draining sinus forms. SYN: *pilonidal fistula.*

popliteal c. Baker's cyst.

preencephalic c. An anomalous cavity of the brain that communicates with the ventricular system.

proliferative c. A cyst lined with epithelium that proliferates, forming projections that extend into the cavity of the cyst.

radicular c. A granulomatous cyst located alongside the root of a tooth.

retention c. A cyst retaining the secretion of a gland, as in a mucous or sebaceous cyst.

sebaceous c. Epidermoid c.

seminal c. A cyst of the epididymis, ductus deferens, or other sperm-carrying ducts that contain semen.

suprasellar c. A cyst of the hypophyseal stalk just above the floor of the sella turcica. Its wall is frequently calcified or ossified.

synovial c. Accumulation of synovia in a bursa, synovial crypt, or sac of a synovial hernia, causing a tumor.

trichilemma c. Pilar c.

tubo-ovarian c. An ovarian cyst that ruptures into the lumen of an adherent uterine tube.

unilocular c. A cyst containing only one cavity.

vaginal c. A cyst in the vagina.

vitelline c. A congenital cyst of the gastrointestinal canal. Lined with ciliated epithelium, it is the remains of the omphalomesenteric duct.

cyst- SEE: *cysto-*.

-cyst [Gr. *kystis*, bladder] SEE: *cysto-*.

cystadenocarcinoma (sīs-tād'ē-nō-kār'sī-nō'mā) [Gr. *kystis*, bladder, + *aden*, gland, + *karkinos*, crab, + *oma*, tumor] A glandular malignancy that forms cysts as it grows.

cystadenoma (sīs'tād-ēn-ō'mā) [" + " + *oma*, tumor] An adenoma containing cysts; cystoma blended with adenoma.

pseudomucinous c. A cyst filled with a thick, viscid fluid and lined with tall epithelial cells.

serous c. A cyst filled with a clear serous fluid and lined with cuboidal epithelial cells.

cystalgia (sīs-tāl'jē-ā) [" + *algos*, pain] Pain in the bladder. SYN: *cystodynia*.

cystathionine (sīs'tā-thī'ō-nīn) C₇H₁₄N₂O₄S; an intermediate compound in the metabolism of methionine to cysteine.

cystathioninuria (sīs'tā-thī'ō-nī-nū'rē-ā) A hereditary disease caused by a deficiency of the enzyme important in metabolizing cystathionine, resulting in mental retardation, thrombocytopenia, and acidosis.

cystatin C (sīs'tāt-īn) A cysteine proteinase inhibitor found in the bloodstream in elevated concentrations in patients with impaired kidney function. It is a small protein composed of 120 amino

acids (mass 13 kD) that is produced by nucleated cells throughout the body and easily filtered by the glomeruli of the kidneys. It is reabsorbed and catabolized by proximal tubular cells. Because levels of cystatin C do not depend on a patient's age, height, muscle mass, or weight, it is thought to be a better measure of kidney function than the creatinine clearance test, which is most often used to assess renal health.

cystectomy (sis-tĕk'tō-mē) [*"* + *ektome*, excision] **1.** Removal of a cyst. **2.** Excision of the urinary bladder or a part of it.

cysteic acid (sis-tē'ik) $C_3H_7NO_5S$; acid produced by the oxidation of cysteine. Further oxidation produces taurine.

cysteine hydrochloride (sis'tē-in, sis-tē'in) An amino acid, $C_3H_7NO_2S \cdot HCl \cdot H_2O$, containing sulfur and found in many proteins. It is valuable as a source of sulfur in metabolism.

cystic (sis'tik) [Gr. *kystis*, bladder] **1.** Of or pert. to a cyst. **2.** Pert. to the gallbladder. **3.** Pert. to the urinary bladder.

cysticercoid (sis'ti-sēr'koyd) [*"* + *kerkos*, tail, + *eidos*, form, shape] The larval encysted form of a tapeworm. It differs from a cysticercus in having a much reduced bladder.

cysticercosis (sis'ti-sēr-kō'sis) [*"* + *"* + *osis*, condition] Infestation with the larvae of the pork tapeworm. It occurs when ingested *Taenia solium* larvae from uncooked pork burrow through the intestinal wall and are carried to other tissues through the blood. They may encyst in the heart, eyes, muscles, or brain. In the brain, they may cause a wide variety of neurological symptoms, including seizures. A patient history of eating undercooked pork or other meats may be helpful in establishing the diagnosis, esp. in adults with new-onset seizures who are found to have multiple cystic lesions in the brain.

TREATMENT: Anticonvulsants are used to control seizures. Antiparasitic drugs such as praziquantel or albendazole are effective.

cysticercus (sis'ti-sēr'kūs) *pl.* **cysticerci** The encysted larval form of a tapeworm, consisting of a rounded cyst or bladder into which the scolex is invaginated. SYN: *bladder worm*.

c. cellulosa The bladder worm that is the larva of the pork tapeworm, *Taenia solium*.

cystic fibrosis ABBR: CF. A potentially fatal autosomal recessive disease that manifests itself in multiple body systems, including the lungs, the pancreas, the urogenital system, the skeleton, and the skin. It causes chronic obstructive pulmonary disease, frequent lung infections, deficient elaboration of pancreatic enzymes, osteoporosis, and an abnormally high electrolyte concentration in

the sweat. The name is derived from the characteristic histologic changes in the pancreas. CF usually begins in infancy and is the major cause of severe chronic lung disease in children. In the U.S., CF occurs in 1 in 2500 white live births and 1 in 17,000 black live births and is the most common fatal genetic disease in European-American children. Also called *fibrocystic disease of the pancreas*. SYN: *mucoviscidosis*.

SYMPTOMS: A great variety of clinical manifestations may be present, including nasal polyposis; lung changes related to thick, tenacious secretions leading to bronchiectasis; bronchitis; pneumonia; atelectasis, emphysema and respiratory failure; gallbladder diseases; intussusception; meconium ileus; salt depletion; pancreatic exocrine deficiency causing intestinal malabsorption of fats, proteins, and, to a lesser extent, carbohydrates; pancreatitis; peptic ulcer; rectal prolapse; diabetes; nutritional deficiencies; arthritis; absent vas deferens with consequent aspermia and absence of fructose in the ejaculate; failure to thrive; and delayed puberty. The child exhibits a nonproductive, paroxysmal cough, barrel chest, cyanosis, clubbed fingers and toes, malabsorption leading to poor weight gain and growth, fat-soluble vitamin deficiency (A, D, E, K) leading to clotting abnormalities, and excretion of frequent pale stools that are bulky, foul-smelling and have a high fat content.

TREATMENT: Therapy must be individualized, carefully monitored, and continued throughout life. Pulmonary infection is controlled with antibiotics. It is essential that secretions be cleared from the airway by intermittent aerosol therapy. A mucolytic agent such as *N*-acetylcysteine may be helpful as well as postural drainage, mist inhalation, and bronchodilator therapy. Bronchoalveolar lavage has been of use in some patients. In addition, bronchial drainage may be improved by use of aerosolized recombinant human DNase (rhdNase). Use of a Flutter device for airway mucus clearance is considerably more effective in increasing sputum expectoration than traditional postural drainage and clapping the chest. Lung transplantation may also be used to treat CF. High doses of ibuprofen taken consistently for years may slow progression of the disease by limiting airway inflammation. SEE: *bronchoalveolar lavage; Flutter device*.

PROGNOSIS: Median cumulative survival is approximately 30 years, with males surviving much longer than females for unknown reasons.

GENETIC SCREENING: In 2001 The American College of Obstetricians and Gynecologists and the American College

of Medical Genetics recommended that all prospective parents undergo screening to see if they are carriers of cystic fibrosis genes.

PATIENT CARE: Both patient and family are taught to perform pulmonary chest physiotherapy and postural drainage followed by deep breathing and coughing to help mobilize secretions. Fluid intake is encouraged to thin inspissated secretions. Humidified air, with intermittent positive-pressure breathing therapy if prescribed, is provided. Dornase alfa is also administered by nebulizer as prescribed. A DNA enzyme produced by recombinant gene therapy, the drug is used to reduce the frequency of respiratory infections, to decrease sputum thickness (viscosity), and to improve pulmonary functioning in patients with cystic fibrosis.

The patient should take precautions (e.g., annual influenza immunization and at least one pneumococcal vaccination) to prevent respiratory infections and should learn to recognize and report signs and symptoms and to initiate prescribed antibiotic prophylaxis promptly. Oral pancreatic enzymes are given with meals and snacks to replace deficiencies, and foods are well-salted or a sodium supplement prescribed to combat electrolyte losses in sweat. A well-balanced high-calorie, high-protein diet is recommended, including replacement of fat-soluble vitamins if laboratory analysis indicates any deficiencies. Aerobic exercise and physical activity within permitted limits are encouraged; breathing exercises should be performed during activity to improve ventilatory capacity and activity tolerance. The child is encouraged in age-appropriate developmental tasks, and acceptable activities are substituted for those in which the child is unable to participate.

Caregivers involve the child in care by offering valid choices and encouraging decision making. The family is encouraged to discuss their feelings and concerns. Genetic testing is explained. Realistic reassurance is offered regarding expectations after an exacerbation, and emotional support is provided to help both patient and family work through feelings of anticipatory grief. Referral is made to available local chapters of support groups such as the Cystic Fibrosis Foundation. SEE: *Nursing Diagnoses Appendix*.

cysticotomy (sīs'tī-kōt'ō-mē) [L + *to me*, incision] Incision of cystic bile duct. SYN: *choledochotomy*.

cystiform (sīs'tī-form) [L + *L. forma*, form] Having the form of a cyst.

cystigerous (sīs-tīj'ēr-ūs) [L + *L. gerere*, to bear] Containing cysts.

cystine (sīs'tēn) [Gr. *kystis*, bladder]

$C_6H_{12}N_2S_2O_4$; a sulfur-containing amino acid produced by the action of acids on proteins that contain this compound. It is an important source of sulfur in metabolism.

cystinemia (sīs'tī-nē'mē-ā) [*cystine* + Gr. *haima*, blood] The presence of cystine in the blood.

cystine storage disease An inherited disease of cystine metabolism resulting in abnormal deposition of cystine in body tissues. The cause is disordered proximal renal tubular function. Clinically, the child fails to grow and develops rickets, corneal opacities, and acidosis.

cystinosis (sīs'tī-nō'sis) [L + Gr. *osis*, condition] A rare, autosomal recessive disorder, one of the lysosomal storage diseases, that results in the deposition of cystine crystals in body tissues. Affected children develop growth failure, rickets, renal tubular acidosis, hypothyroidism, and kidney failure, often followed by lung disease, sexual dysfunction, and neurological disorders. SEE: *cystine storage disease*.

cystinuria (sīs'tī-nū'rē-ā) [L + *ouron*, urine] 1. The presence of cystine in the urine. 2. A hereditary metabolic disorder characterized by excretion of large amounts of cystine, lysine, arginine, and ornithine in the urine. It results in the development of recurrent urinary calculi.

cystitis (sīs-tī'tīs) [Gr. *kystis*, bladder, + *itis*, inflammation] Bladder inflammation usually occurring as a result of a urinary tract infection. Associated organs (kidney, prostate, urethra) may be involved. This condition may be acute or chronic. Females are affected 10 times more than males. Adult males and children may develop lower urinary tract infections from anatomic or physiologic abnormalities such as prostatic hypertrophy (adult men) or anomalies of the ureterovesicular junction. The infection usually is ascending, caused by a gram-negative enteric bacterium (e.g., *Escherichia coli*, *Klebsiella*, *Proteus*, *Enterobacter*, *Pseudomonas*, or *Serratia*), and occasionally by gram-positives (*Staphylococcus saprophyticus* or enterococci). When an indwelling catheter is present or the patient has a neurogenic bladder, multiple pathogens may be responsible. SEE: *Nursing Diagnoses Appendix*.

SYMPTOMS: Cystitis is marked by urinary urgency, frequency, and pain. Bladder spasms and perineal aching or fullness are also reported.

TREATMENT: Antibiotics are useful in treating the infection, but more definitive therapy is required if the basic cause is a kidney stone or a structural defect in the urinary tract such as obstruction.

PATIENT CARE: The patient is assessed for pain, burning, urinary fre-

quency, bladder spasms, chills, and fever. The urinary bladder is palpated and percussed for distention. Volume and frequency of urinary output are monitored, and urine is inspected for cloudiness and gross hematuria. A clean-catch or catheterized specimen is sent to the laboratory for urinalysis and culture and sensitivity tests. Oral fluid intake is encouraged to dilute urine and to decrease pain on voiding. Heat is applied to the lower abdomen to decrease bladder spasms. Urinary antiseptics, analgesics, and antibiotics are administered and evaluated for therapeutic effectiveness and any adverse reactions. The patient is warned that urinary antiseptics such as phenazopyridine hydrochloride (Pyridium) will color the urine reddish orange and may stain fabric. The importance of follow-up urinalysis and culture testing to ensure that the cause of cystitis has been eliminated is emphasized in cases of recurrent disease.

interstitial c. A chronically painful inflammatory bladder condition, the etiology of which is often undetermined. It sometimes occurs as a result of exposure to drugs such as cyclophosphamide or ciprofloxacin but more often is idiopathic.

Most commonly, the disease is seen in women 30 to 70 years of age. The disease is not life-threatening, but the pain it causes can make a patient's life intolerable. The most common symptoms are urinary frequency, nocturia, and suprapubic pain on bladder filling. There is no curative medical therapy, but hydraulic distention of the bladder, intravesical instillations, transcutaneous electrical nerve stimulation, and antidepressants, as well as a variety of alternative medicines, have been tried, with variable success. Some patients are treated with urinary diversion procedures or cystectomy.

cystitomy (sīs-tīt'ō-mē) 1. Surgical incision of a cavity. 2. Incision of the capsule of the crystalline lens.

cysto-, cyst-, -cyst [Gr. *kystis*, bladder] Combining forms denoting a relationship to the urinary bladder or a cyst.

cystadenoma (sīs'tō-ād'ē-nō'mā) [" + *aden*, gland, + *oma*, tumor] A tumor containing cystic and adenomatous elements.

cystocele (sīs'tō-sēl) [" + *kele*, tumor, swelling] A bladder hernia that protrudes into the vagina. Injury to the vesicovaginal fascia during delivery may allow the bladder to pouch into the vagina, causing a cystocele. It may cause urinary frequency, urgency, and dysuria. SYN: *vesicocele*.

cystocolostomy (sīs'tō-kō-lōs'tō-mē) [" + *kolon*, colon, + *stoma*, mouth] For-

mation of communication between the gallbladder and colon.

cystodiaphanoscopy (sīs'tō-dī'ā-fān-ōs'kō-pē) [" + *dia*, through, + *phanein*, to shine, + *skopein*, to examine] Transillumination of the abdomen by an electric light in the bladder.

cystodynia (sīs'tō-dīn'ē-ā) [" + *odyne*, pain] Crystalgia.

cystoelytroplasty (sīs'tō-ē-līt'rō-plās-tē) [" + *elytron*, sheath, + *plassein*, to form] Repair of a vesicovaginal fistula.

cystoepiplocele (sīs'tō-ē-pīp'lō-sēl) [" + *epiploon*, omentum, + *kele*, tumor, swelling] Herniation of a portion of the bladder and the omentum.

cystoepithelioma (sīs'tō-ēp'i-thē'lē-ō'mā) [" + *epi*, upon, + *thele*, nipple, + *oma*, tumor] Epithelioma in the stage of cystic degeneration.

cystofibroma (sīs'tō-fi-brō'mā) [" + L. *fibra*, fiber, + Gr. *oma*, tumor] Fibrous tumor containing cysts.

cystogastrostomy (sīs'tō-gās-trōs'tō-mē) [" + *gaster*, stomach, + *stoma*, mouth] Joining an adjacent cyst, usually of the pancreas, to the stomach.

cystogram (sīs'tō-grām) [" + *gramma*, something written] A radiograph of the bladder.

cystography (sīs-tōg'rā-fē) [" + *graph-ein*, to write] Radiography of any cyst into which a contrast medium has been instilled, esp. the bladder.

cystoid (sīs'toyd) [" + *eidōs*, form, shape] Resembling a cyst.

cystojejunostomy (sīs'tō-jē-jū-nōs'tō-mē) [" + L. *jejunum*, empty, + Gr. *stoma*, mouth] Joining of an adjacent cyst to the jejunum.

cystolith (sīs'tō-līth) [" + *lithos*, stone] Vesical calculus.

cystolithectomy (sīs-tō-lī-thēk'tō-mē) [" + *lithos*, stone, + *ektome*, excision] Excision of a stone from the bladder.

cystolithiasis (sīs-tō-lī-thī'ā-sīs) [Gr. *kystis*, bladder, + *lithos*, stone, + *-iasis*, condition] Formation of stones in the bladder.

cystolithic (sīs'tō-līth'īk) Pert. to a bladder stone.

cystolitholapaxy (sīs'tō-līth-ōl'ā-pāk-sē) [" + "] The removal of a kidney stone from the bladder by crushing the particles and extracting them by irrigation.

cystolutein (sīs'tō-loo'tē-īn) [" + L. *lutuus*, yellow] Yellow pigment found in some ovarian cysts.

cystoma (sīs-tō'mā) *pl.* **cystomata** *pl.* **cystomas** [" + *oma*, tumor] A cystic tumor; a growth containing cysts.

cystometer (sīs-tōm'ē-tēr) [" + *metron*, measure] A device for estimating the capacity of the bladder and pressure changes in it during micturition.

cystometry (sīs'tō-mē-trōg'rā-fē) [" + " + *graphein*, to write] A graphic record of the pressure in the bladder at varying stages of filling.

cystomorphous (sīs"tō-mor'fūs) [" + *morphe*, form] Cystlike; cystoid.

cystopexy (sīs'tō-pēk"sē) [" + *pexis*, fixation] Surgical fixation of the bladder to the wall of the abdomen.

cystoplasty (sīs'tō-plās'tē) [" + *plassein*, to form] Plastic operation on the bladder.

cystoplegia (sīs'tō-plē'jē-ā) [" + *plege*, stroke] Paralysis of the bladder.

cystoproctostomy (sīs'tō-prōk-tōs'tō-mē) [" + *proktos*, rectum, + *stoma*, mouth] Surgical formation of a connection between the urinary bladder and the rectum.

cystoptosis, cystoptosis (sīs'tōp-tō'sē-ā, -sīs) [" + *ptosis*, a dropping] Prolapse into the urethra of the vesical mucous membrane.

cystoradiography (sīs'tō-rā'dē-ōg'rā-fē) [" + *L. radius*, ray, + *Gr. graphein*, to write] Radiography of the gallbladder or urinary bladder.

cystorrhaphy (sist-or'ā-fē) [" + *rhaphe*, seam, ridge] Surgical suture of the bladder.

cystorrhea (sīs'tō-rē'ā) [" + *rhoia*, flow] A discharge of mucus from the urinary bladder.

cystorrhesis (sīs'tō-rēk'sīs) [" + *rhesis*, rupture] Rupture of the bladder.

cystosarcoma (sīs'tō-sār-kō'mā) [" + *sarx*, flesh, + *oma*, tumor] A sarcoma containing cysts or cystic formations.

cystoscope (sīst'ō-skōp) [" + *skopein*, to examine] An instrument for interior examination of bladder and ureter. It is introduced through the urethra into the bladder.

cystoscopy (sīs-tōs'kō-pē) [" + *skopein*, to examine] Examination of the bladder with a cystoscope.

cystospasm (sīs'tō-spāzm) [Gr. *kystis*, bladder, + *spasmos*, a convulsion] A spasmodic contraction of the urinary bladder.

cystostomy (sīs-tōs'tō-mē) [" + *stoma*, mouth] Surgical creation of an opening into the bladder.
suprapubic c. Surgical opening of the bladder from just above the symphysis pubis; any of several catheters are placed in the opening to facilitate drainage.

cystotome, cystitome (sīs'tō-tōm) [" + *tome*, incision] An instrument for incision into the sac of the crystalline lens or of the bladder.

cystotomy (sīs-tōt'ō-mē) [" + *tome*, incision] Incision of the bladder.

cystotrachelotomy (sīs'tō-trā'kē-lōt'ō-mē) [" + *trachelos*, neck, + *tome*, incision] Incision into the neck of the bladder.

cystoureteritis (sīs'tō-ū-rē'tēr-i'tīs) [" + *oureter*, ureter, + *itis*, inflammation] Inflammation of the ureter and urinary bladder.

cystoureterogram (sīs'tō-ū-rē'tēr-ō-grām) [" + " + *gramma*, something written] A radiograph of the bladder and ureter obtained after instillation of a contrast medium.

cystourethritis (sīs'tō-ū-rē-thrī'tīs) [" + *ourethra*, urethra, + *itis*, inflammation] Inflammation of the urinary bladder and urethra.

cystourethrocele (sīs'tō-ū-rē'thrō-sēl) [" + " + *kele*, tumor, swelling] Prolapse of the bladder and urethra of the female.

cystourethrography (sīs'tō-ū-rē-thrōg'rā-fē) [" + " + *graphein*, to write] Radiography of the bladder and urethra by use of a radiopaque contrast medium.
chain c. Radiography in which a sterile beaded radiopaque chain is introduced into the bladder by means of a special catheter so that one end of the chain is in the bladder and the other extends outside via the urethra. This examination is useful in demonstrating anatomical relationships, esp. in women with persistent urinary incontinence.
voiding c. Cystourethrography done before, during, and after voiding.

cystourethropexy, retropubic (sīs'tō-ū-rē'thrō-pēks-ē) A general term for a surgical procedure for correction of stress urinary incontinence.

cystourethroscope (sīs'tō-ū-rē'thrō-skōp) [" + *ourethra*, urethra, + *skopein*, to examine] Ureterocystoscope.

cystovesiculography (sīs'tō-vē-sīk-ū-lōg'rā-fē) Radiography of the bladder and seminal vesicles after instillation of a contrast medium.

cyt- SEE: *cyto-*.

-cyte (sīt) [Gr. *kytos*, cell] Suffix denoting cell.

cytidine (sī'tī-dīn) A nucleoside that is one of the four main riboside components of ribonucleic acid. It consists of a cytosine and D-ribose.

cyto-, cyt- [Gr. *kytos*, cell] Combining forms meaning *cell*.

cytoanalyzer (sī'tō-ān'ā-lī-zēr) An automated device for detecting malignant cells in microscopic preparations or in fluids. It is used in conjunction with professional analysis.

cytoarchitectonic (sī'tō-ār'k'i-tēk-tōn'īk) [" + *architektonike*, architecture] Pert. to structure and arrangement of cells.

cytobiology (sī'tō-bī-ōl'ō-jē) [" + *bios*, life, + *logos*, word, reason] Biology of cells.

cytobiotaxis (sī'tō-bī-ō-tāk'sīs) [" + " + *taxis*, arrangement] The influence of living cells on other living cells. SYN: *cytotaxis*.

cytobroom (sī'tō-broom") [" + *broom*] A plastic, broom-shaped device used to sample cells from the cervix and endocervix during liquid-based cytological

sampling of the uterine cervix for malignant and premalignant cells.

cytobrush (sī'tō-brūsh") A miniature brush used to sample cells from the vagina, cervix, or endocervix for Papanicolaou testing. SEE: *Papanicolaou test* for illus.

cytocentrum (sī'tō-sēn'trūm) [" + *ken-tron*, center] The area of cytoplasm that contains the centrioles. SYN: *centrosome*. SEE: *sphere*, *attraction*.

cytochalasin B (sī'tō-kāl'ā-sīn) A chemical that destroys the contractile microfilaments in cells. This fragments cells and permits the fragments to be investigated.

cytochemistry (sī'tō-kēm'is-trē) The chemistry of the living cell.

cytochrome (sī'tō-krōm) [" + *chroma*, color] An iron-containing protein found in the mitochondria of eukaryotic cells; each is given a letter name (a, b, c). The cytochrome transport system (electron transport chain) is the last stage in aerobic cell respiration. SEE: *c. oxidase*; *c. P450*; *cytochrome transport system*.

c. P450 A group of enzymes present in every type of cell in the body except red blood cells and skeletal muscle cells. They are important in metabolizing substances normally present in the body such as steroids, fat-soluble vitamins, fatty acids, prostaglandins, and alkaloids. The P450 enzymes also detoxify drugs and a great number of environmental pollutants, such as carcinogens present in tobacco smoke and charcoal-broiled meat, polychlorinated biphenyls, and dioxin. Specialized types of cytochrome P450 are involved in the synthesis of nitric oxide.

cytochrome transport system Electron transport chain.

cytochylema (sī'tō-kī-lē'mā) [Gr. *kytos*, cell, + *chylos*, juice] Hyaloplasm.

cytotoxic (sī'tō-sī'dāl) [" + L. *caedere*, to kill] Lethal to cells.

cytocide (sī'tō-sīd) An agent that kills cells.

cytotoxicity (sī'tōk'lā-sīs) [" + *klasis*, destruction] Destruction of cells.

cytotoxic (sī'tō-klās'tīk) [" + *klasis*, destruction] Lethal to cells.

cytotoxicity (sī'tō-klē'sīs) [" + *klasis*, a call] Cytobiotaxis.

cytodiagnosis (sī'tō-dī'āg-nō'sīs) [" + *dia*, through, + *gignoskein*, to know] Diagnosis of pathogenic conditions by the study of cells present in exudates and fluids.

cytodieresis (sī'tō-dī-ēr'ē-sīs) [" + *di-airesis*, division] Cytokinesis.

cytodistal (sī'tō-dīs'tāl) [" + *distare*, to be distant] Pert. to a neoplasm remote from the cell of origin.

cytofluorometry (sī'tō-floo'ōr-ōm'ē-trē) Flow cytometry.

cytogenesis (sī'tō-jēn'ēs-īs) [" + *gene-*

sis, generation, birth] Origin and development of the cell.

cytogenetics (sī'tō-jē-nēt'īks) The study of the structure and function of chromosomes. Clinically, the science of cytogenetics has been applied to the diagnosis and management of congenital disorders. The diagnosis of some fetal abnormalities can be made by chromosomal analysis of chorionic villus samples as early as 8 to 14 weeks' gestation. SEE: *amniocentesis*; *chorionic villus sampling*.

cytogenic (sī-tō-jēn'īk) [" + *gennan*, to produce] Producing cells or promoting the production of cells.

cytogenous (si-tōj'ēn-ūs) [" + *gennan*, to produce] Producing cells.

cytogeny (sī-tōj'ē-nē) [" + *genesis*, generation, birth] The formation and development of the cell.

cytogerontology (sī'tō-jē-rōn-tōl'ō-jē) The study of cell aging developed by Leonard Hayflick.

cytopenia (sī'tō-glī-kō-pē'nē-ā) [" + *glykys*, sweet, + *penia*, poverty] Deficient glucose of blood cells; also called cytogluopenia.

cytohistogenesis (sī'tō-hīs'tō-jēn'ēs-sīs) [" + *histos*, web, + *genesis*, generation, birth] The structural development of cells.

cytohyaloplasm (sī'tō-hī'āl-ō-plāzm) [" + *hyalos*, glass, + LL. *plasma*, form, mold] Cytoplasm.

cytoid (sī'toyd) [" + *eidos*, form, shape] Resembling a cell.

cytoinhibition (sī'tō-in'hī-bīsh'ūn) [" + L. *inhibere*, to restrain] Impairment of the growth or functioning of cells.

cytokine (sī'tō-kīn") One of more than 100 distinct proteins produced primarily by white blood cells. They provide signals to regulate immunological aspects of cell growth and function during both inflammation and specific immune response. Each cytokine is secreted by a specific cell in response to a specific stimulus. Cytokines produced by monocytes or macrophages and lymphocytes are called monokines and lymphokines, respectively. Cytokines include the interleukins, interferons, tumor necrosis factors, erythropoietin, and colony-stimulating factors. They act by changing the cells that produce them (autocrine effect) and altering other cells close to them (paracrine effect); a few affect cells systemically (endocrine effect). SEE: *granulocyte-macrophage colony-stimulating factor*; *immune response*; *inflammation*; *interferon*; *interleukin*; *macrophage*; *tumor necrosis factor*.

cytokinesis (sī'tō-kī-nē'sīs) [" + *kinesis*, movement] The separation of the cytoplasm into two parts, a process that follows the division of the cell nucleus (mitosis). SYN: *cytodieresis*.

cytokine storm (sī'tō-kīn") [" + Gr. *ki-*

nein, to move] The massive release of interleukins, tumor necrosis factor alpha, and other circulating mediators of inflammation during critical illness. These agents may trigger bleeding, clotting, internal organ injury, or shock.

cytologist (sī'tōl'ō-jīst) A person trained in cytology.

cytology (sī-tōl'ō-jē) [*'* + *logos*, word, reason] The science that deals with the formation, structure, and function of cells.

cytolysin (sī-tōl'ī-sīn) [*'* + *lysis*, dissolution] 1. An antibody that causes disintegration of cells. 2. A molecule in cytotoxic T lymphocytes that enhances their ability to kill by creating pores in the plasma membranes of microorganisms through which proteolytic enzymes pass.

cytolysis (sī-tōl'ī-sīs) Dissolution or destruction of living cells.

cytomegalovirus (sī'tō-mēg'ā-lō-vī'rūs) A widely distributed species-specific herpesvirus; in humans, it inhabits many different tissues and causes cytomegalic inclusion disease. A mother with a latent infection may transmit the virus to her fetus either transplacentally or at the time of birth. The virus may also be transmitted by blood transfusion or organ transplantation. Although it is not usually harmful to those with functional immune systems, CMV is the most frequent disseminated opportunistic infection seen in AIDS. It is also a common viral cause of damage to the fetus. SEE: *cytomegalovirus infection*.

cytomegalovirus infection ABBR: CMV infection. A persistent, latent infection of white blood cells caused by cytomegalovirus (CMV), a beta-group herpesvirus. Approx. 60% of people over 35 have been infected with CMV, usually during childhood or early adulthood; the incidence appears to be higher in those of low socioeconomic status. Primary infection is usually mild in people with normal immune function, but CMV can be reactivated and cause overt disease in pregnant women, AIDS patients, or those receiving immunosuppressive therapy following organ transplantation. CMV has been isolated from saliva, urine, semen, breast milk, feces, blood and vaginal secretions of those infected; it is usually transmitted through contact with infected secretions that retain the virus for months to years. SEE: *Nursing Diagnoses Appendix*.

During pregnancy, the woman can transmit the virus transplacentally to the fetus with devastating results. Approx. 10% of infected infants develop CMV inclusion disease, marked by anemia, thrombocytopenia, purpura, hepatosplenomegaly, microcephaly, and abnormal mental or motor development; more than 50% of these infants die.

Most fetal infections occur when the mother is infected with CMV for the first time during this pregnancy, but they may also occur following reinfection or reactivation of the virus. Patients with AIDS or organ transplants may develop disseminated infection that causes retinitis, esophagitis, colitis, meningoencephalitis, pneumonitis, and inflammation of the renal tubules.

ETIOLOGY: CMV is transmitted from person to person by sexual activity, during pregnancy or delivery, during organ transplantation, or by contaminated secretions; rarely (5%) blood transfusions contain latent CMV. Health care workers caring for infected newborns or immunosuppressed patients are at no greater risk for acquiring CMV infection than are those who care for other groups of patients (approx. 3%). Pregnant women and all health care workers should strictly adhere to standard infection control precautions.

SYMPTOMS: Primary infection in the healthy is usually asymptomatic, but some people develop mononucleosis-type symptoms (fever, sore throat, swollen glands). Symptoms in immunosuppressed patients are related to the organ system infected by CMV and include blurred vision progressing to blindness; severe diarrhea; and cough, dyspnea, and hypoxemia. Antibodies seen in the blood identify infection but do not protect against reactivation of the virus.

TREATMENT: Antiviral agents such as ganciclovir and foscarnet are used to treat retinitis, colitis, and pneumonitis in immunosuppressed patients; chronic antiviral therapy has been used to suppress CMV, but this protocol has not been effective in preventing recurrence of CMV or development of meningoencephalitis. Ganciclovir has limited effect in congenital CMV. No vaccine is available.

PATIENT CARE: Health care providers can help prevent CMV infections by advising pregnant women and the immunocompromised to avoid exposure to contact with people who have confirmed and/or suspected cases of CMV. The virus spreads from one person to another as a result of exposure to blood (e.g., in transfusions) and other body fluids including feces, urine, and saliva. Contact with the diapers or drool of an infected child may result in infection of a person who has previously been unexposed to the infection. CMV is the most common congenital infection, affecting about 35,000 newborns each year. CMV infection that is newly acquired during the first trimester of pregnancy can be esp. hazardous to the developing fetus. As a result, young women who have no antibodies to CMV should avoid provid-

ing child care to infected youngsters. In the U.S., nurses who have failed to advise infected patients of the risk that CMV may pose to others have been judged to be negligent by the courts. Parents of children with severe congenital CMV require support and counseling. Although CMV infection in most nonpregnant adults is not harmful, it can cause serious illnesses or death in people with HIV/AIDS, organ transplants, and those who take immunosuppressive or cancer chemotherapeutic drugs. Infected immunosuppressed patients with CMV should be advised about the uses of prescribed drug therapies, the importance of completing the full course of therapy, and adverse effects to report for help in managing them. Family caregivers for infected people should be taught to observe standard precautions when handling body secretions. Since asymptomatic people may have and secrete the virus, standard precautions should be maintained by health care professionals at all times when such secretions are present or being handled.

cytometaplasia (sī'tō-mēt'ā-plā'zē-ā) [Gr. *kytos*, cell, + *metaplasia*, change] Change in form or function of cells.

cytometer (sī-tōm'ē-ter) [" + *metron*, measure] An instrument for counting and measuring cells.

flow c. A device for measuring thousands of cells as they are forced one at a time through a focused light beam, usually a laser. Cells studied by this device need to be in an evenly dispersed suspension.

cytometry (sī-tōm'ē-trē) The counting and measuring of cells.

flow c. A technique for analyzing individual cells passing through a detector system. In one method, the cells are tagged with a monoclonal antibody carrying a fluorescent label. They pass through the detector at about 10,000 cells per second. Flow cytometry has many clinical and research applications. These include analysis of cell size, structure, and viability; examination of DNA and RNA in the cells; determination of pH in the cells; and chromosome analysis. Flow cytometry is also used to determine the percentages of cells in various stages of development in a population, making it possible to estimate the extent or controllability of a malignant tumor. Monitoring the number of populations of T cells, B cells, and T helper and suppressor cells and using that information to calculate the helper/suppressor ratio assist in determining the patient's immune status. Flow cytometry has been used in monitoring survival of transplanted organs and tissues such

as bone marrow. SYN: *cytofluorometry*. SEE: *illius*; *cell sorting*.

cytomitome (sī'tō-mī'tōm) [" + *mitos*, thread] The fibrils or microtubules of the cytoplasm.

cytomix (sī'tō-miks) [Gr. *kytos*, cell, + L. *mistura*, mixture] A mixture of cytokines containing tumor necrosis factor, interleukin-1 beta, and gamma interferon.

cytomodulatory (sī'tō-mōj'ōl-ō-tawr'ē, -mō'dūl-) [" + *modulatory*] Capable of altering cells, esp. their growth, immune responsiveness, or reproduction.

cytomorphology (sī'tō-mor-fōl'ō-jē) [" + *morphe*, form, + *logos*, word, reason] The study of the structure of cells.

cytomorphosis (sī'tō-mor-fō'sis) [" + *osis*, condition] The changes in a cell during its life cycle.

cyton (sī'tōn) [Gr. *kytos*, cell] **1.** A cell. **2.** The cell body of a neuron. SYN: *perikaryon*.

cytopathic (sī'tō-pāth'ik) [" + *pathos*, disease] Concerning pathological changes in cells, esp. those injured or destroyed by viruses or other microorganisms. SYN: *cytopathogenic*.

cytopathogenic (sī'tō-pāth'ō-jēn'ik) [" + *pathos*, disease, + *gennan*, to produce] Cytopathic.

cytopathology (sī'tō-pāth-ōl'ō-jē) [" + *logos*, word, reason] The study of the cellular changes in disease.

cytopenia (sī'tō-pē'nē-ā) [" + *penia*, lack] Decrease in the number of the cells in blood or other tissue.

cytophagocytosis (sī'tō-fāg'ō-sī-tō'sis) [" + *phagein*, to eat, + *kytos*, cell, + *osis*, condition] Cytophagy.

cytophagy (sī-tōf'ā-jē) The destruction of other cells by phagocytes. SYN: *cytophagocytosis*.

cytophotometry (sī'tō-fō-tōm'ē-trē) SEE: *flow cytometry*.

cytophylaxis (sī'tō-fi-lāk'sis) [" + *phylaxis*, protection] The protection of cells against lysis.

cytophyletic (sī'tō-fi-lēt'ik) [" + *phyle*, tribe] Pert. to the genealogy of cells.

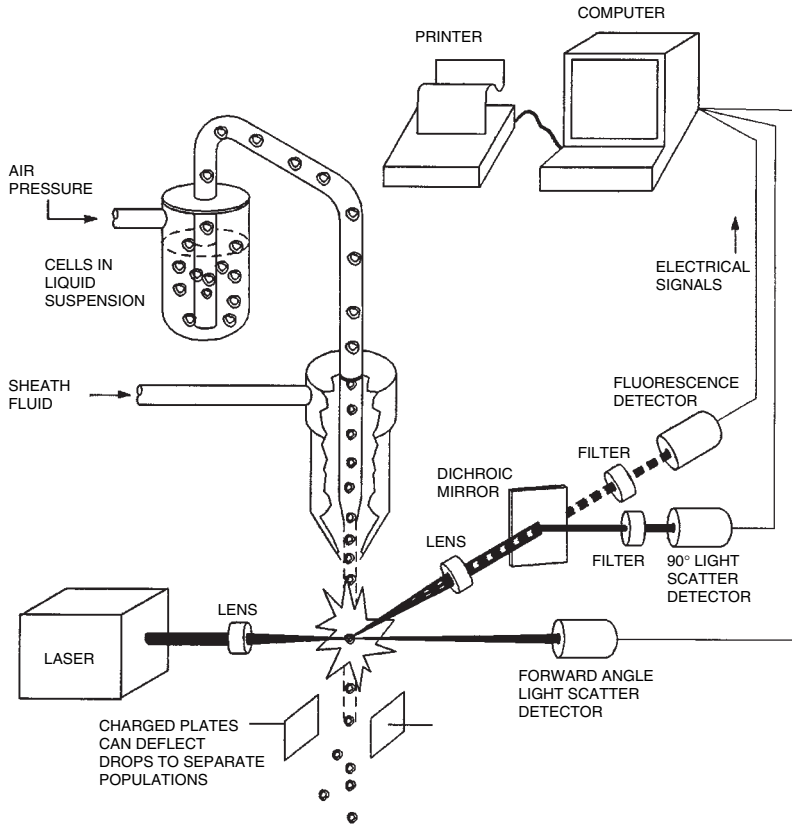
cytophysics (sī'tō-fiz'iks) [" + *physike*, (study of) nature] The physics of cellular activity.

cytophysiology (sī'tō-fiz-ē-ōl'ō-jē) [" + *physis*, nature, + *logos*, word, reason] Physiology of the cell.

cytoplasm (sī'tō-plāzm) [" + LL. *plasma*, form, mold, from Gr. *plassein*, to mold, spread out] The protoplasm of a cell outside the nucleus. SEE: *cell*.

cytoplast (sī'tō-plāst) The cytoplasm of a cell as distinguished from the contents of the nucleus.

cytoprotective (sī'tō-prō-tēk'tiv) [Gr. *kytos*, cell, + L.L. *protegere*, to protect, to cover] Capable of shielding cells from injury, e.g., damage from electrolyte disturbance, infection, ischemia, or toxins.



FLOW CYTOMETRY

Components of a laser-based cytometer

cytoreduction (sī'tō-rě-dük'shūn) [n + "] Cellular killing, usually of cancerous cell clones, with chemotherapy. **cyto-reductive** (-dük'-tív), *adj.*

cytoreticulum (sī'tō-rě-tík'ū-lūm) [n + L. *reticulum*, network] The fibrillar network and supporting fluid of proto-plasm.

cytoscopy (sī-tōs'kō-pē) [n + *skopein*, to examine] Microscopic examination of cells for diagnostic purposes.

cytosine (sī'tō-sīn) C₄H₅N₃O; a pyrimidine base that is part of DNA and RNA. In DNA it is paired with guanine.

cytoskeleton (sī'tō-skěl'ē-tōn) The internal structural framework of a cell consisting of three types of filaments: microfilaments, microtubules, and intermediate filaments. These form a dynamic framework for maintaining cell shape and allowing rapid changes in the three-dimensional structure of the cell.

cytosol (sī'tō-sōl) The fluid of cytoplasm, an aqueous solution of ions and nutrients. SYN: *hyaloplasm*.

cytosome (sī'tō-sōm) [n + *soma*, body] The portion of a cell exclusive of the nucleus.

cytostasis (sī-tōs'tā-sīs) [Gr. *kytos*, cell, + *stasis*, standing still] Stasis of white blood cells, as in the early stage of inflammation.

cytostatic (sī'tō-stät'ik) [n + *stasis*, standing still] Preventing the growth and proliferation of cells.

cytotactic (sī'tō-tāk'tik) Pert. to cytota-taxia.

cytotaxia, cytotoxic (sī-tō-tāk'sē-ā, -sīs) [n + *taxis*, arrangement] Attraction or repulsion of cells for each other.

cytotechnologist (sī'tō-těk'nól'ā-jīst) A medical laboratory technologist who works under the supervision of a pathologist to examine cells in order to diagnose cancer or other diseases.

cytotechnology (sī'tō-těk'nól'ō-jē) Microscopic examination of cells to identify abnormalities.

cytotherapy (sī'tō-thēr'ā-pē) [n + *therapeia*, treatment] 1. Hormonotherapy.

2. Use of cytotoxic or cytolytic substances or serums to treat disease.

cytothesis (sī-tōth'ē-sīs) [" + *thesis*, a placing] Restoration or repair of injured cells.

cytotoxic (sī-tō-tōks'īk) Destructive to cells.

cytotoxic agent Any drug that destroys cells or prevents them from multiplying. Cytotoxic agents are used to treat cancers and severe immunological disorders (e.g., vasculitis or some forms of glomerulonephritis). An ideal agent would destroy proliferating cells without injuring the normal cells of the body.

cytotoxicity, antibody-dependent cell-mediated (sī-tō-tōk-sīs'ī-tē) ABBR: ADCC. The increased ability of natural killer (NK) cells and eosinophils to bind with foreign antigens coated with IgG antibodies and destroy them. When receptors on NK cells bind to the antibody's Fc fragment, they are stimulated to produce interferon gamma and degranulate, releasing destructive enzymes that kill cells infected with a virus. The presence of antibodies differentiates ADCC from T-cell cytotoxic-

ity, which does not require their presence.

cytotoxin (sī-tō-tōk'sīn) [" + *toxikon*, poison] An antibody or toxin that attacks the cells of particular organs. SEE: *endotoxin*; *erythrotxin*; *exotoxin*; *leukocidin*; *lysis*; *neurotoxin*.

cytotropic (sī-tō-trōp'īk, -trōp'īk) [" + *trope*, a turn] Having an affinity for cells.

cytotropism (sī-tōt'rō-pīzm) [" + *trope*, a turn, + *-ismos*, condition] The movement of cells toward or away from a stimulus such as drugs, viruses, bacteria, or physical conditions such as heat or cold.

cytozoic (sī-tō-zō'īk) [" + *zoon*, animal] Living within or attached to a cell, as certain protozoa.

cytozoon (sī-tō-zō'ōn) A protozoon that lives as an intracellular parasite.

cyturia (sī-tū'rē-ā) [Gr. *kytos*, cell, + *ouron*, urine] The presence of any kind of cells in the urine.

Czermak's spaces (chār'mäks) [Johann Czermak, Ger. physiologist, 1828–1873] The interglobular spaces in dentin caused by failure of calcification. SYN: *interglobular spaces*.