



V 1. *Vibrio*; *vision*; *visual acuity*. 2. Symbol for the element vanadium.

∇ 1. Symbol for gas flow. 2. Symbol for ventilation.

v *L. vena*, vein; *volt*.

vacate (vā'kāt) [L. *vacare*, to be empty] In law, to overturn a ruling or judgment.

vaccina (vāk-sī'nā) Vaccinia.

vaccinal (vāk'sin-āl) Rel. to vaccine or to vaccination.

vaccinate (vāk'sin-āt) [L. *vaccinus*, pert. to cows] To inoculate with vaccine to produce immunity against disease.

vaccination (vāk'sī-nā'shūn) [L. *vaccinus*, pert. to cows] 1. Inoculation with any vaccine or toxoid to establish resistance to a specific infectious disease. SEE: *immunization*. 2. A scar left on the skin by inoculation of a vaccine.

antitumor v. The injection of tumor-associated antigens (e.g., from melanomas or other solid tumors) into cancer patients in an attempt to raise a long-lasting and effective immune response against the tumor. The tumor antigen is often presented to the vaccinee in the presence of dendritic cells, in order to improve the presentation of the antigen and heighten the immune response. SYN: *antitumor vaccine*; *tumor vaccine*.

catch-up v. The immunization of unvaccinated children at the most convenient times (e.g., on the first day of school) rather than at the optimal time for antibody production. Because many children miss vaccines at regularly scheduled times, catch-up immunization offers unvaccinated children, their families, and the communities in which they live a second opportunity for disease prevention and control.

mass v. The use of vaccines during an outbreak of a communicable disease in an attempt to prevent an epidemic. In the U.S. mass vaccinations are sometimes carried out in schools and hospitals during meningitis or hepatitis epidemics.

vaccine (vāk'sēn, vāk-sēn') [L. *vaccinus*, pert. to cows] 1. An infectious liquid that Edward Jenner (Brit. physician, 1749–1823) derived from cowpox lesions, and used to prevent and attenuate smallpox in humans. 2. Any suspension containing antigenic molecules derived from a microorganism, given to stimulate an immune response to an infectious disease. Vaccines may be made from weakened or killed microorganisms; inactivated toxins; toxoids derived from microorganisms; or immunologically active surface markers

extracted or copied from microorganisms. They can be given intramuscularly, subcutaneously, intradermally, orally, or intranasally; as single agents; or in combinations. SEE: *Recommended Immunization Schedules Appendix*.

The ideal vaccine should be effective, well-tolerated, easy and inexpensive to manufacture, easy to administer, and easy to store. In practice, vaccine side effects such as fevers, muscle aches, and injection site pain are common but generally mild. Adverse reactions to vaccines that should be reported include anaphylaxis, shock, seizures, active infection, and death. SEE: *immunization*.



Because vaccines may cause side effects, all persons who receive them should carefully review federally mandated Vaccine Information Sheets before they are immunized.

adsorbed anthrax v. A cell-free, aluminum-hydroxide-adsorbed vaccine, administered to raise protective antibodies against *Bacillus anthracis*. *Bacillus anthracis* causes anthrax and has been used in biological warfare.

antitumor v. Antitumor vaccination.

autogenous v. Bacterial vaccine prepared from lesions of the individual to be inoculated. SYN: *homologous vaccine*.

bacterial v. A suspension of killed or attenuated bacteria; used for injection into the body to produce active immunity to the same organism.

BCG v. Bacille Calmette-Guérin vaccine, a preparation of a dried, living but attenuated culture of *Mycobacterium bovis*. In areas with a high incidence of tuberculosis (TB), it is used to provide passive immunity to infants against disseminated TB or TB meningitis, and it affords some protection against leprosy; it is not effective prevention, however, against pulmonary infection with tuberculosis. Among its other shortcomings, the vaccine cannot be used in pregnant women or in immunosuppressed individuals. It also produces hypersensitivity to TB skin tests, making them unreliable for several years. The vaccine can be used in cancer chemotherapy, e.g., to treat multiple myeloma and cancer of the colon, or as a bladder wash in patients with carcinoma of the bladder. SEE: *bacille Calmette-Guérin*.

cholera v. A vaccine prepared from killed or inactivated *Vibrio cholerae*.

diphtheria v. A vaccination against *Corynebacterium diphtheriae*. SEE: *DTaP v.*

DNA v. A vaccine made by genetic engineering in which the gene that codes for an antigen is inserted into a bacterial plasmid and then injected into the host. Once inside the host, it uses the nuclear machinery of the host cell to manufacture and express the antigen. Unlike other vaccines, DNA vaccines may have the potential to induce cellular as well as humoral immune responses.

DPT v. An obsolete combination of diphtheria and tetanus toxoids and killed pertussis bacilli that is no longer given in pediatric immunizations because of the superiority of *DTaP*, a vaccine that contains only acellular pertussis.

DTaP v. A preparation of diphtheria and tetanus toxoids and acellular pertussis proteins. It is used to immunize children against all three infections or adults at high risk of complications of infection with pertussis.

edible v. A genetically manipulated food containing organisms or related antigens that may provide active immunity against infection. Edible vaccines against many microorganisms are being developed, with the goal of using them to vaccinate children in nonindustrialized countries where there are obstacles to the use of traditional injectable vaccines.

v. extraimmunization The giving of excessive or repetitive doses of vaccines to children or adults, usually because of incomplete or inaccurate recordkeeping.

Haemophilus influenzae type b v. ABBR: *HIB*. A vaccine created by combining purified polysaccharide antigen from the *H. influenzae* bacteria and a carrier protein. It reduces the risks of childhood epiglottitis, meningitis, and other diseases caused by *H. influenzae*.

hepatitis B v. A vaccine prepared from hepatitis B protein antigen produced by genetically engineered yeast. The vaccine prevents acute infection with hepatitis B, the chronic carrier state of hepatitis B infection. In developing nations where hepatitis B infection is endemic, it has been shown to decrease the incidence of hepatocellular carcinoma resulting from hepatitis B infection. The World Health Organization has recommended that the vaccine be given to all infants and adolescents, as well as all health care workers and all patients receiving hemodialysis; all incarcerated prisoners; men who have sex with men; and people who inject drugs.

heterogeneous v. A vaccine made from some source other than the patient's own tissues or cells; the opposite of autogenous vaccine.

heterologous v. A vaccine derived from an organism different from the organism against which the vaccine is used.

homologous v. Autogenous v.

HPV v. A vaccine that protects against several types of human papillomavirus infection, specifically those that have been associated with genital warts and cervical cancer.

human diploid cell rabies v. ABBR: *HDCV*. An inactivated virus vaccine prepared from fixed rabies virus grown in human diploid cell tissue culture.

inactivated poliovirus v. An injectable vaccine made from three types of inactivated polioviruses. SYN: *Salk vaccine*.

influenza virus v. A polyvalent vaccine containing either inactivated or live attenuated antigenic variants of the influenza virus (types A and B either individually or combined) for annual usage. It prevents epidemic disease and the morbidity and mortality caused by influenza virus, esp. in the aged and persons with chronic illnesses. The vaccine is reformulated each year to match the strains of influenza present in the population.

killed v. A vaccine prepared from dead microorganisms. This type of vaccine is used to prevent disease caused by highly virulent microbes.

live attenuated influenza v. ABBR: *LAIV*. A live virus vaccine made with influenza viruses adapted to replicate in the nose, sinuses, and pharynx but not in the lower respiratory tract. *LAIV* is typically administered by nasal inhalation rather than by intramuscular injection.

live attenuated measles (rubeola) virus v. A vaccine prepared from live strains of the measles virus. It is the preferred form except in patients who have one of the following: lymphoma, leukemia, or other generalized malignancy; radiation therapy; pregnancy; active tuberculosis; egg sensitivity; prolonged treatment with drugs that suppress the immune response (i.e., corticosteroids or antimetabolites); or administration of gamma globulin, blood, or plasma. Those persons should be given immune globulin immediately following exposure.

live measles and mumps virus v. A standardized vaccine containing attenuated measles and mumps viruses.

live measles and rubella virus v. A standardized vaccine containing attenuated measles and rubella viruses.

live measles, mumps, and rubella virus v. ABBR: *MMR vaccine*. A standardized vaccine containing attenuated measles, mumps, and rubella viruses.

live measles virus v. A standardized

attenuated virus vaccine for use in immunizing against measles.

live oral poliovirus v. A vaccine prepared from three types of live attenuated polioviruses. In 1999, an advisory panel to the Centers for Disease Control and Prevention recommended that its routine use be discontinued. Because it contains a live, although weakened virus, it has caused 8 to 10 cases of polio each year. This risk is no longer acceptable now that the polio epidemic has been eliminated in the U.S. SYN: *Sabin vaccine*.

live rubella virus v. An attenuated virus vaccine used to prevent rubella (German measles). All nonpregnant susceptible women of childbearing age should be provided with this vaccine to prevent fetal infection and the congenital rubella syndrome (i.e., possible fetal death, prematurity, impaired hearing, cataract, mental retardation, and other serious conditions). SEE: *rubella*.



Women of child-bearing age who receive vaccination are advised to use effective birth control measures for at least 3 months following the immunization. Before administering the RA27/3 rubella vaccine, a history of allergies (especially to neomycin) and of reactions to previous vaccinations should be obtained, and the primary care provider made aware of any problems. Individuals who are immunocompromised for any reason should not receive this vaccine, which is more immunogenic than previous preparations.

Lyme disease v. A vaccine that uses as an antigen either the outer surface protein (OspA) of *Borrelia burgdorferi* (the spirochete that causes Lyme disease) or the decorin protein of the same microbe. Lyme vaccine is available in the U.S. for veterinary use only.

meningococcal v. A vaccine prepared from bacterial polysaccharides from certain types of meningococci. Meningococcal polysaccharide vaccines A, C, Y, and W135 are available for preventing diseases caused by those serogroups. A vaccine for meningococcal serogroup B is not available. SEE: *meningitis, acute meningococcal*.

mumps v. A live attenuated vaccine used to prevent mumps. Its use should be governed by the same restrictions listed for live attenuated measles virus vaccine.

peptide v. A vaccine that stimulates antibody production against specific amino acid sequences, e.g., those expressed on the surface of pathogens or cancer cells.

pertussis v. A vaccine against *Bordetella pertussis*. SEE: *DTaP v.*

plague v. A vaccine made either from a crude fraction of killed plague bacilli, *Yersinia pestis*, or synthetically from recombinant proteins. It is rarely used, except in a laboratory or for field workers in areas where plague is endemic.

polyvalent v. A vaccine produced from cultures of a number of strains of the same species.

polyvalent pneumococcal v. A vaccine that contains 23 of the known 83 pneumococcal capsular polysaccharides, and induces immunity against *Streptococcus pneumoniae*, a gram-positive bacterium that causes ear, sinus, lung, blood, and meningeal infections. This vaccine is used to prevent pneumococcal disease in persons with sickle cell diseases; alcoholism; asplenia; chronic heart, lung, liver, or kidney disease; diabetes mellitus; and immunological illnesses; and in people over the age of 65.

PATIENT CARE: The value of vaccination is continually rising, as *Streptococcus pneumoniae* becomes more and more resistant to antibiotics. The vaccine should not be coadministered in the same syringe as other vaccines. Common adverse reactions include pain at the site of injection and sometimes a low-grade fever.

pneumococcal 7-valent conjugate v. A pneumococcal vaccine used for active immunization of infants and toddlers. The vaccine contains antigens from 7 capsular serotypes of *Streptococcus pneumoniae*.

rabies v. A vaccine prepared from killed rabies virus used for pre-exposure immunization for persons at high occupational risk. Following a bite by a rabid animal, both the vaccine and rabies immune globulin, containing preformed antibodies, are given. SEE: *human diploid cell rabies v.; rabies*.

reassortant v. A vaccine made by combining antigens from several viruses or from several strains of the same virus.

Sabin v. Live oral poliovirus v. SEE: *poliomyelitis*.

Salk v. SEE: *Salk vaccine*.

sensitized v. A vaccine prepared from bacteria treated with their specific immune serum.

smallpox v. A vaccine used to provide immunity against smallpox, one of the deadliest infections in the history of humanity. The vaccine is made from live vaccinia virus (not from the smallpox virus). Similarities between the two viruses make the vaccine about 95% effective in preventing smallpox in those people exposed to the virus. Smallpox vaccine was not used for many years because smallpox had been eradicated worldwide. However, concerns over the

use of smallpox as a biological weapon have resulted in vaccination of persons at high risk (e.g., public health workers, health care response teams, members of the armed services). The general public is not being vaccinated. The CDC recommends that persons who could be exposed to the monkeypox virus should also be vaccinated against smallpox. **SEE: illus.**

tetanus v. A vaccine against *Clostridium tetani*. **SEE: DTaP v.**

tumor v. Antitumor vaccination.

typhoid v. One of two forms of vaccine against typhoid fever. Attenuated (weakened) live virus is used for an oral vaccine taken in four doses by adults and children over age 6; it provides protection for 5 years. This vaccine should not be given to persons taking antimicrobial drugs or to those with AIDS. A parenteral type of the vaccine, made from the capsular polysaccharide of *Salmonella typhi*, given to children at least 6 months old, requires two doses 4 weeks apart, is effective 55% to 75% of the time, and lasts 3 years.

typhus v. A sterile suspension of the killed rickettsial organism of a strain or strains of epidemic typhus rickettsiae.

varicella (chickenpox) v. A chickenpox vaccine prepared from attenuated virus. **SEE: chickenpox; herpes zoster.**

yellow fever v. A vaccine made from a live attenuated strain of yellow fever that protects against this tropical, mosquito-borne, viral hemorrhagic fever.

vaccine adverse event reporting system **ABBR: VAERS.** A national surveillance system for monitoring undesirable reactions to administered vaccines.

vaccine safety datalink project **ABBR: VSD.** A collaboration between the Centers for Disease Control and Prevention and several major managed care organizations and health insurers to assess the effects of vaccinations on public health. The VSD has studied the effects of vaccination on autism, hair loss, thrombocytopenia, and neurological development in children. **Website: www.cdc.gov/od/science/iso/**

vaccine therapy Injection of infectious organisms, particles, or antigens to produce active immunization against a disease. **SYN: opsonic therapy.**

vaccinia (vāk-sin'ē-ă) [L. *vaccinus*, pert. to cows] A contagious disease of cattle, produced in humans by inoculation with cowpox virus to confer immunity against smallpox. Papules form about the third day after vaccination, changing to umbilicated vesicles about the fifth day, and at the end of the first week becoming umbilicated pustules surrounded by red areolae. They dry and form scabs, which fall off about the second week, leaving a white pitted depression. **SYN: coupox; vaccina.** **SEE: vaccination; varicella; variola.**

v. necrosum Spreading necrosis at the site of a smallpox vaccination; may be accompanied by similar necrotic areas elsewhere on the body. **SYN: progressive vaccinia.**

progressive v. v. necrosum.

vaccinia immune globulin An immune globulin containing vaccinia-specific antibodies. It is used for dermal complications of vaccination for smallpox (i.e., severe eczema vaccinatum and progressive vaccinia). An intravenous formulation (IV-VIG) is now being produced and tested.

vacciniform (vāk-sin'ī-form) [L. *vaccinus*, pert. to cows, + *forma*, shape] Of the nature of vaccinia or cowpox.

Vaccinium macrocarpon (vāk-sin'ē-üm māk'rō-kār'pün) [L. blueberry + Gr. *makros*, long + *karpos*, fruit] The scientific name for cranberry.

vaccinogenous (vāk'sin-ōj'ën-ūs) [L. *vaccinus*, pert. to cows, + Gr. *gennan*, to produce] Producing vaccine or pert. to its production.

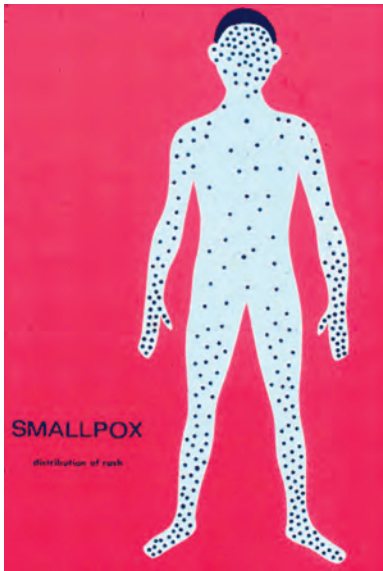
vaccinosis (vāk-sin-ō'sis) Chronic illness, discomfort, or malaise that results from immunization.

vaccinostyle (vāk-sin'ō-stil) A pointed stylus used in vaccination.

vacuolar (vāk'ū-ō-lär) [L. *vacuum*, empty] Pert. to or possessing vacuoles.

vacuolated (vāk'ū-ō-lät'éd) Possessing or containing vacuoles.

vacuolation (vāk'ū-ō-lä'shün) Formation of vacuoles. **SYN: vacuolization.**



SMALLPOX

Centripetal distribution.

vacuole (vāk'ū-ōl) [L. *vacuum*, empty] A membrane-bound cell organelle, which may contain water, secretions, enzymes, or the remains of ingested material.

autophagic v. A vacuole that contains recognizable fragments of the ribosomes or mitochondria.

contractile v. A cavity filled with fluid in the cytoplasm of a protozoan. The cavity is emptied by sudden contraction of its walls.

heterophagous v. A vacuole that contains substances that come from outside the cell.

plasmocrine v. A vacuole present in the cytoplasm of a secretory cell that is filled with crystalloid material.

rhagiocrine v. A vacuole present in the cytoplasm of a secretory cell that is filled with colloid material.

vacuolization (vāk'ū-ō-li-zā'shūn) [L. *vacuum*, empty] Vacuolation.

vacuum (vāk'ū-ūm) [L., empty] A space exhausted of its air content.

vacuum aspiration Evacuation of the uterine contents by means of a curet or catheter attached to a suction apparatus. The procedure is performed before the 12th week of gestation.

vacuum extractor A device for applying traction to the fetus during delivery by using a suction cup attached to the fetal head. Its use may be hazardous except in the hands of experts.

vacuum tube A vessel of insulating material (usually glass) that is sealed and has a vacuum sufficiently high to permit the free flow of electrons between the electrodes that extend into the tube from the outside. In England, it is called a vacuum valve.

vagabond's disease Discoloration of the skin caused by exposure and scratching owing to the presence of lice. SEE: *pediculosis corporis*.

vagal (vā'gāl) [L. *vagus*, wandering] Pert. to the vagus nerve.

vagal attack Vasodepressor syncope.

vagal maneuver Any physical action that increases parasympathetic tone and decreases the conduction of the electrical impulses of the heart. Vagal maneuvers may be used as first-line interventions in the evaluation or management of supraventricular tachycardias. Examples include bearing down or straining; massaging the carotid sinus; coughing; gagging; or immersing the face or neck in ice water. SEE: *Valsalva's maneuver*.

vagi (vā'gī) Pl. of vagus.

vagin- SEE: *vagino-*.

vagina (vā-jī'nā) *pl. vaginae, vaginas* [L., sheath] A musculomembranous tube that forms the passageway between the cervix uteri and the vulva.

SEE: *illus.*

ANATOMY: In the uppermost part,

the cervix divides the vagina into four small vaulted cavities, called fornices: two lateral, the anterior, and the posterior. The bladder and urethra are adjacent to the anterior wall of the vagina, and the rectum is behind the posterior wall. The cavity of the vagina is a potential space; the walls are usually in contact with each other. Close to the cervix uteri the walls form a horizontal crescent shape, at the midpoint an H shape, and close to the vulva the shape of a vertical slit. The vaginal mucosa is stratified squamous epithelium that is very resistant to bacterial colonization. This lining is in folds called rugae, and the connective tissue external to it also permits stretching. The blood supply of the vagina is furnished from the inferior vesical, inferior hemorrhoidal, and uterine arteries. Except for the area close to the entrance, the vaginal tissue and mucosa contain few, if any, sensory nerve endings. The vagina is a passage for the insertion of the penis, for the reception of semen, and for the discharge of the menstrual flow. It also serves as the birth canal.

artificial v. A vagina constructed by plastic surgery for a patient whose vagina was removed for treatment of carcinoma or one who has congenital absence of the vagina.

bulb of v. The small erectile body on each side of the vestibule of the vagina. SEE: *vestibule of vagina*.

foreign bodies in v. Objects that enter the vagina accidentally or are inserted deliberately. A great variety of foreign bodies may be present in the vagina, esp. in children. Some foreign bodies in adults include vaginal tampons, pessaries, and contraceptive diaphragms. The treatment is to remove the foreign body. Antibiotic therapy is not usually necessary.

septate v. A congenital condition in which the vagina is divided longitudinally into two parts. This division may be partial or complete.

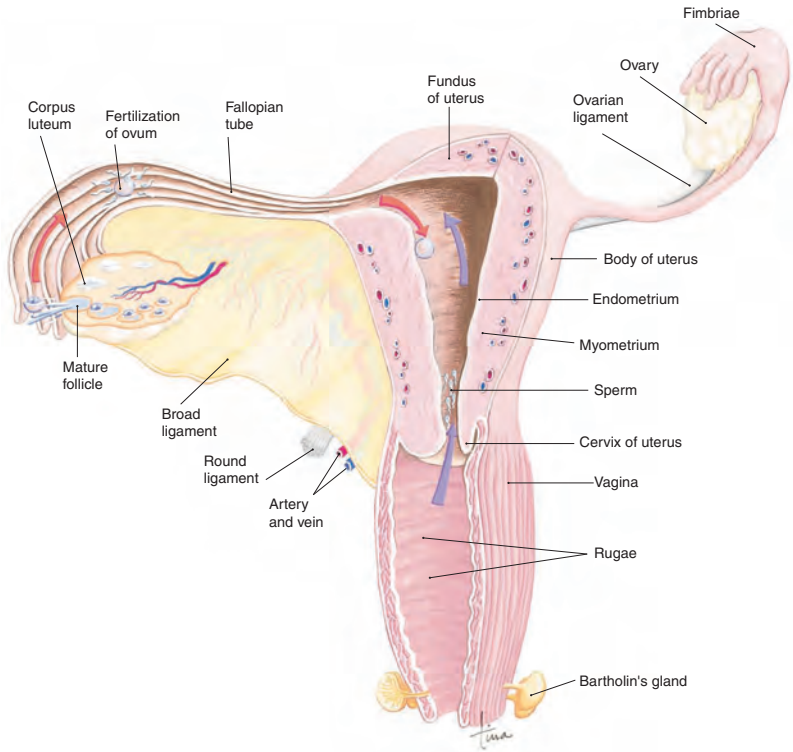
vaginal (vāj'in-āl) [L. *vagina*, sheath] Pert. to the vagina or to any enveloping sheath.

vaginal birth after previous cesarean ABBR: VBAC. Vaginal childbirth subsequent to cesarean delivery of a previous pregnancy. The risk of uterine rupture is 1% to 2%.

vaginal intraepithelial neoplasia ABBR: VAIN. Vulvar intraepithelial neoplasia.

vaginalitis (vāj-in-āl-ī'tīs) [v + Gr. *itis*, inflammation] Inflammation of the tunica vaginalis testis.

vaginal lubricant A fluid, usually a water-soluble ointment or cream, used to reduce vaginal dryness or sexual friction. As a lubricant, petroleum jelly is of little or no value. Estrogen-containing



VAGINA AND OTHER FEMALE ORGANS

vaginal creams reduce friction-associated discomfort related to postmenopausal atrophy. A natural and effective lubricant is human saliva.

vaginal vibrator A device used for erotic stimulation. It is usually applied to the clitoris or intravaginally.

vaginapexy (vāj'īn-ă-pĕk'sē) [v + Gr. *pexis*, fixation] Repair of a relaxed and prolapsed vagina. SYN: *colpopexy*.

vaginate (vāj'īn-āt) [L. *vaginatus*] Forming or enclosed in a sheath.

vaginectomy (vāj-īn-ĕk'tō-mē) [L. *vagina*, sheath, + Gr. *ektome*, excision]

1. Vaginectomy. 2. Excision of the vagina or a part of it.

vaginismus (vāj'īn-īz'mūs) [L.] Painful spasm of the vagina from contraction of the outer third of the muscles surrounding it, a condition that may interfere with coitus. SEE: *Nursing Diagnoses Appendix*.

Severe vaginismus may prevent intercourse. Its origin may be physical or psychological. Diagnosis is based on pelvic examination (to rule out vaginal infections or structural anomalies) and sexual history, including childhood experiences and familial attitudes and current sexual practices and responses.

PATIENT CARE: Patients with vaginismus need factual information and emotional support. Information about sexual concerns, practices, and responses should be geared specifically to the problem or question posed by the patient. Correcting myths and misinformation and teaching the woman about the range of normal sexual responses can be helpful. Treatments include pelvic relaxation exercises, sex therapy, counseling and cognitive behavioral therapy, and instrumental dilator therapy, among others. Addressing the patient's emotional concerns provides psychological support. The woman should be helped to attain security and comfort in her own sensate sexual responses. Additional suggestions for patients may include advice about extending foreplay to increase vaginal relaxation and lubrication.

vaginitis (vāj-īn-ī'tīs) [L. *vagina*, sheath, + Gr. *itis*, inflammation] 1. Inflammation of a sheath. 2. Inflammation of the vagina. SYN: *colpitis*. SEE: *sexually transmitted disease; Nursing Diagnoses Appendix; vulvovaginitis*.

ETIOLOGY: This condition may be caused by overgrowth or invasion of mi-

croorganisms such as gonococci, Chlamydiae, *Gardnerella vaginalis*, staphylococci, streptococci, spirochetes; viruses such as herpes; irritation from chemicals in douching, hygiene sprays, detergents, menstrual products, or toilet tissue; fungal infection (candidiasis) caused by overgrowth of *Candida albicans*; or less commonly other candidal species, protozoal infection (*Trichomonas vaginalis*); neoplasms of the cervix or vagina; poor hygiene, irritation from foreign bodies (e.g., a pessary or a retained tampon), or vulvar atrophy. Other rare causes are parasitic illnesses, or, in malnourished women, pellagra.

SYMPTOMS: The patient experiences vaginal discharge, sometimes malodorous and occasionally stained with blood; irritation, burning, or itching; increased urinary frequency; and pain during urination or examination. On examination, the vaginal mucous membrane is reddened and there may be superficial maceration or ulceration.

TREATMENT: Specific therapy is given as indicated for the underlying cause. Improved perineal hygiene is emphasized by instructing in the proper method of cleaning the anus after a bowel movement, the proper use of menstrual protection materials, and the necessity of drying the vulva following urination.

PREVENTION: Perineal hygiene is emphasized by instructing patients in the proper method of cleaning the anus after a bowel movement, the proper use of menstrual protection materials, and the necessity of drying the vulva following urination. Patients should be encouraged to wear all cotton underpants, or panties with a cotton crotch area, no underwear to bed, and advised to avoid tight-fitting pants and panty-hose that promote moisture and organism growth.

PATIENT CARE: During examination of the patient, aseptic technique is used to collect specimens. The health care provider supports the patient throughout the procedures, explaining each procedure and forewarning the patient of possible discomfort. The patient should be advised that persistent or recurrent candidiasis indicate a need to be assessed for pregnancy or diabetes mellitus. If vaginitis is due to a sexually transmitted disease, the sexual partner should receive treatment together with the patient to prevent reinfection. Certain sexually transmitted vaginal infections are reported to local or state public health officials along with the patient's known sexual contacts.

v. adhaesiva Inflammation of the vagina causing adhesions between its walls.

atrophic v. Postmenopausal thinning and dryness of the vaginal epithelium related to decreased estrogen levels. SYN: *postmenopausal vaginitis*; *senile vaginitis*.

Symptoms include burning and pain during intercourse. Estrogen replacement therapy, hormone replacement therapy, or application of topical estrogen restores the integrity of the vaginal epithelium and supporting tissues and relieves symptoms.

candidal v. A yeast infection caused by *Candida albicans*.

Symptoms include a thick, curdlike adherent discharge; itching; dysuria; and dyspareunia. The vulva and vagina are bright red. History usually reveals one or more risk factors: use of oral contraceptives or broad-spectrum antibiotics; immune defects; diabetes mellitus; pregnancy; or frequent douching. Diagnosis is established by the presence of hyphae and buds on a wet smear treated with 10% potassium solution, a pH of 4.5 or less, and/or of growth of culture on Nickerson's or Sabouraud's media. Treatment may include the use of topical or antifungal agents, or both. Oral fluconazole, given once, or topical applications of miconazole, clotrimazole, butoconazole, or terconazole, given 3 to 7 days, promptly relieve symptoms. Recurrence of symptoms after treatment is often due to presence of candida species other than *C. albicans*, presence of a mixed infection, or reinfection. Either use of a different agent or a longer course of treatment (14 to 21 days) is indicated, as well as testing for hyperglycemia. SYN: *moniliasis*.

chlamydial v. The most common sexually transmitted vaginal infection in the U.S., caused by an obligate intracellular parasite, *Chlamydia trachomatis*. Chlamydial infection is also a major cause of pelvic inflammatory disease, tubal occlusion, infertility, ectopic pregnancy, nongonococcal urethritis, and ophthalmia neonatorum. Asymptomatic chlamydial infection has been implicated in the development of preterm labor and birth in high-risk women. Symptoms include a thin or purulent vaginal discharge, dysuria, and lower abdominal pain. Diagnosis is established by testing for specific monoclonal antibodies. Doxycycline is the drug of choice, except during pregnancy (it damages fetal bone and tooth formation). During pregnancy the infection is treated with erythromycin or azithromycin. SEE: *Chlamydia*.

diphtheritic v. Vaginitis with membranous exudate caused by infection with *Corynebacterium diphtheriae*.

emphysematous v. A rare, benign vaginitis with gas-bubble formation in the vaginal wall.

granular v. Vaginitis with cellular infiltration and enlargement of papillae.

nonspecific v. A rare condition in which no particular factor or etiological agent is identifiable; a contact-related allergic response may be involved. The inflammation usually resolves spontaneously. Treatments include topical creams and ointments. SEE: *bacterial vaginosis*.

DIAGNOSIS: The diagnosis is established when clinical symptoms of vaginitis are present, but no organisms are found in laboratory specimens.

postmenopausal v. Atrophic v.

senile v. Atrophic v.

v. testis Inflammation of the tunica vaginalis of the testis.

Trichomonas vaginalis v. An inflammation of the vagina caused by flagellate protozoa that infect the vagina, urethra, and Skene's ducts. Although the individual inflammatory response can include severe vulvar irritation and burning, dysuria, dyspareunia, and profuse, thin, "frothy," yellow-green to gray discharge, nearly 50% of infected women are asymptomatic. Sixty percent of the sexual partners of infected women share the infection. On inspection, the vulva may appear reddened and edematous. About 10% of infected women exhibit characteristic "strawberry patches" in the upper vagina and upper cervix. Diagnosis is based on seeing the highly motile organism with three to five flagella in a saline wet smear. Oral metronidazole is the organism-specific treatment. SEE: *Trichomonas*.

vagino-, vagin- [L. *vagina*, sheath] Combining forms meaning *vagina*.

vaginoabdominal (vāj'īn-ō-āb-dōm'īn-āl) [L. *vagina*, sheath, + *abdominalis*, abdominal] Rel. to the vagina and abdomen.

vaginocele (vāj'īn-ō-sēl) [" + Gr. *kele*, tumor, swelling] Vaginal hernia. SYN: *colpocele*.

vaginodynia (vāj'īn-ō-dīn'ē-ā) [" + Gr. *odyne*, pain] Pain in the vagina.

vaginogenic (vāj'īn-ō-jēn'īk) [" + Gr. *gennan*, to produce] Developed from or originating in the vagina.

vaginogram (vāj'īn-ō-grām) [" + *gramma*, something written] A radiograph of the vagina.

vaginography (vāj'īn-ōg'rā-fē) [" + Gr. *graphein*, to write] Radiography of the vagina. This technique is useful in diagnosing ureterovaginal fistula.

vaginolabial (vāj'īn-ō-lā'bē-āl) [" + *labium*, lip] Rel. to the vagina and labia.

vaginometer (vāj'īn-ōm'ētēr) [" + Gr. *metron*, measure] A device for measuring the length and expansion of the vagina.

vaginomycosis (vāj'īn-ō-mī-kō'sīs) [" + Gr. *mykes*, fungus, + *osis*, condition]

A fungus infection (mycosis) of the vagina.

vaginopathy (vāj'ī-nōp'ā-thē) [" + Gr. *pathos*, disease, suffering] Any disease of the vagina.

vaginoperineal (vāj'īn-ō-pēr'ī-nē'āl) [" + Gr. *perinaion*, perineum] Rel. to the vagina and perineum.

vaginoperineoplasty (vāj'īn-ō-pēr'ī-nē'ō-plās'tē) Plastic surgery involving the vagina and perineum.

vaginoperineorrhaphy (vāj'īn-ō-pēr'ī-nē-or'āf-ē) [" + " + *rhaphe*, seam, ridge] Repair of a laceration involving both the perineum and vagina. SYN: *colpoperineorrhaphy*.

vaginoperineotomy (vāj'īn-ō-pēr'īn-ē-ōt'ō-mē) [" + " + *tome*, incision] Surgical incision of the vagina and perineum; usually done to facilitate childbirth. SEE: *episiotomy*.

vaginoperitoneal (vāj'īn-ō-pēr'ī-tō-nē'āl) Rel. to the vagina and peritoneum.

vaginoplasty (vā-jī'nō-plās'tē) [" + Gr. *plassein*, to form] Plastic surgery on the vagina.

vaginoscope (vāj'īn-ō-skōp) [" + Gr. *skopein*, to examine] An instrument for inspection of the vagina. This may be a speculum or an optical instrument.

vaginoscopy (vāj'īn-ōs'kō-pē) Visual examination of the vagina.

vaginosis, bacterial (vāj'ī-nō'sīs) SEE: *bacterial vaginosis*.

vaginotomy (vāj'ī-nōt'ō-mē) [" + Gr. *tome*, incision] Incision of the vagina.

vaginovesical (vāj'ī-nō-vēs'ī-kāl) [" + *vesica*, bladder] Pert. to the vagina and bladder.

vaginovulvar (vāj'īn-ō-vūl'vār) [" + *vulva*, covering] Vulvovaginal.

vagitis (vā-jī'tīs) [L. *vagus*, wandering, + Gr. *itis*, inflammation] Inflammation of the vagal nerve.

vagitus (vā-jī'tūs) [L. *vagire*, to squall] The first cry of a newborn.

v. uterinus The crying of a fetus while still in the uterus.

v. vaginalis The cry of an infant with its head still in the vagina.

vagolysis (vā-gōl'ī-sīs) [L. *vagus*, wandering, + Gr. *lysis*, dissolution] Surgical destruction of the vagus nerve.

vagolytic (vā'gō-lit'īk) **1.** Concerning vagolysis. **2.** An agent, surgical or chemical, that prevents function of the vagus nerve.

vagomimetic (vā'gō-mī-mēt'īk) [" + Gr. *mimetikos*, imitating] Resembling action caused by stimulation of the vagus nerve.

vagotomy (vā-gōt'ō-mē) [" + Gr. *tome*, incision] Section of the vagus nerve.

medical v. Administration of drugs to prevent function of the vagus nerve.

vagotonia (vā'gō-tō'nē-ā) [" + Gr. *tonos*, tension] Hyperirritability of the parasympathetic nervous system. SEE: *sympatheticotonia*. **vagotonic**, *adj.*

vagotropic (vā'gō-trōp'ik) [v + Gr. *tropos*, a turning] Acting on the vagus nerve.

vagotropism (vā-gōt'rō-pizm) [v + -ismos, condition] Affinity for the vagus nerve, as a drug.

vagovagal (vā'gō-vā'gāl) Concerning reflex activity mediated entirely through the vagus nerve (i.e., via efferent and afferent impulses transmitted through the vagus nerve).

vagrant (vā'grānt) [L. *vagrans*] **1.** Wandering from place to place without a fixed home. **2.** A homeless person who wanders from place to place.

vagus nerve stimulation A treatment for seizures and treatment-resistant depression in which a generator sends electrical impulses along the left vagus nerve. The impulse generator is typically inserted under the clavicle on the left side of the chest during a brief surgical procedure. The device is set to generate electrical impulses of appropriate amplitude, frequency, and pulse width to control a patient's symptoms.

VAIN *vaginal intraepithelial neoplasia*.
val valine.

valence, valency (vā'lēns, -lēn-sē) [L. *valens*, powerful] **1.** The property of an atom or group of atoms causing them to combine in definite proportion with other atoms or groups of atoms. Valency may be as high as 8 and is determined by the number of electrons in the outer orbit of the atom. **2.** The degree of the combining power or replacing power of an atom or group of atoms, the hydrogen atom being the unit of comparison. The number indicates how many atoms of hydrogen can unite with one atom of another element.

valerian (vā-lēhr'ē-an) A perennial herb, *Valeriana officinalis*, used as a sedative and sleep aid. The drug acts by inhibiting the breakdown of gamma-aminobutyric acid in the brain. It may interact with other sedatives and hypnotics such as alcohol and barbituates.

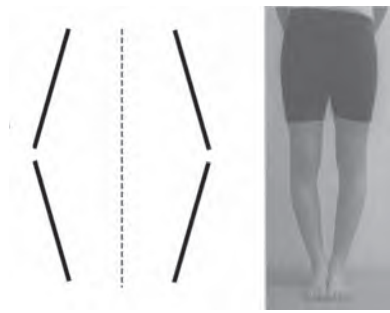
valgus (vāl'gūs) [L., bowlegged] Bent or turned outward, used esp. of deformities in which the most distal anatomical part is angled outward and away from the midline of the body, as talipes valgus or hallux valgus. **SEE:** *illus.*; *knock-knee*; *varus*.

valid (vāl'id) [L. *validus*, strong] Producing the desired effect; correct.

validate (vāl'ī-dāt) To ensure that the item in question is valid and correct.

validation, consensual The process of testing thoughts, emotions, and behaviors with other human beings. The desired outcome is acknowledgment of similar viewpoints and feelings.

validation group In research, a group of subjects who are enrolled to determine whether the findings obtained from a



VALGUS

previous cohort apply to a different cohort and are generally applicable.

validation therapy A communication technique used for patients with moderate to late dementia in which the caregiver makes statements to the patient that demonstrate respect for the patient's feelings and beliefs. This method helps prevent argumentative and agitated behavior. In some cases, the caregiver may need to agree with the patient's statements, even though they are not true or real. It is used when reality orientation is not successful.

validity (vā-līd'ī-tē) **1.** The degree to which data or results of a study are correct or true. **2.** The extent to which a situation as observed reflects the true situation.

concurrent v The degree to which two measuring devices or methods agree with each other; the degree to which an unproven measurement instrument matches the results obtained by an instrument known to provide accurate results.

construct v. The degree to which a measurement accurately counts the objects it is intended to evaluate; the fitness of a test to its target or to the theory that it is intended to illuminate. Imagine that a researcher wants to determine how important spirituality is to survival in patients with cancer. She may design a test to measure spirituality. As a first approximation she decides to measure the number of times per month that her subjects attend religious services and to correlate that number with months of survival after the diagnosis of cancer. Now, suppose she finds that people who report themselves as attending church frequently do not survive cancer more than individuals who rarely attend church. There are at least two possible explanations for her findings: 1. spirituality is unrelated to cancer survival; or, 2. her test of spirituality did not have construct validity, i.e., the number of times a month that a person attends church may prove to be an inaccurate measure of religious faith.

face v. Plausibility, that is, logically reasonable or acceptable and therefore, assumed to be true.

predictive v. The degree to which a test's measurement of current variables accurately forecast future results or outcomes.

valine (vāl'ēn, vā'lēn) ABBR: val. A branched-chain amino acid, $C_5H_{11}NO_2$, derived from digestion of proteins. It is essential in the diet, esp. for normal growth in infants.

valinemia (vāl'ī-nē'mē-ā) An increased concentration of valine in the blood, usually caused by a deficiency of the enzyme valine transaminase.

vallate (vāl'āt) [L. *vallatus*, walled] Having a rim around a depression.

vallecula (vāl-lēk'ū-lā) [L., a depression] A depression or crevice.

v. cerebelli A deep fissure on the inferior surface of the cerebellum.

v. epiglottica A depression lying lateral to the median epiglottic fold and separating it from the pharyngoepiglottic fold.

v. ovata A depression in the liver in which rests the gallbladder.

valley fever Coccidioidomycosis.

vallum unguis (vāl'ūm ūng'gwīs) The fold of skin overlapping the nail.

Valsalva's maneuver (vāl-sāl'vāz) [Antonio Maria Valsalva, It. anatomist, 1666–1723] An attempt to forcibly exhale with the glottis, nose, and mouth closed. This maneuver causes increased intrathoracic pressure, slowing of the pulse, decreased return of blood to the heart, and increased venous pressure. If the eustachian tubes are not obstructed, the pressure on the tympanic membranes also will be increased. When this maneuver is done with just the glottis closed, only intrathoracic pressure will increase. This maneuver may be helpful in converting supraventricular tachycardias to normal sinus rhythm or in clearing ears that have become blocked during a descent from a high altitude. SEE: *Müller's maneuver*; *Toynbee maneuver*.

valsartan (vāl-sār'tān) An angiotensin II receptor antagonist and hypertensive, administered orally to manage hypertension. SYN: *Diovan*.

value (vāl'ū) [ME. from L. *valere*, to be of value] 1. The amount of a specific substance or the magnitude of an entity. 2. Something that is cherished or held dear.

valve (vālv) [L. *valva*, leaf of a folding door] Any of various membranous structures in a hollow organ or passage that temporarily close to permit the flow of fluid in one direction only.

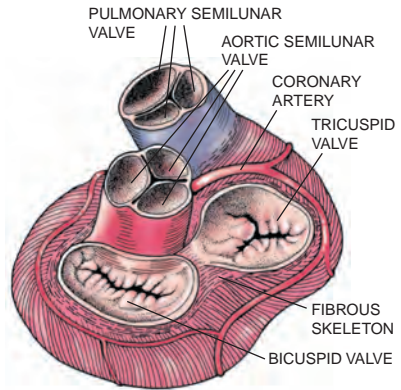
aortic v. The valve at the junction of the left ventricle and the ascending aorta. It is composed of three segments

(semilunar cusps) and prevents regurgitation. SEE: *cardiac v.* for illus.

bicuspid v. Mitral valve.

Bjork-Shiley heart v. A synthetic artificial heart valve that is no longer commercially available but remains implanted in thousands of patients. The valve has been known to fracture at its struts during use, which results in death in the majority of cases.

cardiac v. Any of the four valves that prevent the backflow of blood as it passes into, through, and out of the heart. In order of the entry of the venous blood into the right atrium, they are the tricuspid, pulmonary, mitral, and aortic. SEE: *illus.*



CARDIAC VALVES

Superior view with atria removed

external nasal v. The outermost opening of the nose (i.e., the alar rim).

Houston's v. SEE: *Houston's valve*.

ileocecal v. A projection of two membranous folds of the ileum of the small intestine into the cecum of the colon. It prevents backup of fecal material into the small intestine. SYN: *valvula coli*.

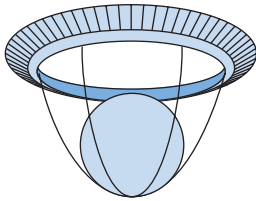
left atrioventricular v. Mitral valve.

mitral v. SEE: *mitral valve*.

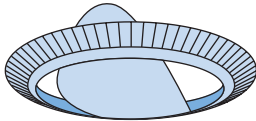
nasal v. The site of greatest obstruction to airflow through the nasal passages. It extends from the bony cage near the piriform aperture into part of the cartilaginous vestibule of the nose. It is also known as the "internal nasal valve."

prosthetic heart v. A substitute valve used to replace a diseased valve. There are two main types of prostheses: those made from biological tissues (e.g., the heart valves of animals, esp. pigs) and those made from biocompatible materials (e.g., metals or polymers). Biocompatible mechanical valves may be constructed in a variety of ways, e.g., from a ball that moves up and down in a cage; with bileaflet valves that close in the midline; or with a single leaflet

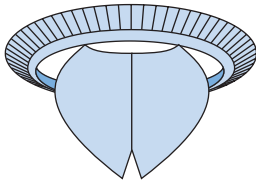
(which tilts to open and close). SEE: *illus.*



Caged ball valve



Monoleaflet



Bileaflet

TYPES OF MECHANICAL HEART VALVES

A. caged ball valve; B. monoleaflet. C. bileaflet

pulmonary v. The valve at the junction of the right ventricle and pulmonary artery. It is composed of three semilunar cusps and prevents regurgitation of blood from the pulmonary artery back into the right ventricle. SEE: *cardiac v.* for *illus.*

pyloric v. The prominent circular membranous fold at the pyloric orifice of the stomach. SYN: *valvula pylori*.

reducing v. A device to reduce the pressure of gas that has been compressed in a cylinder.

right atrioventricular v. Tricuspid v.

semilunar v. The type of valve separating the heart and aorta and the heart and pulmonary artery. SEE: *cardiac v.* for *illus.*

tricuspid v. The valve that closes the orifice between the right cardiac atrium and right ventricle during ventricular systole. SYN: *right atrioventricular valve*; *valvula tricuspidalis*. SEE: *cardiac v.* for *illus.*

valvectomy (vāl-vĕk'tō-mĕ) Surgical excision of a valve, esp. a heart valve. SEE: *valvuloplasty*.

valvotomy (vāl-vōt'ō-mĕ) [*v* + Gr. *tome*, incision] Valvulotomy.

mitral balloon v. Expansion of a balloon in the orifice of a mitral valve as a means of treating mitral stenosis, instead of mitral valve replacement or commissurotomy. SYN: *valvuloplasty*.

valvula (vāl'vū-lā) *pl. valvulae* [L., a small fold] A valve, specifically a small valve.

v. coli Ileocecal valve.

valvulae (vāl'vū-lē) Pl. of valvula.

valvular (vāl'vū-lār) [L. *valvula*, a small fold] Rel. to or having one or more valves.

valvulitis (vāl'vū-lī'tis) [*v* + Gr. *itis*, inflammation] Inflammation of a valve, esp. a cardiac valve.

valvuloplasty (vāl'vū-lō-plās'tē) Plastic or restorative surgery on a valve, esp. a cardiac valve.

percutaneous balloon v. The percutaneous insertion of one or more balloons across a stenotic heart valve. Inflating the balloons decreases the constriction. This technique has been used to treat mitral and/or pulmonic stenosis.

valvulotome (vāl'vū-lō-tōm) [*v* + Gr. *tome*, incision] An instrument for incising a valve.

valvulotomy (vāl'vū-lōt'ō-mĕ) The process of cutting through a valve. SYN: *valvotomy*.

vanadium (vā-nā'dē-ŭm) [*Vanadis*, a Scandinavian goddess] SYMB: V. A light gray metallic element; atomic weight, 50.941; atomic number, 23.

van Buren's disease (vān bū'rĕnz) [William Holme van Buren, U.S. surgeon, 1819–1883] Induration of the corpora cavernosa of the penis. SYN: *Peyronie's disease*.

Vandellia cirrhosa (vān-dĕl'ĕ-ā sī-rō'sā) [NL] A slender parasitic catfish indigenously to the Amazon. It attaches itself to the gills of other spiny fishes and extracts blood for food. It occasionally swims into and inserts itself in the urethra or rectum of human bathers, from whom it must be surgically removed. This nearly transparent vertebrate is also known as the "toothpick fish," "vampire fish," "carnero," or "candiru urethra."

van der Hoeve's syndrome (vān'dĕr hōvz") [Jan van der Hoeve, Dutch ophthalmologist, 1878–1952] Conductive deafness caused by otosclerosis-like changes in the temporal bone. Blue sclerae and osteogenesis imperfecta are also present.

van der Waals forces (vān'dĕr-wōlz) [Johannes D. van der Waals, Dutch physicist, 1837–1923] The definite but weak forces of attraction between the nuclei of atoms of compounds. These forces do not result from ionic attraction, hydrogen bonding, or sharing of electrons, but rather from the motion of electrons in atoms and molecules.

vanilla (vā-nīl'ä) [Sp. *vainilla*, little sheath] Any one of a group of tropical orchids. The cured seed pods of *Vanilla planifolia* contain an aromatic substance, also called vanilla, that is used for flavoring.

vanillin (vā-nīl'in) A crystalline compound found in vanilla pods or produced synthetically; used for flavoring foods and in pharmaceuticals.

vanillism (vā-nīl'izm) Irritation of the skin, mucous membranes, and conjunctiva sometimes experienced by workers handling raw vanilla. It is caused by a mite.

vanillylmandelic acid ABBR: VMA. 3-methoxy-4-hydroxymandelic acid. Metabolic product of catecholamines representing approx. 90% of the metabolites of catecholamines epinephrine and norepinephrine. VMA's are secreted in the urine. Persons with pheochromocytoma produce excess amounts of catecholamines; thus, increased amounts of VMA are present in their urine.

van't Hoff's rule (vānt'hōfz') [Jacobus Henricus van't Hoff, Dutch chemist, 1852–1911] **1.** The rule that the speed of chemical reactions is doubled, at least, for each 10°C rise in temperature. The rule is an approximation that works best when temperatures approximate those under which the reaction normally occurs. **2.** Any substance in a dilute solution exerts an osmotic pressure that is equivalent the pressure of an equal volume of gas in solution. **3.** A technique used to predict the greatest number of mirror-image versions of a molecule that can rotate plane polarized light.

vapocoolant (vā'pō-kool'ānt) [v + *coolant*] A volatile liquid that evaporates on contact with the skin, causing a local refrigerant effect and providing local anesthesia for injections, intravenous insertions, and other procedures.

vapor (vā'por) [L., steam] **1.** The gaseous state of any substance. **2.** A medicinal substance for administration by inhalation.

vaporization (vā'por-ī-zā'shūn) [L. *vapor*, steam] **1.** The conversion of a liquid or solid into vapor. **2.** Therapeutic use of a vapor.

laser v. The resection of tissue by converting it to gas with laser energy.

vaporize (vā'por-īz) To change a material to a vapor form.

vaporizer (vā'por-ī'zer) A device for converting liquids into a vapor spray.

vaporous (vā'por-ūs) [L. *vapor*, steam] Consisting of, pert. to, or producing vapors.

vapor-treated Exposed to steam in order to clean, decontaminate, or sterilize. Clotting factors are steam-treated to re-

move potentially infectious agents such as pathogenic viruses.

VAQTA (vāk'tā) Hepatitis A vaccine, inactivated.

Vaquez's disease (vā-kāz') [Louis Henri Vaquez, Fr. physician, 1860–1936] Polycythemia vera.

variability (vār'ē-ā-bīl'ī-tē) The ability and tendency to change.

baseline v. Fluctuations in the fetal heart rate, recorded by the electronic monitor, that reflect the status of the fetal autonomic nervous system. Absence of short-term variability (beat-to-beat changes) is a sign of fetal compromise. Long-term variability (wavelike undulations) occurs normally three to five times per minute. Increased long-term variability is common during fetal sleep but may reflect prematurity, congenital abnormalities such as anencephaly, or fetal response to drugs.

genetic v. 1. The range of minor alterations present in a genome, such as the number of diverse alleles of a specific gene that are found as a result of small mutations in the DNA of a species. **2.** The expression of those diverse genes in living organisms and their impact on health or disease.

heart rate v. ABBR: HRV. Spontaneous fluctuations above and below the mean heart rate. A reduced HRV is associated with an increased incidence of total mortality and cardiac events in post-myocardial infarction patients, as well as in apparently healthy individuals, esp. older persons.

variable (vā'rē-ā-b'l) [L. *variare*, to vary] **1.** Any changing, measurable thing. In statistics, it is often possible to measure and graph the relationship of one variable to another (e.g., height and weight in the growing child). **2.** Changing in form, structure, behavior, or physiology.

dependent v. In epidemiology and research design, the condition or disease under study or the response part of a dose-response curve. In a study measuring smoking and heart disease, for example, heart disease would be the dependent variable.

independent v. In epidemiology and research, the agent that incites a response; the stimulus (e.g., the dose part of a dose-response curve). In the smoking and heart disease study cited in the entry called *dependent variable*, smoking would be the independent variable.

variance (vār'ē-āns) [L. *variare*, to vary] A statistical index of the degree to which measurements in a data set are different from each other or deviate from the mean; the square of the standard deviation.

variant (vār'ē-ānt) That which is different from the characteristics of the other organisms or entities in a particular

classification, esp. a disease, species, or physical appearance.

variate (vā'rē-āt) Variable (2).

variation (vā'rē-ā'shūn) Differences between individuals of a certain species or class.

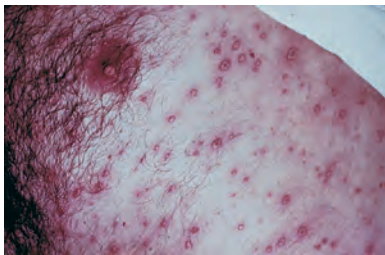
continuous v. Variation in which the difference between successive groups or individuals is quite small.

meristic v. Variation in number as opposed to kind.

varication (vār'i-kā'shūn) 1. Formation of a varix. 2. The condition of a varicosity.

variced (vār'i-sēd) Concerning a varix.

varicella (vār'i-sēl'ā) [L., a tiny spot] An acute infectious disease, usually seen in children under age 15, caused by varicella-zoster virus. Its hallmark is a rash, described clinically as having a "dewdrop on a rose petal" pattern, scattered in clusters ("crops") over the trunk, face, scalp, upper extremities, and sometimes the thighs. It is transmitted mainly by respiratory droplets that contain infectious particles; direct contact with a lesion and contaminated equipment also can spread the virus. Reactivation of the virus in adults causes shingles. SYN: *chickenpox*. **SEE: illus; herpes zoster; varicella-zoster immune globulin.**



VARICELLA (CHICKENPOX)

SYMPTOMS: After an incubation period of 2 to 3 weeks (usually 13 to 17 days), patients develop fever, malaise, anorexia, and lymphadenopathy, followed by the appearance of an extremely pruritic (itchy) rash that starts flat and, over time, becomes a small blister on a red base, and then eventually forms crusted scabs. All three stages of the rash may be present on the body at one time. Varicella may be transmitted to others until all lesions are crusted over.

Occasionally, for example, when it occurs in adults or immunosuppressed children, chickenpox is complicated by superimposed bacterial pneumonia, encephalitis, or thrombocytopenia. Immunization with varicella vaccine provided during infancy is designed to prevent these complications.

ETIOLOGY: Chickenpox may strike

individuals of any age who have not been previously been exposed to the virus. Epidemics are most frequent in winter and spring in temperate climates.

DIFFERENTIAL DIAGNOSIS: Impetigo, dermatitis herpetiformis, herpes zoster, and furunculosis may occasionally need to be distinguished from varicella, although usually the difference is obvious.

COMPLICATIONS: Secondary infections may occur, caused by scratching, which may result in abscess formation; at times, development of erysipelas or even septicemia may result. Occasionally, lesions in the vicinity of the larynx may cause edema of the glottis and threaten the life of the patient. Encephalitis is a rare complication. Varicella may be fatal in children with leukemia or children who are taking adrenocorticosteroids.

PREVENTION: Administration of varicella-zoster immune globulin (VZIG) within 72 hr of exposure will prevent clinical varicella in susceptible, healthy children. The following conditions should alert one to the possible need for use of VZIG: immunocompromised children; newborns of mothers who develop varicella in the period 5 days before to 48 hr after delivery; postnatal exposure of newborns (esp. those who are premature) to varicella; healthy adults who are susceptible to varicella and who have been exposed; pregnant women who have no history of having had varicella and who have had significant exposure. The use of VZIG in pregnant women will not prevent fetal infection or congenital varicella syndrome. Live attenuated vaccine is now available for general use.



Because severe illness and death have resulted from varicella in children being treated with corticosteroids, these children should avoid exposure to varicella.

TREATMENT: Otherwise healthy affected children are treated with diphenhydramine or hydroxyzine to reduce itch and acetaminophen to reduce fever. Children at increased risk for complications and immunosuppressed adults are given varicella-zoster immune globulin as prophylaxis after exposure. If varicella infection develops in immunosuppressed persons or pregnant women in the third trimester, intravenous acyclovir is administered. Immunization with varicella vaccination is recommended for those children who have not had chickenpox and have not previously received the immunization. **SEE: Standard Precautions Appendix.**

- v. gangrenosa** Varicella in which necrosis occurs around the vesicles, resulting in gangrenous ulceration.
- varicella-zoster immune globulin** ABBR: VZIg. An immune globulin obtained from the blood of healthy persons found to have high antibody titers to varicella-zoster. SEE: *varicella*.
- varicelliform** (văr'î-sël'î-form) Resembling varicella. SYN: *varicelloid*.
- varicelloid** (văr'î-sël'oyd) [" + Gr. *eidōs*, form, shape] Varicelliform.
- varices** (văr'î-séz) [L.] Pl. of varix.
- variciform** (văr'îs'î-form) [L. *varix*, twisted vein, + *forma*, shape] Varicose.
- varicoblepharon** (văr'î-kō-blēf'ă-rōn) [" + Gr. *blepharon*, eyelid] Varicose tumor of the eyelid.
- varicocele** (văr'î-kō-sēl) [" + Gr. *kele*, tumor, swelling] Enlargement of the veins of the spermatic cord, commonly occurring above the left testicle. Varicoceles, present in more than 10% of males, are usually identified during adolescence. Male infertility has been linked to varicoceles, but a definitive causal relation has not been established. SYN: *varicole*.
- SYMPTOMS:** There is a dull ache along the cord and a slight dragging sensation in the groin. On examination, the vessels on the affected side of the scrotum are full, feel like a bundle of worms, and are sometimes purplish.
- TREATMENT:** Most varicoceles are asymptomatic and are followed conservatively. When they cause intolerable symptoms, or when they are found during the evaluation of men with infertility, they may be surgically repaired. However, there is no firm evidence that varicocele repair improves male fertility.
- ovarian v.** Varicosity of the veins of the ovarian or pampiniform plexus of the broad ligament.
- utero-ovarian v.** Varicosity of the veins of the ovarian (pampiniform) plexus and the uterine plexus of the broad ligament.
- varicocelectomy** (văr'î-kō-sē-lēk'tō-mē) [L. *varix*, twisted vein, + Gr. *kele*, tumor, swelling, + *ektomē*, excision] Excision of a portion of the scrotal sac with ligation of the dilated veins to relieve varicocele.
- varicography** (văr'î-kōg'ră-fē) [" + Gr. *graphein*, to write] Radiography of varicose veins after the injection of a contrast medium.
- varicoid** (văr'î-koyd) [" + Gr. *eidōs*, form, shape] Resembling a varix.
- varicole** (văr'î-kōl) Varicocele.
- varicomphalos** (văr'î-kōm'fă-lūs) [" + Gr. *omphalos*, navel] Varicose tumor of the navel.
- varicophlebitis** (văr'î-kō-flē-bī'tis) [" +

Gr. *phleps*, vein, + *itis*, inflammation] Phlebitis combined with varicose veins.

varicose (văr'î-kōs) [L. *varicosus*, full of dilated veins] Pert. to varices; distended, swollen, knotted veins. SYN: *variciform*.

varicose vein An enlarged, dilated superficial vein. This condition may occur in almost any part of the body but is most common in the lower extremities and in the esophagus. SEE: *Nursing Diagnoses Appendix*.

ETIOLOGY: The development of varicose veins of the legs is promoted and aggravated by pregnancy, obesity, genetics, chronic constipation or straining during defecation, and occupations that require prolonged standing. Esophageal varices are caused by portal hypertension that accompanies cirrhosis of the liver or mechanical obstruction and occlusion of hepatic veins.

SYMPTOMS: Most varicose veins of the legs are asymptomatic, although they may be cosmetically undesirable. Esophageal varices and hemorrhoidal varices may bleed profusely. SEE: *illus*.



VARICOSE VEINS IN LEG

TREATMENT: In hemorrhage, elevation of the extremity and gentle but firm pressure over the wound will stop the bleeding. The patient should not be permitted to walk until the acute condition is controlled. Sclerotherapy, rubber band ligation, or octreotide may be used to control bleeding caused by hemorrhage from esophageal varices.

PATIENT CARE: The patient with lower extremity varicosities is taught to avoid anything that impedes venous return, such as wearing garters and tight girdles, crossing the legs at the knees, and prolonged sitting. After the legs have been elevated for 10 to 15 min, support hose are applied. The patient should not sit in a chair for longer than 1 hr at a time. Ambulation is encouraged for at least 5 min every hour. The

patient should elevate the legs whenever possible, but no less than twice a day for 30 min each time, and should avoid prolonged standing. Exercise, especially walking, is encouraged to promote the muscular contraction that moves blood through the veins, minimizing venous stasis. Signs of thrombophlebitis, a complication of varicose veins, include heat and local pain. If surgery is performed, elastic stockings or antithrombus devices are applied postoperatively and the foot of the bed is elevated above the level of the heart. Analgesics are prescribed and administered as needed. Circulatory assessment (color and temperature of toes, pedal pulses) is carried out according to protocol or the surgeon's orders. The patient is watched for complications such as bleeding, infection, and neurosensory problems. Overweight patients need to lose weight.

varicosis (văr'î-kō'sîs) [L.] Varicose condition of veins.

varicosity (văr'î-kōs'î-tē) [L. *varix*, twisted vein] **1.** Condition of being varicose. **2.** Varix (1).

varicotomy (văr'î-kōt'ō-mē) [v + Gr. *tome*, incision] Excision of a varicose vein.

varicula (văr-îk'ū-lā) [L., a tiny dilated vein] A small varix, esp. of the conjunctiva.

variety (vā-rî'ē-tē) [L., *varietas*, variety] A term used in classifying individuals in a subpopulation of a species.

variola (vā-rî'ō-lā) [L., pustule] Smallpox. **variolar** (-lār), *adj.*

v. major Smallpox with its full-blown, classic symptoms. SYN: *variola vera*.

v. minor A mild form of smallpox with sparse rash and low-grade fever. SYN: *alastrim*; *amaas*.

v. vera Variola major.

VARIVAX (văr'î-vāks) Varicella virus vaccine live.

varix (vā'rîks) *pl.* **varices** [L., twisted vein] **1.** A tortuous dilatation of a vein. SEE: *varicose vein*. **2.** Less commonly, dilatation of an artery or lymph vessel.

aneurysmal v. A direct communication between an artery and a varicose vein without an intervening sac.

arterial v. A varicosity or dilation of an artery.

chyle v. A varix of a lymphatic vessel that conveys chyle.

esophageal v. A tortuous dilatation of an esophageal vein, esp. in the distal portion. It results from any condition that causes portal hypertension, typically cirrhosis of the liver. SEE: *Müller's maneuver*; *Nursing Diagnoses Appendix*.

SYMPTOMS: If an esophageal varix bursts, massive hemorrhage occurs, and the patient may die within minutes.

TREATMENT: Medical treatment includes administration of a beta blocker, such as nadolol, with a nitrate, such as isosorbide, to lower portal pressures and decrease the likelihood of variceal bleeding. Invasive therapies include the injection of sclerosing agents or rubber banding of the dilated vein.

PATIENT CARE: Bleeding esophageal varices constitute a medical emergency, requiring immediate treatment to control hemorrhage and prevent hypovolemic shock. The patient's vital signs, SaO₂, ABGs, electrolyte and fluid volume balance, and level of consciousness are closely monitored. Intravenous access must be established promptly and fluid resuscitation, followed by transfusion and the administration of plasma are critical to early stabilization of the patient. Medical therapies also include the use of vasoconstricting drugs, such as vasopressin. Endoscopy is used to identify the site of the ruptured vessels which may then be treated with sclerotherapy, ligation, or banding.

Surgical procedures to prevent rebleeding include portocaval or mesocaval shunts, portosystemic anastomosis, splenorenal shunting or liver transplantation. All procedures are explained, sensation messages provided, and reassurance and emotional support offered.

lymphaticus v. Dilatation of a lymphatic vessel.

turbinal v. Permanent dilatation of veins of turbinated bodies.

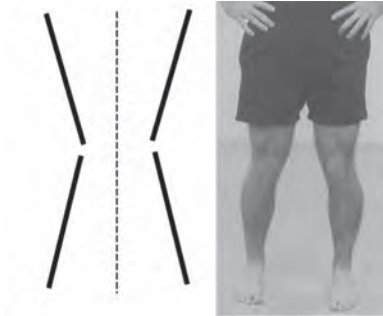
varnish (văr'nîsh) A solution of gums and resins in a solvent. When these are applied to a surface, the solvent evaporates and leaves a hard, more or less flexible film. In dentistry, varnishes are used to protect sensitive tooth areas such as the pulp. SYN: *cavity v.*

cavity v. Varnish.

varus (vā'rûs) [L, knock-kneed.] Angled or turned inward, used esp. of deformities in which the most distal part of the anatomy is turned toward the body's midline. There are many varus conditions. In *coxa vara*, the shaft of the femur turns inward with respect to the neck of the femur. In *genu varum*, either the femur or tibia turns inward at the knee, causing a knock-kneed deformity. *Talipes varus* is a clubfooted condition in which the heel turns inward and the person walks on the outer border of the foot. SEE: *illus.*; *valgus*.

vas (vās) *pl.* **vasa** [L., vessel] A vessel or duct.

v. aberrans 1. A narrow tube varying in length from 1½ to 14 in (3.8 to 35.6 cm), occasionally found connected with the lower part of the canal of the epididymis or with the commencement of the vas deferens. **2.** A vestige of the biliary ducts sometimes found in the liver.



VARUS

v. afferens An afferent vessel of a lymph node.

v. deferens The secretory duct of the testis, a continuation of the epididymis. This slim, muscular tube, approx. 18 in (45.7 cm) long, transports the sperm from each testis to the ejaculatory duct, which empties into the prostatic urethra. SYN: *ductus deferens*. SEE: *illus.; genitalia* for *illus.*

v. prominens Blood vessel on the cochlea's accessory spiral ligament.

v. spirale A large blood vessel beneath the tunnel of Corti in the basilar membrane.

vasa (vā'sā) [L. *vas*, vessel] Pl. of *vas*.

v. afferentia The lymphatic vessels entering a lymph node.

v. efferentia 1. Lymphatics that

leave a lymph node. 2. The secretory ducts of the testis to the head of the epididymis.

v. praevia The blood vessels of the umbilical cord presenting before the fetus.

v. recta 1. Tubules that become straight before entering the mediastinum testis. 2. Capillary branches of the renal efferent arterioles, parallel to the loops of Henle.

v. vasorum Minute blood vessels that are distributed to the walls of the larger veins and arteries.

v. vorticosa Stellate veins of the choroid, carrying blood to the superior ophthalmic vein.

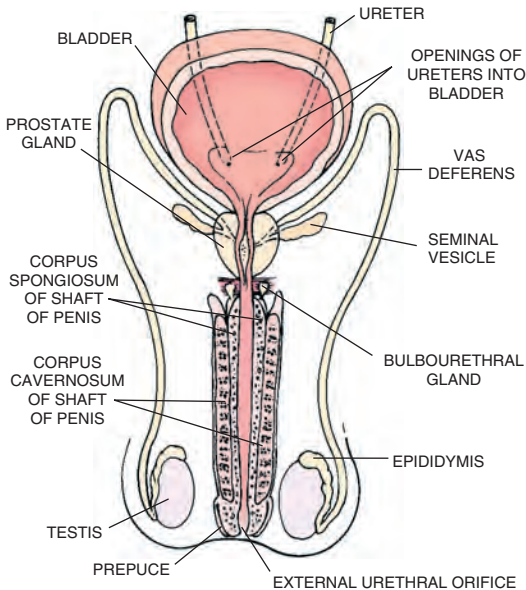
vasal (vā'sāl) [L. *vas*, vessel] Rel. to a vas or vessel.

vasalgia (vā-sāl'jē-ă) Pain in a vessel of any kind.

vascular (vās'kū-lār) [L. *vasculum*, a small vessel] Pert. to or composed of blood vessels.

vascular brachytherapy The temporary implantation of radioactive material within the lumen of a blood vessel. It is used to prevent blood vessels opened by stents or other invasive cardiovascular procedures from closing again after invasive cardiovascular procedures, e.g., stent placements.

vascular endothelium The simple squamous epithelial tissue lining the blood vessels. It is a semipermeable barrier between the blood and the vascular smooth muscle, produces vasodilator chemicals, and may inhibit vasocon-



VAS DEFERENS AND OTHER MALE ORGANS

strictor substances. Damage to the endothelium leads to increased production of prostaglandins and stimulates blood clotting.

vascularity (vās'kū-lār'ī-tē) The state of being vascular.

vascularization (vās'kū-lār-ī-zā'shūn) [*L. vasculum*, a small vessel] The development of new blood vessels in a structure.

vascularize (vās'kū-lār'īz) [*L. vasculum*, a small vessel] To become vascular by development of new blood vessels.

vascular parkinsonism Parkinson's disease is produced by small strokes that affect the basal ganglia, not by neuronal loss in these regions of the brain. Compared with patients who have classical Parkinson's disease, people with vascular parkinsonism tend to be older and are more likely to have lower body rigidity, difficulty walking, and disturbances of balance. Upper body tremor is relatively infrequent. A history of atherosclerotic vascular disease, diabetes mellitus, high blood pressure, or hyperlipidemia is common in vascular parkinsonism. Efforts to prevent vascular parkinsonism focus on the treatment of these predispositions.

vascular stiffening The loss of arterial elasticity that occurs in patients with diabetes mellitus, hypertension, and aging.

vascular system The blood vessels: the arteries, capillaries, and veins. The vessels carry blood to and from the heart and contribute to the regulation of blood pressure. Exchange of materials between the blood and tissues takes place in capillary networks. Pulmonary and systemic circulation are included. Moreover, the lymphatic system, which returns a significant amount of tissue fluid to the venous circulation, is usually considered a part of the vascular system.

vascular technologist A person skilled in obtaining and/or interpreting ultrasonic or radiographic images of blood vessels.

vasculature (vās'kū-lā-tūr") The arrangement of blood vessels in the body or any part of it, including their relationship and functions.

vasculitis (vās'kū-lī'tis) *pl.* **vasculitides** [" + *itis*, inflammation] Inflammation of blood vessels. SYN: *angiitis*.

It is usually caused by deposition of antigen-antibody immune complexes or other immune-mediated events. Vasculitis due to immune complexes is seen in patients with systemic lupus erythematosus, rheumatoid arthritis, hepatitis B and C, serum sickness, and drug reactions. Vasculitis found in patients with inflammatory bowel disease, Wegener's granulomatosis, graft rejection, polyarteritis nodosa, and temporal arteritis involves other immune-mediated

processes. Vasculitis often affects the renal glomeruli, joints, cerebral vessels, testes, or respiratory system.

Vasculitis can affect large, medium-sized, and small blood vessels. When it is found in small blood vessels in the skin, characteristic rashes may be seen. Vasculitis is loosely classified by the size of the vessel involved. Takayasu's and giant cell arteritis involve large arteries, including the aorta and carotids. Polyarteritis nodosa and Kawasaki disease involve medium-sized vessels, and Wegener's granulomatosis, Henoch-Schönlein purpura, and microscopic polyangiitis involve small vessels, particularly in the kidney and respiratory tract. **SEE: illu;** *autoimmune disease; immune complex.*

SYMPTOMS: Although fever, pain, and malaise are common, the inflammatory changes of the blood vessels are seen primarily through the signs and symptoms associated with the organ or tissues involved. Vasculitis in superficial vessels may present as painful nodules. Inflammation of the glomerular capillaries of the kidney in small vessel vasculitis may produce glomerulonephritis and decreased renal function. When blood vessels of the respiratory tract are involved, pneumonitis, sinusitis, and ulceration of the nasopharynx may result. Involvement of vessels in the heart leads to coronary artery disease and aneurysms.



VASCULITIS

TREATMENT: Immunosuppressive therapy is used to treat most forms of autoimmune-mediated vasculitis.

livedoid v. A vasculitis with blood-clotting that affects small blood vessels in the skin, esp. near the feet and ankles. The cause in most cases is unknown, but it may be associated with diseases such as antiphospholipid antibody syndrome, systemic lupus erythematosus or scleroderma.

rejection v. The inflammation that occurs when antigen-antibody complexes are deposited on the walls of small blood vessels in transplanted organs. Although the transplant rejection process is dominated by T-cell-mediated activities, antibodies also may form

against the histocompatibility antigens on the transplanted organ and compromise its viability. SEE: *major histocompatibility complex*.

vasculogenesis (vās'kū-lō-jěn'ĕ-sīs) [v + Gr. *genesis*, generation, birth] Development of the vascular system.

vasculomotor (vās'kū-lō-mō'tor) Vasomotor.

vasculopathy (vās-kū-lōp'ă-thē) Any disease affecting blood vessels.

vasectomy (vās-ĕk'tō-mē) [L. *vas*, vessel, + Gr. *ektome*, excision] Removal of all or a segment of the vas deferens. Bilateral vasectomy is the most successful method of male contraception. The procedure prevents sperm (which is manufactured in the testicles) from being expelled in the male ejaculate. It is usually carried out as an outpatient or same day procedure under local or light intravenous anesthesia. SEE: *illius*.

NOTE: Persons who have had this surgical procedure ejaculate in a normal manner but the ejaculate contains semen, produced independently in the seminal vesicles, without sperm.

PATIENT CARE: Postoperatively, the patient applies cold packs to the surgical site, to limit swelling, pain, and inflammation. Activities are limited, and sexual interest is avoided for the first week, approximately. An athletic supporter or tightly fitting underwear are worn to support the scrotum and limit pain. The procedure is considered successful when two consecutive sperm samples are shown to be free of sperm,

typically 8 to 12 weeks postoperatively. Men choose vasectomy only when they want to become permanently sterile. Nonetheless, the procedure can be reversed, although vasectomy reversal is a more complicated operation than the initial severing of the tubes.



Patients should be advised that vasectomy does not prevent sexually transmitted diseases.

vasectomy reversal Surgical procedure for the rejoining of the previously severed vas deferens. Although this procedure may be successful, the chance of success varies in published reports.

vasiform (vās'ī-form) [v + *forma*, shape] Resembling a tubular structure or vas.

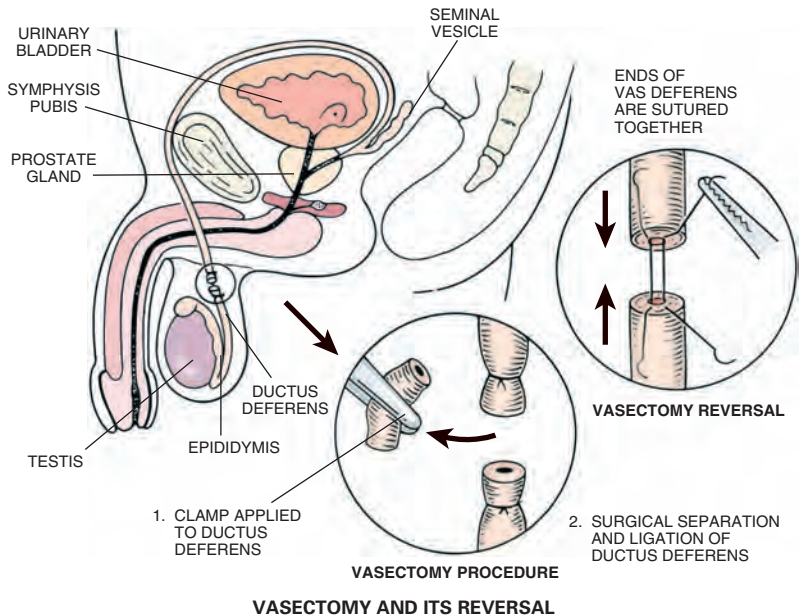
vasitis (vā-sī'tis) Inflammation of the ductus deferens of the testicle.

vaso- [L. *vas*, vessel] Combining form meaning *vessel*, as a blood vessel.

vasoactive (vās'ō-ăk'tiv) Affecting blood vessels.

vasoactive intestinal polypeptide ABBR: VIP. A peptide present in the mucosa of the gastrointestinal tract. One of its principal actions is to inhibit gastric acid secretion. Vasoactive intestinal polypeptide is also present in nerve fibers of the female genital tract.

vasoconstriction (vās'ō-kōn-strīk'shūn) A decrease in the diameter of blood vessels, which decreases blood flow and raises blood pressure.



- hypoxic pulmonary v.** Narrowing of the small arterioles in the alveoli in response to hypoxia.
- vasoconstrictive** (väs"ō-kōn-strīk'tiv) [" + *constrictus*, bound] Causing constriction of the blood vessels.
- vasoconstrictor** (väs"ō-kōn-strīk'tor) [" + *constrictor*, a binder] 1. Causing constriction of the blood vessels. 2. That which constricts or narrows the caliber of blood vessels, as a drug or a nerve.
- vasodepression** (väs"ō-dē-prēsh'ūn) [" + *depressio*, a pressing down] Vasomotor depression or collapse.
- vasodepressor** (väs"ō-dē-prēs'or) [" + *depressor*, that which presses down] 1. Having a depressing influence on the circulation, lowering blood pressure by dilatation of blood vessels. 2. An agent that decreases circulation.
- vasodilatation** (väs"ō-dī-lā-tā'shūn) [" + *dilatate*, to enlarge] Dilatation of blood vessels, esp. small arteries and arterioles.
- antidromic v.** Vasodilatation resulting from stimulation of the dorsal root of a spinal nerve.
- reflex v.** Blood vessel dilation caused by stimulation of its dilator nerves or inhibition of its constrictor substance or nerves. This can be done by stimulating the sensory reflex arc.
- vasodilation** (väs"ō-dī-lā'shūn) An increase in the diameter of blood vessels, which increases blood flow and lowers blood pressure.
- vasodilative** (väs"ō-dī-lā-tiv) Causing dilation of blood vessels.
- vasodilator** (väs"ō-dī-lā'tor) [" + *dilatate*, to enlarge] 1. Causing relaxation of blood vessels. 2. A nerve or drug that dilates blood vessels.
- vasoepididymostomy** (väs"ō-ēp'i-dīd-ī-mōs'tō-mē) [" + Gr. *epi*, upon, + *didymos*, testicle, + *stoma*, mouth] The formation of a passage between the vas deferens and the epididymis.
- vasography** (väs-ōg'rā-fē) [" + Gr. *graphein*, to write] Radiography of the blood vessels, usually after the injection of a contrast medium.
- vasohypertonic** (väs"ō-hī'pēr-tōn'ik) [" + Gr. *hyper*, over, above, excessive, + *tonikos*, pert. to tension] Vasoconstrictor.
- vasohypotonic** (väs"ō-hī'pō-tōn'ik) [" + Gr. *hypo*, under, beneath, below, + *tonikos*, pert. to tension] Vasodilator.
- vasoinhibitor** (väs"ō-īn-hīb'i-tor) [" + *inhibere*, to restrain] An agent that decreases the action of vasomotor nerves.
- vasoinhibitory** (väs"ō-īn-hīb'i-tor-ē) Restricting vasomotor activity.
- vasoligation** (väs"ō-lī-gā'shūn) [" + *ligare*, to bind] Ligation of a vessel, specifically the vas deferens.
- vasomotio** (väs"ō-mō'shūn) [" + *motio*, movement] Change in caliber of a blood vessel.
- vasomotor** (väs"ō-mō'tor) [" + *motor*, a mover] Pert. to the nerves that innervate the smooth muscle in the walls of arteries and veins, and thereby alter or preserve vascular tone. Sympathetic impulses to all arteries and veins maintain normal constriction. More impulses per second cause vasoconstriction; fewer impulses per second, vasodilation. For example, if a stressful stimulus, such as hemorrhage, causes increased vasomotor nerve activity, vasoconstriction results, which limits blood loss and maintains blood pressure. SEE: *vasoconstrictor*; *vasodilator*.
- vasomotor epilepsy** Epilepsy with vasomotor changes in the skin.
- vasomotor spasm** Spasm of smaller arteries.
- vasomotor system** The part of the nervous system that controls the size of the blood vessels.
- vasoneuropathy** (väs"ō-nū-rōp'ā-thē) Disease due to the combined effect of the vascular and nervous systems.
- vaso-orchidostomy** (väs"ō-or'kīd-ōs'tō-mē) [" + Gr. *orchis*, testicle, + *stoma*, mouth] Surgical connection of the epididymis to the severed end of the vas deferens.
- vasopeptidase inhibitor** (väs"ō-pēp'tī-dās, vā'zō-) Any member of a class of medications that blocks the actions of both angiotensin converting enzymes (ACE) and neural endopeptidase. Drugs from this class may be used to treat heart failure.
- vasopressor** (väs"ō-prēs'or) 1. Causing contraction of the smooth muscle of arteries and arterioles. This increases resistance to the flow of blood and thus elevates blood pressure. 2. An agent that stimulates contraction of smooth muscle of arteries and arterioles.
- vasopuncture** (väs"ō-pūnk'chūr) [" + *punctura*, prick] Puncture of the vas deferens.
- vasoreflex** (väs"ō-rē'flēx) A reflex that alters the caliber of blood vessels.
- vasorrhaphy** (väs-or'ā-fē) [" + Gr. *rhaphe*, seam, ridge] Surgical suture of the vas deferens.
- vasosection** (väs"ō-sēk'shūn) [" + *sectio*, a cutting] Surgical division of the vasa deferentia.
- vasosensory** (väs"ō-sēn'sō-rē) [" + *sensorius*, pert. to sensation] Rel. to sensation in the blood vessels.
- vasospasm** (väs'ō-spāzm) [" + Gr. *spasmos*, a convulsion] Spasm of a blood vessel. SYN: *angiohypotonia*; *angiospasm*; *vasoconstriction*. **vasospastic, adj.**
- vasostimulant** (väs"ō-stīm'ū-lānt) [L. *vas*, vessel, + *stimulans*, goading] Exciting vasomotor action.
- vasostomy** (vā-sōs'tō-mē) [" + Gr. *stoma*, mouth] Surgical procedure of

making an opening into the vas deferens.

Vasotec (vā'zō-tĕk') SEE: *enalapril*.

vasotomy (vās-ōt'ō-mē) [v + Gr. *tome*, incision] Incision of the vas deferens.

vasotonia (vās'ō-tō-nē-ā) [v + Gr. *tonos*, act of stretching, tension] The tone of blood vessels.

vasotrophic (vās'ō-trōf'īk) [v + Gr. *trophe*, nourishment] Concerned with the nutrition of blood vessels.

vasotropic (vās'ō-trōp'īk) Affecting blood vessels.

vasovasostomy (vās'ō-vē-sōs'tō-mē) [v + *vas*, vessel, + *stoma*, mouth] The rejoining of the previously severed ductus deferens of the testicle; the revision of a vasectomy.

vasovesiculectomy (vās'o-vē-sīk'ū-lĕk'tō-mē) [v + *vesicula*, tiny sac, + Gr. *ektome*, excision] Excision of the vas deferens and seminal vesicles.

vasovesiculitis (vās'ō-vē-sīk'ū-lī'tīs) [v + *vesicula*, a tiny bladder, + Gr. *itis*, inflammation] Inflammation of the vas deferens and seminal vesicles.

vastus (vās'tūs) [L., vast] **1.** Great, large, extensive. **2.** One of three muscles of the anterior thigh.

Vater's corpuscles Pacinian corpuscles.

Vater's papilla The duodenal end of the drainage systems of the pancreatic and common bile ducts. It was formerly called Vater's ampulla.

VATS *Video-assisted thoracic surgery*.

vault (vawlt) A part or structure resembling a dome or arched roof.

VBAC *vaginal birth after previous cesarean*.

VC *vital capacity*.

VD *venereal disease*.

VDH *valvular disease of the heart*.

VDRL *Venereal Disease Research Laboratories*.

vection (vĕk'shūn) [L. *vectio*, a carrying]

1. Transfer of disease agents by a vector from the sick to the well. **2.** Illusion of self-motion. This may be produced experimentally by having the subject seated within a drum that rotates while the subject remains stationary.

vectis (vĕk'tīs) [L., pole] A curved lever for making traction on the presenting part of the fetus.

vector (vĕk'tor) [L., a carrier] **1.** A quantity that is completely specified by magnitude, direction, and sense, which can be represented by a straight line of appropriate length and direction. **2.** A carrier, usually an insect or other arthropod, that transmits the causative organisms of disease from infected to noninfected individuals, esp. one in which the organism goes through one or more stages in its life cycle. **3.** An agent such as a retrovirus that is used to introduce genetic material into the nucleus of a diseased cell in an at-

tempt to cure a genetic illness or a malignancy.

biological v. An animal vector in which the disease-causing organism multiplies or develops prior to becoming infective for a susceptible person.

mechanical v. A vector in or upon which growth and development of the infective agent do not occur.

vectorcardiogram (vĕk'tor-kār'dē-ō-grām) [v + Gr. *kardia*, heart, + *gramma*, something written] A graphic record of the direction and magnitude of the electrical forces of the heart's action by means of a continuous series of vector loops. Analysis of the configuration of these loops permits certain statements to be made about the state of health or diseased condition of the heart. At any moment the electrical activity of the heart can be represented as an electrical vector with a specific direction and magnitude. This is called the instantaneous cardiac vector. A series of these vectors may be established for the entire cardiac cycle. By joining the tips of these vectors with a continuous line, the vectorcardiogram loop is formed. The configuration so obtained may be projected on the frontal plane or viewed as a three-dimensional loop. Three vectorcardiogram loops are formed during each cardiac cycle—one for the electrical activity of the atrium; one for ventricular depolarization; one for ventricular repolarization.

spatial v. Depiction of the vectorcardiogram in three planes—frontal, sagittal, and horizontal.

vectorcardiography (vĕk'tor-kār'dē-ō-grā-fĕ) Analysis of the direction and magnitude of the electrical forces of the heart's action by a continuous series of loops (vectors) that represent the cardiac cycle.

vectorial (vĕk-tō'rĕ-āl) [L. *vector*, a carrier] Rel. to a vector.

vedic medicine Ayurvedic medicine.

VEE *Venezuelan equine encephalitis*.

vegan (vēj'ān) A vegetarian who omits all animal protein from the diet.

veganism (vēj'ā-nīz-m) A form of vegetarianism in which no forms of animal protein are consumed. The diet is devoid of meat, fish, poultry, eggs and dairy products.

vegetable (vēj'ĕ-tā-bl) **1.** Pert. to, of the nature of, or derived from plants. **2.** A herbaceous plant, esp. one cultivated for food. **3.** The edible part or parts of plants that are used as food, including the leaves, stems, seeds and seed pods, flowers, roots, tubers, and fruits.

Vegetables are important sources of minerals and vitamins; provide bulk, which stimulates intestinal motility; and are sources of energy. Caloric value is indirectly proportional to water content. Copper is estimated at 1.2 mg/kg

for leafy vegetables, and 0.7 mg/kg for nonleafy ones.

Plant and vegetable proteins individually do not contain the complete complement of essential amino acids. By combining vegetables, it is possible to obtain an adequate and balanced mixture of essential amino acids. For example, corn is low in lysine but has an adequate amount of tryptophan; beans are adequate in lysine but low in tryptophan. Although neither is a sufficient source of protein alone, in combination, they are an adequate protein source. Similarly rice and beans serve to complement the deficiencies in the other and together are a complete source of protein.

All starches in vegetables must be changed to sugars before they can be absorbed. Dry heat changes starch to dextrin; heat and acid or an enzyme change dextrin to dextrose. In germinating grain, starch is changed to dextrin and dextrose. Fermented dextrose produces alcohol and carbon dioxide.

cruciferous v. A family of vegetables (including broccoli, brussels sprouts, cabbage, and cauliflower) named for their cross-shaped flowers. People who eat a diet rich in these vegetables are found to have a decreased incidence of cardiovascular diseases, strokes, and cancer, among other illnesses.

vegetal (vēj'ě-tāl) **1.** Pert. to plants. **2.** Tropic or nutritional, esp. with reference to that part of an ovum which contains the yolk. SEE: *pole, vegetal*.

vegetarian (vēj'ě-tā'rē-ān) [from *vegetable*, coined 1847 by the Vegetarian Society] A person who does not eat animal flesh or, in some instances, any animal by-products. Different approaches result in individual variation in whether fish, eggs, and/or dairy foods are accepted dietary components. Vegetarians must carefully plan their meals to ensure that they consume an adequately nutritive diet.

vegetarianism (vēj'ě-tā'rē-ān-izm) [r + Gr. *-ismos*, condition] The practice and philosophy of eating grains, nuts, vegetables and fruits, but not meats or animal flesh. Approaches to vegetarianism differ—some vegetarians eat fish, eggs, and/or dairy products, while others do not.

vegetate (vēj'ě-tāt) [LL. *vegetare*, to grow] **1.** To grow luxuriantly with the production of fleshy or warty outgrowths such as a polyp. **2.** To lead a passive existence mentally or physically, or both; to do little more than eat and maintain autonomic body functions.

vegetation (vēj'ě-tā'shūn) A morbid luxuriant outgrowth on any part, esp. wart-like projections made up of collections of fibrin in which are enmeshed white and red blood cells; sometimes seen on denuded areas of the endocardium covering the valves of the heart.

adenoid v. Fungus-like masses of lymphoid tissue in the nasopharynx.

vegetative (vēj'ě-tā'tiv) **1.** Having the power to grow, as plants. **2.** Functioning involuntarily. **3.** Quiescent, passive, denoting a stage of development.

vegetative function Any of the nonconscious body processes needed to keep the body alive.

vegetative state Persistent vegetative state.

vegetoanimal (vēj'ě-tō-ān'ī-māl) Characteristic of both plants and animals, such as the process of cell respiration in mitochondria.

VEGF *vascular endothelial growth factor*.

vehicle (vē'ī-kl) [L. *vehiculum*, that which carries] **1.** An inert agent that carries the active ingredient in a medicine (e.g., a syrup in liquid preparations). **2.** Any object that carries another (e.g., a work surface may be a vehicle that transmits germs from one person to another; a patch applied to the skin may be a vehicle that permits drug delivery to the body).

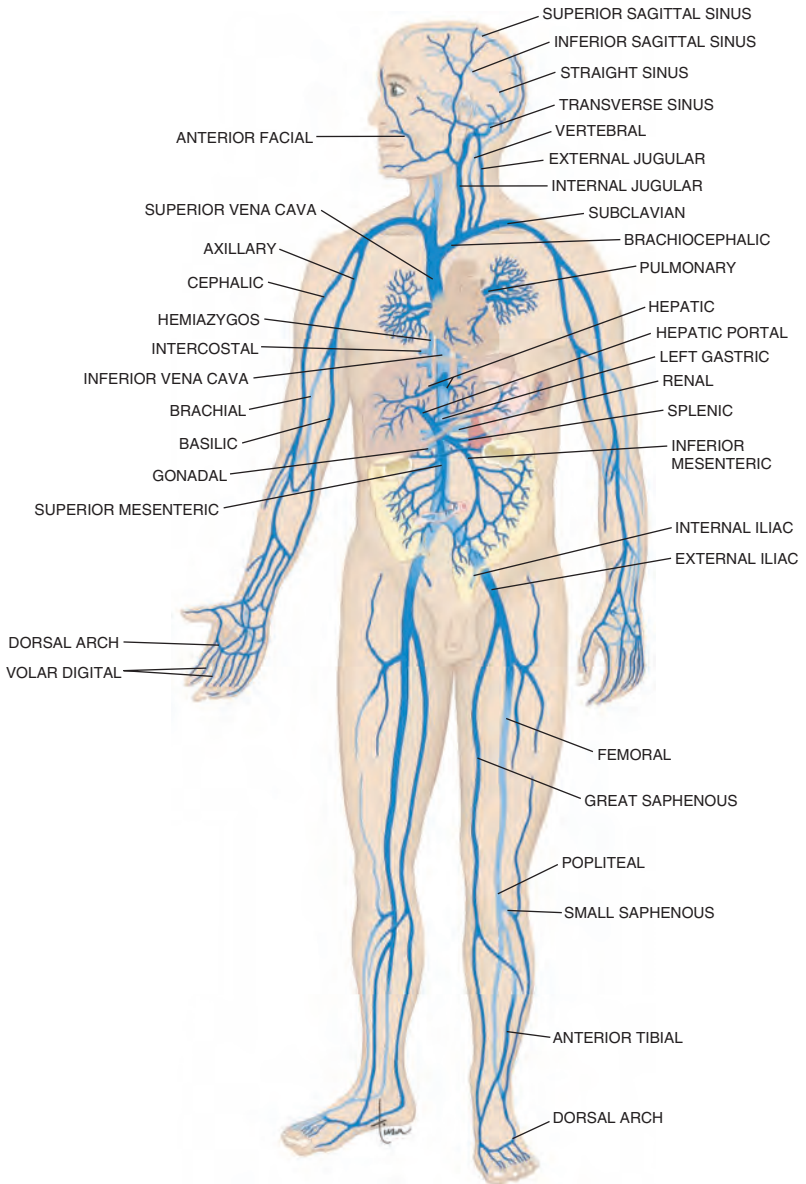
veil (vāl) [L. *velum*, a covering] **1.** Any veil-like structure. **2.** A piece of the amniotic sac occasionally covering the face of a newborn infant. SYN: *caul*. **3.** Slight alteration in the voice in order to disguise it.

Veillonella (vā'lō-něl'ā) A genus of gram-negative, anaerobic diplococci that inhabit the oral cavity and gastrointestinal tract. Although *Veillonella* species rarely cause human disease, occasional episodes of bone or blood-borne infection have been reported.

vein (vān) [L. *vena*, vein] A vessel carrying deoxygenated (dark red) blood to the heart, except for the pulmonary veins, which carry oxygenated blood. The vein wall has three layers: an endothelial lining folded into valves, a thin smooth muscle middle layer, and a thin fibrous connective tissue outer layer. Veins differ from arteries in their larger capacity and greater number; also in their thinner walls, larger and more frequent anastomoses, and presence of valves that prevent backward circulation. The systemic veins consist of two sets, superficial or subcutaneous, and the deep veins, with frequent anastomoses between the two. The former do not usually accompany an artery, as do the latter. The systemic veins may also be considered in three groups—those entering the right atrium through the superior vena cava, those through the inferior vena cava, and those through the coronary sinus. SEE: *illus.; circulation; vena*.

anterior tibial v. A vein that drains blood from the lower leg and foot and joins the popliteal vein.

axillary v. A vein that is formed by the merger of the basilic and brachial

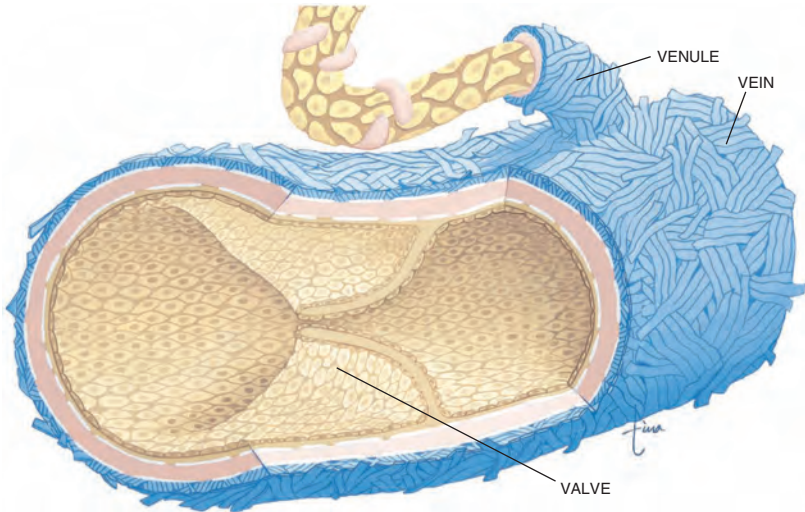


SYSTEMIC VEINS

veins, drains blood from the upper extremity, and becomes the subclavian vein at the lateral border of the first rib.

azygos v. A single vein arising in the abdomen as a branch of the ascending lumbar vein. It passes upward through the aortic hiatus of the diaphragm into the thorax, then along the right side of the vertebral column to the level of the

fourth thoracic vertebra, where it turns and enters the superior vena cava. In the thorax, it receives the hemiazygos, accessory azygos, and bronchial veins, as well as the right intercostal and subcostal veins. If the inferior vena cava is obstructed, the azygos vein is the principal vein by which blood can return to the heart.



STRUCTURE OF A VEIN AND VENULE

brachial v. Either of a pair of veins that accompany each brachial artery and join each axillary vein.

brachiocephalic v. The right and left veins, each formed by the union of the internal jugular with the subclavian vein.

cardiac v. Any of the veins that run along the surface of the heart parallel to the coronary arteries and drain the heart muscle. They converge into the coronary sinus, which runs in the coronary groove between the left atrium and left ventricle on the back side of the heart and drains into the right atrium. SEE: *coronary artery for ilius.*

cardinal v. In an embryo of up to 6 weeks' gestation, any of the veins (the bilateral anterior and posterior) that are the original venous drainage system leading to the heart. Over the next few weeks, the right anterior cardinal vein gives rise to the major upper body veins (jugulars, brachiocephalics, subclavians, and superior vena cava); the far ends of the posterior cardinal veins give rise to the iliac systems; and the rest of the cardinal venous system is then replaced by the subcardinal and supracardinal veins.

cephalic v. A vein that drains blood from the superficial arm and forearm and merges with the brachial vein in the upper arm to form the axillary vein.

cerebral v. Any of the veins draining the brain. Cerebral veins differ from other veins in three respects: (1) cerebral veins do not run with cerebral arteries; (2) cerebral veins do not have valves; (3) the major cerebral veins are dural venous sinuses, not true veins.

In general, the venous circulation of the brain follows the following pattern:

venules run from inside the brain to the surface where they turn and run inside the pia. The pial plexuses of veins merge into the cerebral veins, which eventually cross the subarachnoid space and empty into the large dural venous sinuses. The dural venous sinuses then connect and drain into the internal jugular veins. SEE: *dural venous sinus.*

common iliac v. Either of two veins that drain blood from the lower limb and lower abdomen. The two common iliac veins unite to form the inferior vena cava. Each iliac vein is formed in the pelvis by the union of an external iliac vein and an internal iliac vein.

cranial venous sinus v. Any of a group of veins between the two layers of the dura mater that drain blood and reabsorbed cerebrospinal fluid from the brain and join the internal jugular vein.

external iliac v. A vein that drains blood from the lower limb and abdominal wall and joins the common iliac vein.

external jugular v. A vein that drains blood from the deep and superficial veins of the head and crosses the sternocleidomastoid muscle before entering the subclavian vein.

great cardiac v. A large vein on the anterior surface of the heart running in the coronary groove. It drains the same area supplied by the left coronary artery and empties into the coronary sinus on the back surface of the heart.

great saphenous v. A vein that drains blood from the superficial foot, leg, and thigh and joins the femoral vein.

innominate v. Brachiocephalic veins.

internal iliac v. A vein that drains blood from the pelvis and buttocks and joins the common iliac vein.

internal jugular v. ABBR: IJ. A vein that drains blood from the face, neck, and the cranial venous sinuses and unites with the subclavian vein to form the brachiocephalic vein. It is a vein commonly used to gain access to the central circulation or the right side of the heart.

ovarian v. Either of two veins (left and right) that drain blood from the ovaries. The left ovarian vein joins the left renal vein; the right ovarian vein joins the inferior vena cava.

popliteal v. A vein that drains blood from the knee and joins the femoral vein.

pulmonary v. One of the four veins that takes blood from the lungs to the left atrium.

radial v. A vein that drains blood from the forearm and the hand and joins the brachial vein.

renal v. A vein that drains blood from the kidney and joins the inferior vena cava. Blood clots may form in the renal veins in the nephrotic syndrome.

small saphenous v. A vein that drains blood from the lateral border of the superficial leg and foot and joins the popliteal vein.

splenic v. The vein carrying blood from the spleen to the portal vein.

stellate v.s Starlike venous plexuses on the surface of the kidney below its capsule.

subclavian v. A large vein draining the arm. It unites with the internal jugular vein to form the brachiocephalic (innominate) vein.

testicular v. Either of two veins (left and right) that drain blood from the testes. The left testicular vein joins the left renal vein; the right testicular vein joins the inferior vena cava.

ulnar v. A vein that drains blood from the forearm and the hand and joins the brachial vein.

umbilical v. In the embryo, a pair of veins bringing oxygenated blood to the developing heart from the placenta. During development, the right umbilical vein disappears. The left umbilical vein then carries all the oxygenated blood from the placenta via the umbilical cord to the fetus. As the embryonic liver develops, the umbilical vein persists alongside it as a bypass (the ductus venosus) for blood going directly into the inferior vena cava. After birth, the umbilical vein closes and becomes a fibrotic cord, the ligamentum teres, running in the falciform ligament along the ventral wall of the abdomen from the umbilicus to the liver. The ductus venosus also closes and remains as the ligamentum venosum of the liver. SEE: *fetal circulation*.

varicose v. SEE: *varicose vein*.

vitelline v. In the embryo, either of a pair of veins that return blood to the developing heart from the yolk sac. These veins run inside the yolk stalk, alongside the foregut, through the septum transversum, and into the sinus venosus of the heart. The liver eventually forms around the vitelline veins, coopting them into the portal vein, the hepatic sinusoids, and the hepatic veins.

velamentous (vē'lā-mēn'tūs) Expanding like a veil, or sheet.

velar (vē'lār) [L. *velum*, a veil] Pert. to a velum or veil-like structure.

vellus (vē'lūs) [L., fleece] The fine hair present on the body after the lanugo hair of the newborn is gone.

velopharyngeal (vē'lō-fā-rīn'jē-āl) [L. *velum*, veil, + Gr. *pharynx*, throat] Concerning the soft palate and the pharynx.

Velpeau's bandage (vēl-pōz') [Alfred Velpeau, Fr. surgeon, 1795–1867] A special immobilizing roller bandage that incorporates the shoulder, forearm, and arm. SEE: *bandage for illius*.

Velpeau's deformity Deformity seen in Colles' fracture, in which the lower fragment is displaced backward.

velum (vē'lūm) [L., veil] Any veil-like structure.

vena (vē'nā) *pl. venae* [L.] A vein.

vena cava The principal venous return trunks to the heart.

v. cava inferior The principal vein draining blood from the lower portion of the body. It is formed by junction of the two common iliac veins and terminates in the right atrium of the heart. SEE: *heart*.

v. cava superior The principal vein draining blood from the upper portion of the body. It is formed by the junction of the right and left brachiocephalic veins and empties into the right atrium of the heart. SEE: *heart*.

vena caval syndrome Supine hypotensive syndrome.

venacavography (vē'nā-kā-vōg'rā-fē) Radiography of the vena cava during the injection of a contrast medium.

venae comitantes (vē'nē kō'mī-tān'tēz) [L.] Two or more veins accompanying an artery. They are usually present with the deep arteries of the extremities.

venation (vē-nā'shūn) The distribution of veins to an organ or structure.

vendor (vēn'dēr) [L. *vendor*, seller] Any person or company that designs, develops, sells, and/or supports goods or services to or for another party.

venectasia (vē'nēk-tā-zē-ā) [L. *vena*, a vein, + Gr. *ektasis*, dilation] Dilation of a vein. SYN: *phlebectasia*.

venectomy (vē-nēk'tō-mē) [v + Gr. *ektome*, excision] Phlebectomy.

vener (vē-nēr') In dentistry, a man-

made material, such as porcelain, that can be bonded to the surface of a tooth. It is used for cosmetic reasons.

venenosalivary (vēn'ē-nō-sāl'ī-vēr'ē) Venomosalivary.

venepuncture (vēn'ē-pūnk'chūr) [L. *vena*, vein, + *punctura*, a point] Venipuncture.

venereal (vē-nēr'ē-rē-āl) [L. *venereus*] Pert. to or resulting from sexual intercourse.

venereal collar SEE: *leukoderma*, *syphilitic*.

venereal disease A term formerly used to describe any illness transmitted by intimate sexual contact. SEE: *Nursing Diagnoses Appendix*.

venereologist (vē-nēr'ē-ōl'ō-jīst) [" + Gr. *logos*, word, reason] A doctor who specializes in the treatment of sexually transmitted diseases.

venereology (vē-nēr'ē-ōl'ō-jē) The scientific study and treatment of sexually transmitted diseases.

venesection (vēn'ē-sēk'shūn) [L. *vena*, vein, + *sectio*, a cutting] Surgical opening of a vein for withdrawal of blood. SYN: *phlebotomy*.

venin(e) (vēn'in) [L. *venenum*, poison] Toxic substance in snake venom. SYN: *venene*.

venipuncture (vēn'ī-pūnk'chūr) [L. *vena*, vein, + *punctura*, a point] Puncture of a vein, typically to obtain a specimen of blood. The pain of venipuncture may be diminished by several methods, including application of cold to the area just prior to the puncture; injection of sterile, normal saline intracutaneously to produce blanching of the site; and use of a local anesthetic to produce a wheal at the site. SEE: *intravenous infusion* for illlus.

venisuture (vēn'ī-sū'chūr) [" + *sutura*, a seam] Suture of a vein. SYN: *phleborrhaphy*.

venlafaxine (vēn-lā-fāk'sēn") An antidepressant that works by inhibiting serotonin and norepinephrine reuptake, thereby improving mood.

veno- Combining form meaning *vein*.

venoclysis (vē-nōk'lī-sīs) [" + Gr. *klysis*, a washing] The continuous injection of medicinal or nutrient fluid intravenously.

venofibrosis (vē'nō-fi-brō'sīs) Phlebosclerosis.

venogram (vē'nō-grām) [" + Gr. *gramma*, something written] 1. A radiograph of the veins. SYN: *phlebogram*. 2. A tracing of the venous pulse.

venography (vē-nōg'rā-fē) [" + Gr. *graphein*, to write] 1. A radiographic procedure to visualize veins filled with a contrast medium; most commonly used to detect thrombophlebitis. 2. The making of a tracing of the venous pulse.

venom (vēn'ōm) [L. *venenum*, poison] A poison secreted by some animals, such

as insects, spiders, or snakes, and transmitted by bites or stings.

snake v. The poisonous secretion of the labial glands of certain snakes. Venoms contain proteins, chiefly toxins and enzymes, which are responsible for their toxicity. They are classified as neurocytolysins, hemolysins, hemocoagulins, proteolysins, and cytolysins on the basis of the effects produced.

venomosalivary (vēn'ō-mō-sāl'ī-vēr'ē) Secreting saliva with venom in it.

venomotor (vē'nō-mō'tor) [L. *vena*, vein, + *motus*, moving] Pert. to constriction or dilatation of veins.

venomous (vēn'ō-mūs) 1. Poisonous. 2. Pert. to animals or insects that have venom-secreting glands.

venomous snake In the U.S., any of the pit vipers such as the copperhead, water moccasin, and rattlesnake of the family Crotalidae, and, in the southern U.S., the coral snakes (genus *Micrurus*), esp. *M. fulvius* and *M. euryxanthus*. Venomous snakes have a worldwide distribution. Specific names of snakes in the general vocabulary are listed under the first word. SEE: e.g., *cobra*; *copperhead*; *daboia*.

veno-occlusive (vē'nō-ō-kloo'siv) Concerning obstruction of veins.

venoperitoneostomy (vē'nō-pēr'ī-tō'nē-ōs'tō-mē) [L. *vena*, vein, + Gr. *peritonaion*, peritoneum, + *stoma*, mouth] A one-way valve shunt that connects the peritoneum with the internal jugular or subclavian vein, permitting the escape of ascitic fluid into the venous circulation. SEE: *LeVein shunt*.

venosclerosis (vē'nō-sklē-rō'sīs) [" + Gr. *sklerosis*, to harden] Sclerosis of veins. SYN: *phlebosclerosis*.

venosity (vē-nōs'ī-tē) [L. *vena*, vein] 1. A condition in which there is an excess of venous blood in a part, causing venous congestion. 2. Deficient aeration of venous blood.

venospasm (vē'nō-spāzm) [" + Gr. *spasmos*, a convulsion] Contraction of a vein, which may follow infusion of a cold or irritating substance into the vein.

venostasis (vē'nō-stā'sīs) [" + Gr. *stasis*, standing still] The trapping of blood in an extremity by compression of veins, a method sometimes employed for reducing the amount of blood being returned to the heart.

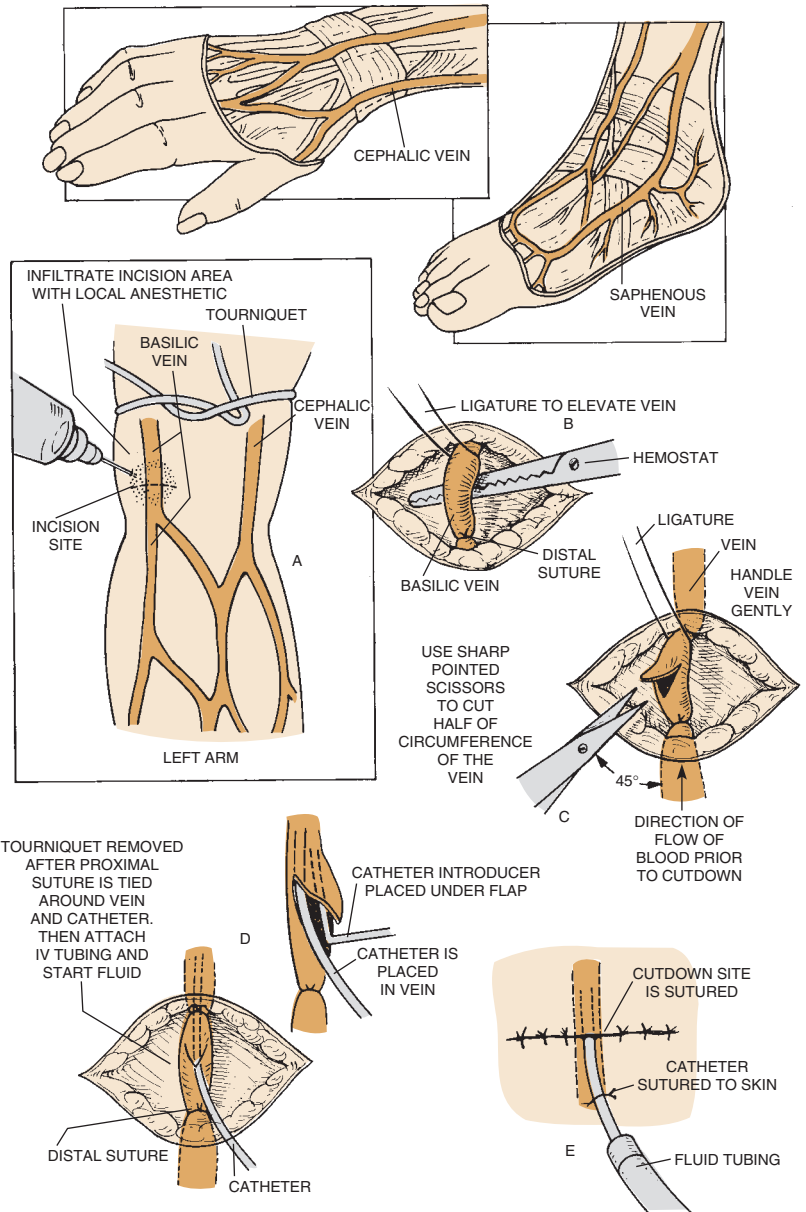
venostat (vē'nō-stāt) [" + Gr. *statikos*, standing] An appliance for performing venous compression.

venotomy (vē-nōt'ō-mē) [" + Gr. *tome*, incision] Incision of a vein.

venous (vē'nūs) [L. *vena*, vein] Pert. to the veins or blood passing through them.

venous admixture A mixture of venous and arterial blood.

venous blood Blood circulating in veins.



VENOUS CUTDOWN

In systemic veins it is dark and poorly oxygenated; in the pulmonary veins it is fully oxygenated.

venous cutdown Surgical incision in a vein to place a catheter to permit intravenous administration of fluids or drugs. It is used in patients with vascular collapse when gaining percutaneous

access to the circulation is difficult; however, this procedure is usually tried only when subclavian, jugular, or femoral access cannot be established. **SEE: illus.**

venous hum A murmur heard on auscultation over the larger veins of the neck.
venous hyperemia Passive hyperemia.

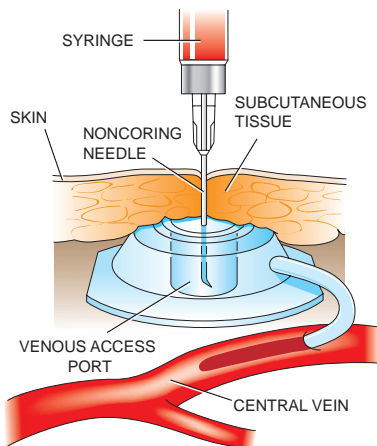
venous port, venous access port Part of a venous access device consisting of a subcutaneously implanted port through which medications are injected. Leading from the port is a catheter that is inserted in the cephalic, jugular, or subclavian vein. The catheter extends into the superior vena cava. The port has a self-sealing septum through which a needle is inserted to have access for administering medications, such as cancer chemotherapy agents, and for drawing blood samples. The septum of the port is made to withstand from 1000 to 2000 punctures depending on the size needle used. Sterile technique is used each time a needle enters the port. The port permits unrestricted patient activity. Each time it is used care must be taken to be certain the line is open and that the catheter in the vein has remained in the proper position. **SEE: illus.**

PATIENT CARE: Venous access ports are useful for patients requiring intermittent intravenous (IV) therapy such as chemotherapy or antibiotics, parenteral nutrition, blood products, or IV fluids, and/or intermittent blood sampling. The port may be implanted for 3 months to several years. It consists of a self-sealing silicone rubber septum (resembling the head of a stethoscope and measuring 7 to 10 mm in diameter) covering a metal or plastic reservoir and a silicone catheter connecting the reservoir to a central vein. Ports may have one or two lumens. The dual-lumen port has two noncommunicating reservoirs with their own catheters in a single port body. The most common site for port implantation is in the anterior chest below the clavicle, although other sites such as the upper arm are options. Once the site heals (5 to 7 days), the skin covering the device protects the patient from infec-

tion. Ports also may be open-ended (requiring flushing with a heparinized saline solution to prevent clotting, or valved (with no flushing needed between uses). The patient should be aware of which type device has been implanted, or should carry a wallet card identifying the device. When a port is not in active use the patient can participate in normal activities.

Sterile technique should be used when accessing a port. A topical anesthetic spray or cream should be applied, if the port has been recently implanted, or if the patient requests analgesia to prevent or reduce discomfort. The patient is positioned, so the site is easily viewed. The septum is palpated (unless newly implanted), and assessed for signs and symptoms of infection, such as redness, swelling, pain, and local warmth. Any infection should be documented, the patient's primary health care provider notified, and the site not accessed. For access, the port septum should be localized and stabilized using the nondominant hand, stretching the skin taut with the thumb and first two fingers. Patient anxiety about the procedure can be eased by speaking reassuringly to the patient throughout, explaining what is being done and the rationale for each action. The site is then prepared following agency procedure. The primed, noncoring needle (20 gauge is appropriate for most injections and infusions) is then held perpendicular to the septum with the dominant hand and inserted at a point between the thumb and fingers. Minimal resistance should be noted as the skin and port septum are punctured. The needle (which should be just long enough to reach the back of the port) is then advanced until the needle stop hits the back of the septum and the bottom of the reservoir is encountered, and blood is aspirated to verify correct needle placement. If resistance is encountered when inserting the needle, it may not be in the middle of the septum. If this occurs, the needle is carefully withdrawn and discarded, and a new, primed needle used. When accessing the port for an infusion, the wings of the noncoring needle are then secured with sterile wound closure strips or sterile tape. A skin protectant solution may be applied if this is part of local institutional protocol.

During continuous use, a needle can remain in place up to 7 days, although most agencies recommend change every 3 to 5 days. The venous access port is flushed per the institution's protocol, prior to being deaccessed. Following administration of prescribed therapy, the port is deaccessed. Hands are washed and nonsterile gloves are



IMPLANTABLE VENOUS ACCESS PORT

donned. Any dressing and tape are removed, and the skin held taut over the port using thumb and first two fingers. Maintaining light pressure on the port body, the needle is pulled straight out in a smooth movement, avoiding side-to-side movements that could damage the septum. A small amount of capillary bleeding may occur at the needle site, which is then covered with an adhesive bandage as desired. Documentation should include needle size, prescribed infusions or bolus dosings, needle and dressing changes and dates, patient tolerance of therapy(ies), complications, blood draws, and any changes in the patient's physical assessment.

venous return The amount of blood returning to the atria of the heart.

venous sinus A large-capacity vessel that carries venous blood. Important venous sinuses are those of the dura mater draining the brain and those of the spleen.

venous sinus of sclera Schlemm's canal.

venovenostomy (vē'nō-vē-nōs'tō-mē) [" + " + Gr. *stoma*, mouth] The formation of an anastomosis of a vein joined to a vein.

vent (vēnt) [O.Fr. *fente*, slit] An opening in any cavity, esp. one for excretion.

venter (vēn'tēr) [L., belly] **1.** A belly-shaped part. **2.** The cavity of the abdomen. **3.** The wide swelling part or belly of a muscle.

ventilation (vēn'tī-lā'shūn) [L. *ventilare*, to air] **1.** The movement of air into and out of the lungs. **2.** Circulation of fresh air in a room and withdrawal of foul air. **3.** In physiology, the amount of air inhaled per day. This can be estimated by spirometry, multiplying the tidal air by the number of respirations per day. An average figure is 10,000 L. This must not be confused with the total amount of oxygen consumed, which is on the average only 360 L/day. These volumes are more than doubled during hard physical labor.

adaptive support v. ABBR: ASV. A mode of mechanical ventilation in which the minute ventilation is not allowed to fall below a set threshold (e.g., in adults, below 100 ml/kg/min), but the inspiratory pressure, inspiratory rate, and tidal volume are all adjusted by the ventilator to the patient's needs.

abdominal displacement v. A non-invasive type of artificial ventilation that relies on displacement of the abdominal contents to move the patient's diaphragm.

airway pressure release v. A type of mechanical ventilation in which patients breathe spontaneously at any phase of the ventilator's duty cycle at high continuous positive airway pressures (CPAP). Periodically, the level of CPAP is lowered to eliminate waste gases from the circuit. This technique of

ventilation generally requires the patient's sedation.

alveolar v. The movement of air into and out of the alveoli. It is a function of the size of the tidal volume, the rate of ventilation, and the amount of dead space present in the respiratory system. It is determined by subtracting the dead space volume from the tidal volume and multiplying the result by the respiratory rate.

asynchronous v. In emergency cardiac or critical care, the administration of artificial breaths to a patient that are timed independently of chest compressions.

continuous positive-pressure v. A method of mechanically assisted pulmonary ventilation. A device administers air or oxygen to the lungs under a continuous pressure that never returns to zero.

dual control v. Mechanical ventilation initiated by either a change in airway pressures or by a change in gas flowing through the ventilator circuit. Dual control is asserted when pressure limited breaths are delivered and the pressure changes from breath to breath to meet a desired delivered tidal volume. It improves the coordination between the patient's respiratory efforts and machine-generated breaths.

high-frequency jet v. A type of ventilation that continuously ventilates at 100 to 150 cycles/min. It is used in respiratory failure to provide continuous ventilation without the side effects of positive-pressure ventilation.

high-frequency oscillatory v. ABBR: HFOV. Pulmonary ventilation with multiple rapid breaths given at small tidal volumes. It limits the stretching and collapse of the alveoli that occur in conventional mechanical ventilation.

high-frequency percussive v. Mechanical ventilation that decreases peak and end-expiratory pressure by delivering hundreds of shallow (low tidal volume) breaths per minute. It is a time-cycled, pressure-limited mode of ventilation.

intermittent mandatory v. ABBR: IMV. Machine ventilation that delivers pressurized breaths at intervals while allowing for spontaneous breathing.

intermittent positive-pressure v. A mechanical method of assisting pulmonary ventilation, using a device that inflates the lungs under positive pressure. Exhalation is usually passive. SYN: *breathing, intermittent positive-pressure.*

liquid v. An experimental technique used in treating premature infants with surfactant-deficient lungs. It is rarely used.

mandatory minute v. Ventilatory support that provides mechanical

breaths when the patient's spontaneous breathing does not occur frequently enough.

maximum sustainable v. The normal maximum breathing pattern that can be maintained for 15 min (usually approx. 60% of maximum voluntary ventilation).

maximum voluntary v. The maximum amount of gas that can be ventilated into and out of the lungs in a voluntary effort in a given time, measured in liters per minute.

mechanical v. Any form of artificially supplied ventilation.

minute v. ABBR: MV. The volume of air inhaled and exhaled in 60 sec. SEE: *minute volume*.

noninvasive v. The use of airway support administered through a face (nasal) mask instead of an endotracheal tube. Inhaled gases are given with positive end-expiratory pressure often with pressure support or with assist control ventilation at a set tidal volume and rate. Numerous studies have shown this technique to be as effective as, and better tolerated than, intubation and mechanical ventilation in patients with exacerbations of COPD. SEE: *illus.*



NONINVASIVE POSITIVE PRESSURE VENTILATION

positive-pressure mechanical v. Mechanical ventilatory support that applies positive pressure to the airway. The objectives include improving pulmonary gas exchange, relieving acute respiratory acidosis, relieving respiratory distress, preventing and reversing atelectasis, improving pulmonary compliance, preventing further lung injury, and avoiding complications. Positive-pressure ventilation can be life saving, but complications such as toxic effects of oxygen, laryngeal injury, tracheal stenosis, alveolar injury, barotrauma, pneumonia, and psychological problems may occur. SEE: *pressure, positive end-expiratory*.

pressure support v. A type of assisted ventilation that supplements a spontaneous breath. The patient controls the frequency and the duration and flow of inspiration from the ventilator.

protective v. A type of mechanical ventilation in which tidal volumes are set to avoid overstretching the alveoli, and pressures at the end of an inhaled breath are set to avoid alveolar collapse.

pulmonary v. The inspiration and expiration of air from the lungs.

synchronized intermittent mandatory v. ABBR: SIMV. Periodic assisted ventilation with positive pressure initiated by the patient and coordinated with spontaneous patient breaths. SEE: *intermittent mandatory v.*

transtracheal catheter v. An emergency procedure in which a catheter is placed percutaneously through the cricothyroid membrane and attached to a high-pressure, high-flow jet ventilator. This form of ventilation is used for patients with an upper airway obstruction who cannot be intubated.

ventilation coefficient The amount of air that must be respired for each liter of oxygen to be absorbed.

ventilation index ABBR: VI. A calculation used to determine the severity of respiratory illness (acute lung injury and/or respiratory distress syndrome) in critically ill patients. The VI is the partial pressure of arterial CO₂ multiplied by the peak airway pressure multiplied by the rate of ventilation, all divided by 1000.

Symbolically, the ventilation index is calculated as follows: $VI = [RR \times (PIP - PEEP) \times PaCO_2] / 1000$.

ventilation tube SEE: *grommet*.

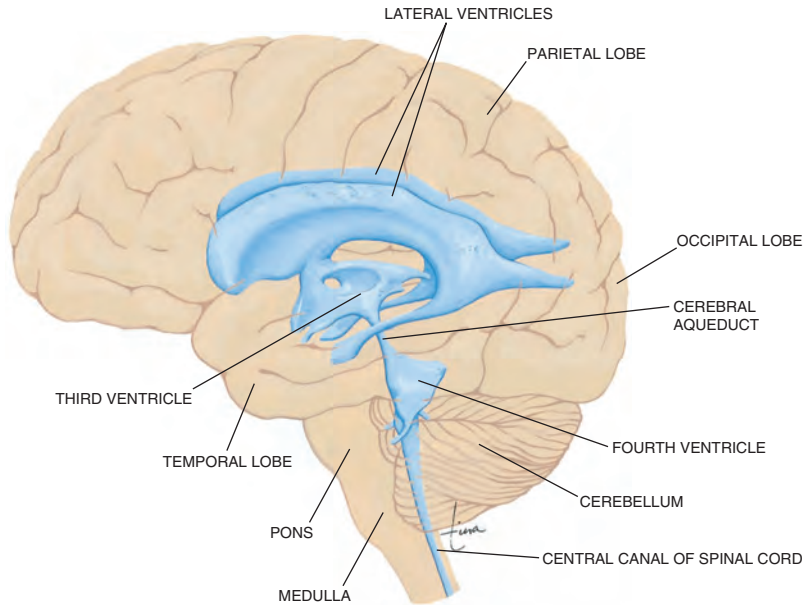
ventilator (vēnt'ī-lāt'or) A mechanical device for artificial ventilation of the lungs. The mechanism may be hand operated (although this is unusual) or machine driven and automated.

automatic transport v. ABBR: ATV. A portable battery- or gas-powered ventilator that can be used while transporting patients between locations. The ATV is designed for short-term use and often has separate volume and rate controls.

ventilator bundle A cluster of four evidenced-based safety measures that decrease the risk to patients of mechanical ventilation while in the intensive care unit. The elements of the bundle include elevating the head of the patient's bed; administering medications to prevent deep venous thrombosis; administering medications to reduce the incidence of peptic ulceration; and giving the ventilated patient periodic intermissions from sedation.

ventilator graphics Visual representations of airway pressures or airway flows as they vary over time.

ventilator support, weaning from The act of gradually removing persons with reversible forms of respiratory failure who are receiving mechanical ventilation from that support. This may be



VENTRICLES OF THE BRAIN

Left lateral view

done by alternating full ventilatory support with increasingly long periods of unassisted breathing. The timing and frequency of the weaning periods should be individualized to each patient. Usually by the time the patient can tolerate 2 hr of spontaneous breathing, ventilatory support may be discontinued.

PATIENT CARE: Weaning from mechanical ventilation is done only in the stable patient in whom the acute precipitating event has been corrected. The respiratory therapist should review current arterial blood gas reports, breathing pattern, vital signs, and vital capacity before each attempt at weaning. The procedure should be described to the patient and he or she should be told what to expect and what his or her role in weaning will be. The nurse, physician, and respiratory therapist should reassure the patient that he or she will not be endangered by weaning trials or left alone during these periods. The nurse and respiratory therapist should also provide positive reinforcement regarding the patient's progress and the anticipated successful termination of support. Patient status and response to the procedure should be continuously evaluated.

ventilatory weaning response, dysfunctional ABBR: DVWR. A state in which a patient cannot adjust to lowered levels of mechanical ventilator support, which interrupts and prolongs the weaning

process. SEE: *Nursing Diagnoses Appendix*.

Ventolin (vēn'tī-līn) SEE: *albuterol*.

ventouse (vēn-toos') [Fr.] A glass or glass-shaped vessel used in cupping.

ventrad (vēn'trād) [L. *venter*, belly, + *ad*, to] Toward the ventral aspect; the opposite of dorsad.

ventral (vēn'trāl) [L. *ventralis*, pert. to the belly] Pert. to the belly; the opposite of dorsal. Hence, in quadrupeds, pert. to the lower or underneath side of the body; in humans, pert. to the anterior portion or the front side of the body.

ventralis (vēn-trā'lis) [L.] Anterior, or closer to the front.

ventricle (vēn'trik-1) [L. *ventriculus*, a little belly] **1.** A small cavity. **2.** Either of two lower chambers of the heart that, when filled with blood, contract to propel it into the arteries. The right ventricle forces blood into the pulmonary artery and thence into the lungs; the left pumps blood into the aorta and then to the rest of the body. **3.** Any of the cavities of the brain filled with cerebrospinal fluid. SEE: *illus*.

fifth v. The cavity of the septum lucidum of the brain. It is between the two laminae of the septum lucidum.

fourth v. The cavity posterior to the pons and medulla and anterior to the cerebellum of the brain. It extends from the central canal of the upper end of the spinal cord to the aqueduct of the mid-brain. Its roof is the cerebellum and the

superior and inferior medullary vela. Its floor is the rhomboid fossa.

v. of larynx Morgagni's ventricle.

lateral v. The cavity in each cerebral hemisphere that communicates with the third ventricle through the interventricular foramen. It consists of a triangular central body and four horns, two inferior and two posterior.

left v. The cavity of the heart that receives blood from the left atrium and pumps it into the systemic circulation via the aorta.

Morgagni's v. SEE: under *Morgagni, Giovanni B.*

right v. The cavity of the heart that receives blood from the right atrium and pumps it into the lungs via the pulmonary artery.

ventricular (vĕn-trĭk'ū-lăr) [L. *ventriculus*, a little belly] Pert. to a ventricle.

ventricular assist pumping Use of a device to temporarily replace the pumping action of a diseased or nonfunctioning heart. SEE: *intra-aortic balloon counterpulsation*.

ventricular compliance Distensibility or stiffness of the relaxed ventricle of the heart.

ventricular remodeling Reshaping of heart muscle in response to injuries such as myocardial infarction, overload (hypertension), or valvular heart disease such as aortic stenosis or mitral regurgitation. Cardiac hypertrophy, fibrosis, and myocyte death are all potential consequences.

ventricular septal defect An abnormal opening in the septum between the ventricles of the heart that may produce shunting of blood from left to right, or other diseases.

ventriculitis (vĕn-trĭk'ū-lĭ'tĭs) [ʹ + Gr. *itis*, inflammation] Inflammation of a ventricle.

ventriculoatriostomy (vĕn-trĭk'ū-lō-ă-trĕ-ōs'tō-mĕ) [ʹ + *atrium*, corridor, + Gr. *stoma*, mouth] Plastic surgery for the relief of hydrocephalus. Subcutaneous catheters are placed to connect a cerebral ventricle to the right atrium via the jugular vein. The catheters contain one-way valves so that cerebrospinal fluid can flow into the catheters, but blood may not flow back into the cerebral ventricle.

ventriculocisternostomy (vĕn-trĭk'ū-lō-sĭs'tĕr-nōs'tō-mĕ) [ʹ + *cisterna*, box, chest, + Gr. *stoma*, mouth] Plastic surgery to create an opening between the ventricles of the brain and the cisterna magna.

ventriculocordectomy (vĕn-trĭk'ū-lō-kor-dĕk'tō-mĕ) [ʹ + Gr. *korde*, cord, + *ektome*, excision] Surgery for the relief of laryngeal stenosis. The ventricular floor is removed, but the buccal processes are left in place.

ventriculogram (vĕn-trĭk'ū-lō-grăm) [ʹ

+ Gr. *gramma*, something written] **1.** A radiograph of the cerebral ventricles. **2.** Injection of a contrast medium into the cardiac ventricles during angiocardiology, in order to estimate ejection fraction and wall motion.

ventriculography (vĕn-trĭk'ū-lōg'ră-fĕ) [ʹ + Gr. *graphein*, to write] **1.** An obsolete technique for visualizing the brain radiographically, that relied on the injection of air into the cerebrospinal fluid. It has been replaced by CT and MRI scans of the brain. **2.** Visualization of ventricles of the heart by radiograph after injection of a contrast material.

ventriculometry (vĕn-trĭk'ū-lōm'ĕ-trĕ) [ʹ + Gr. *metron*, measure] The measurement of the intraventricular cerebral pressure.

ventriculoperitoneal Pert. to the peritoneum and the ventricles of the brain.

ventriculoperitoneal shunt ABBR: VPS. A shunt connecting the ventricles of the brain to the peritoneum, used to treat hydrocephalus.

ventriculopuncture (vĕn-trĭk'ū-lō-pŭnk'tūr) [ʹ + *punctura*, a point] The use of a needle to puncture a lateral ventricle of the brain.

ventriculoscopy (vĕn-trĭk'ū-lōs'kō-pĕ) [ʹ + Gr. *skopein*, to examine] Examination of the ventricles of the brain with an endoscope.

ventriculostomy (vĕn-trĭk'ū-lōs'tō-mĕ) [ʹ + Gr. *stoma*, mouth] Plastic surgery to establish communication between the floor of the third ventricle of the brain and the cisterna interpeduncularis. This is done to treat hydrocephalus.

ventriculotomy (vĕn-trĭk'ū-lōt'ō-mĕ) [ʹ + Gr. *tome*, incision] Surgical incision of a ventricle.

ventriculus (vĕn-trĭk'ū-lŭs) [L., a little belly] **1.** Ventricle. **2.** Stomach. **3.** A ventricle of the brain or heart.

ventro- Combining form meaning *abdomen* or *ventral* (anterior).

ventrodorsal (vĕn'trō-dor'săl) [ʹ + *dorsum*, back] In a direction from the front to the back.

ventrofixation (vĕn'trō-fĭks-ă'shŭn) [ʹ + *fixatio*, to fix] The suture of a displaced viscus to the abdominal wall.

ventroinguinal (vĕn'trō-ĭng'gwĭ-năl) [ʹ + *inguen*, groin] Concerning the ventral and inguinal regions.

ventrolateral (vĕn'trō-lăt'ĕr-ăl) [ʹ + *latus*, side] Both ventral and lateral.

ventromedial (vĕn'trō-mĕ-dĕ-ăl) [ʹ + *medianus*, median] Both ventral and medial.

ventroscopy (vĕn-trōs'kō-pĕ) [L. *venter*, belly, + Gr. *skopein*, to examine] Examination of the abdominal cavity by illumination. SYN: *celioscopy*.

ventrose (vĕn'trōs) Having a swelling like a belly.

ventrosity (vĕn-trōs'ī-tē) Having an enlarged belly; obesity.

ventrosuspension (vĕn'trō-sūs-pĕn'shŭn) [*v* + *suspensio*, a hanging] The fixation of a displaced uterus to the abdominal wall.

ventrotomy (vĕn-trōt'ō-mē) [*v* + Gr. *tome*, incision] Incision into the abdominal cavity. SYN: *celiotomy*; *laparotomy*.

Venturi mask (vĕn-toor'ē) [Giovanni Battista Venturi, It. scientist, 1746–1822] A special mask for administering a controlled concentration of oxygen to a patient. These devices are better known as air entrainment masks rather than Venturi masks, because they do not actually work by the principle discovered by G.B. Venturi.

venturimeter (vĕn'tūr-ĭm'ĕ-tĕr) A device for measuring the flow of fluids through vessels.

venula (vĕn'ū-lā) [L., little vein] Venule.

venule (vĕn'ūl) [L., *venula*, little vein] A tiny vein continuous with a capillary. SYN: *venula*. SEE: *vein* for illus.

Venus, crown of (vĕ'nūs) A papular eruption around the hairline on the forehead caused by secondary syphilis.

verapamil (vĕr-āp'ā-mĭl) A calcium channel blocker, administered orally or intravenously to manage hypertension, angina pectoris, Prinzmetal's angina, and supraventricular arrhythmias. It is sometimes given to prevent migraine headaches. Its therapeutic classes are antianginal, antiarrhythmic, antihypertensive, and vascular headache suppressant. SYN: *Covera-HS*; *Verelan*.

verbigeration (vĕr-bĭj'ĕr-ā'shŭn) [L. *verbigere*, to chatter] Repetition of words that are either meaningless or have no significance.

verdigris (vĕr'dĭ-grĭs) [O.Fr. *vert de Grece*, green of Greece] **1.** Mixture of basic copper acetates. **2.** The green-gray deposit of copper carbonate on copper and bronze vessels.

verdohemoglobin (vĕr'dō-hĕm'ō-glōb'ĭn) A greenish pigment occurring as an intermediate product in the formation of bilirubin from hemoglobin.

Verelan Verapamil.

Verga's ventricle (vĕr'gāz) [Andrea Verga, It. neurologist, 1811–1895] A cleftlike space between the corpus callosum and the body of the fornix of the brain.

verge (vĕrj) An edge or margin.

anal v. The transitional area between the smooth perianal area and the hairy skin.

vergence (vĕr'jĕns) [L. *vergere*, to bend] A turning of one eye with reference to the other; may be horizontal (convergence or divergence) or vertical (intra-vergence or supravergence). SEE: *-phoria*.

vermicidal (vĕr'mĭ-sĭ'dāl) [L. *vermis*,

worm, + *cidus*, kill] Destroying parasitic worms in the intestines.

vermicide (vĕr'mĭ-sĭd) **1.** Destroying worms. **2.** An agent that will kill intestinal worms.

vermicular (vĕr-mĭk'ū-lār) [L. *vermicularis*] Resembling a worm.

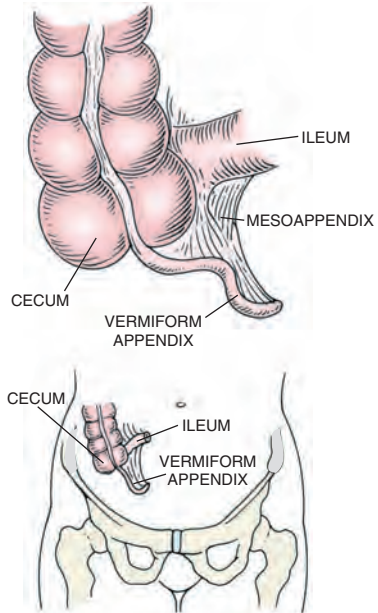
vermiculation (vĕr-mĭk'ū-lā'shŭn) [L. *vermiculare*, to wriggle] A wormlike motion, as in the intestines. SEE: *peristalsis*.

vermicule (vĕr'mĭ-kŭl) [L. *vermiculus*, a small worm] **1.** A small worm. **2.** Having a wormlike shape.

vermiculose, vermiculous (vĕr-mĭk'ū-lōs, vĕr-mĭk'ū-lūs) [L. *vermicularis*, wormlike] **1.** Infested with worms or larvae. **2.** Wormlike.

vermiform (vĕr'mĭ-form) [L. *vermis*, worm, + *forma*, shape] Shaped like a worm.

vermiform appendix A long, narrow, worm-shaped tube connected to the back of the cecum. It varies in length from less than 1 in to more than 8 in (2.5 to 20.3 cm) with an average of about 3 in (7.6 cm). Its distal end is closed. It is lined with mucosa similar to that of the large intestine. The appendix contains many lymph nodules. It is commonly referred to simply as "the appendix." SEE: *illus*.



VERMIFORM APPENDIX

vermifugal (vĕr'mĭf'ū-gāl) [*v* + *fugare*, to put to flight] Expelling worms from the intestines.

vermifuge (vĕr'mĭ-fŭj) Anthelmintic.

vermilionectomy (vĕr-mĭl'yōn-ĕk'tō-mē)

[ʹ + Gr. *ektome*, excision] Surgical removal of the vermilion border of the lip.

vermin (vēr'mīn) [L. *vermis*, worm] Animals such as mice, rats, roaches, lice, and bedbugs that despoil food, infest dwellings, or spread disease.

verminal (vēr'mī-nāl) Concerning or caused by worms.

vermination (vēr'mīn-ā'shūn) Vermin or worm infestation.

verminosis (vēr'mīn-ō'sīs) [ʹ + Gr. *osis*, condition] Infestation with vermin.

vermis (vēr'mīs) [L. worm] **1.** A worm. **2.** Vermis cerebelli.

v. cerebelli Median connecting lobe of the cerebellum.

vernal (vēr'nāl) [L. *vernalis*, pert. to spring] Occurring in or pert. to the spring.

Vernet's syndrome (vēr-nāz') [Maurice Vernet, Fr. physician, b. 1887] Paralysis of the glossopharyngeal, vagus, and spinal accessory nerves on the opposite side of a lesion involving the jugular foramen.

vernish (vēr'nīks) [L.] Varnish.

v. caseosa A protective sebaceous deposit covering the fetus during intrauterine life, consisting of exfoliations of the outer skin layer, lanugo, and secretions of the sebaceous glands. It is most abundant in the creases and flexor surfaces. It is not necessary to remove this after the fetus is delivered. SEE: *sebum*.

verometer (vē-ōm'ī-tēr) [Fm. O. Fr. *veer* + ʹ] A device that measures the ability of a lens to bend light rays into focus.

verotoxin (vē-ō-tōks'in) A heat-labile toxin produced by some types of *Escherichia coli*.

verruca (vēr-roo'kā) *pl.* **verrucae** [L., wart] Wart.

v. acuminata A pointed, reddish, moist wart about the genitals and the anus. It develops near mucocutaneous junctures, forming pointed, tufted, or pedunculated pinkish or purplish projections of varying lengths and consistency. Venereal warts should be treated with topically applied podophyllum resin. SYN: *condyloma*; *genital wart*; *venereal wart*.

v. digitata A form of verruca seen on the face and scalp, possibly serving as a starting point of cutaneous horns. Several filiform projections with horny caps are formed, closely grouped on a comparatively narrow base that in turn may be separated from the skin surface by a slightly contracted neck.

v. filiformis A small threadlike growth on the neck and eyelids covered with smooth and apparently normal epidermis.

v. gyri hippocampi One of the small wartlike protuberances on the convex surface of the gyrus hippocampi.

v. plana A flat or slightly raised wart.

v. plantaris Plantar wart.

v. vulgaris The common wart, usually found on the backs of the hands and fingers; however, it may occur on any area of the skin. SEE: *illus*.



VERRUCA VULGARIS

verruciform (vē-roo'sī-form) [L. *verruca*, wart, + *forma*, shape] Wartlike.

verrucose, verrucous (vēr'roo-kōs, vē-roo'kūs) [L. *verrucosus*, wartlike] Wartlike, with raised portions.

verrucosis (vēr'oo-kō'sīs) [L. *verruca*, wart, + Gr. *osis*, condition] The condition of having multiple warts.

verruca peruana (vē-roo'gā pēr-wān'ā) [Sp., Peruvian wart] A clinical form of bartonellosis. It is marked by a chronic, benign cutaneous eruption consisting of raised, reddish-purple nodules on the skin and mucous membranes. SEE: *bartonellosis*.

versicolor (vēr'sī-kōl'or) [L., of changing colors] **1.** Having many shades or colors. **2.** Changeable in color. SEE: *tinea versicolor*.

version (vēr'zhūn) [L. *versio*, a turning] **1.** Altering of the position of the fetus in the uterus. It may occur naturally or may be done mechanically by the physician to facilitate delivery. SEE: *conversion*. **2.** Deflection of an organ such as the uterus from its normal position.

bipolar v. Changing of the position of the fetus by combined internal and external manipulation.

cephalic v. Turning of the fetus so that the head presents.

combined v. Mechanical version by combined internal and external manipulation.

external v. Improving the presentation of an unengaged fetus by placing one's hands on the mother's abdomen and pushing, turning, or rotating the fetus.

internal v. Podalic v.

pelvic v. Turning a fetus from a transverse lie to a vertex (head down) presentation.

podalic v. Using two hands (one in-

side the uterus and one on the abdominal wall) to change a twin fetus from a breech to a vertex presentation. SYN: *internal version*.

spontaneous v. Unassisted conversion of fetal presentation by uterine muscular contractions.

vertebra (vēr'tē-brā) *pl. vertebrae* [L.] Any of the 33 bony segments of the spinal column: 7 cervical, 12 thoracic, 5 lumbar, 5 sacral, and 4 coccygeal vertebrae. In adults, the five sacral vertebrae fuse to form a single bone, the sacrum, and the four rudimentary coccygeal vertebrae fuse to form the coccyx.

A typical vertebra consists of a ventral body and a dorsal or neural arch. In the thoracic region, the body bears on each side two costal pits for reception of the head of the rib. The arch that encloses the vertebral foramen is formed of two roots or pedicles and two laminae. The arch bears seven processes: a dorsal spinous process, two lateral transverse processes, and four articular processes (two superior and two inferior). A deep concavity, the inferior vertebral notch, on the inferior border of the arch provides a passageway for a spinal nerve. The successive vertebral foramina form the vertebral, or spinal, canal that encloses the spinal cord.

The bodies of successive vertebrae articulate with one another and are separated by intervertebral disks, disks of fibrous cartilage enclosing a central mass, the nucleus pulposus. The inferior articular processes articulate with the superior articular processes of the next succeeding vertebra in the caudal direction. Several ligaments (supraspinous, interspinous, anterior and posterior longitudinal, and the ligamenta flava) hold the vertebrae in position, yet permit a limited degree of movement. Motions of the vertebral column include forward bending (flexion), backward bending (extension), side bending (lateral flexion), and rotation. Lateral flexion and rotation motions are coupled so that whenever the vertebrae bend to the side, they also rotate and vice versa. SEE: *sacrum* for illus.

basilar v. The lowest of the lumbar vertebrae.

cervical v. One of the seven vertebrae of the neck.

coccygeal v. One of the rudimentary vertebrae of the coccyx.

fixed v. The sacral and coccygeal vertebrae that fuse to form the sacrum and coccyx.

lumbar v. One of the five vertebrae between the thoracic vertebrae and the sacrum.

odontoid v. Axis (2).

v. prominens The seventh cervical vertebra.

sacral v. One of the five fused vertebrae forming the sacrum. SEE: *sacrum* for illus.

thoracic v. One of the 12 vertebrae that connect the ribs and form part of the posterior wall of the thorax. SEE: *spinal column* for illus.

vertebral (vēr'tē-brāl) [L. *vertebra*, *vertebra*] Pert. to a vertebra or the vertebral column.

vertebral body A short column of bone forming the weight-supporting portion of a vertebra. From its dorsolateral surfaces project the roots of the arch of a vertebra.

Vertebrata (vēr'tē-brā'tā) A subphylum of the phylum Chordata characterized by possession of a segmented backbone or spinal column. It includes the following classes: Agnatha (cyclostomes), Chondrichthyes (cartilaginous fishes), Osteichthyes (bony fishes), Amphibia, Reptilia, Aves, and Mammalia. Members of this subphylum possess an axial notochord at some period of their existence.

vertebrate (vēr'tē-brāt) [L. *vertebra*, *vertebra*] Having or resembling a vertebral column.

vertebrated (vēr'tē-brāt'ēd) Composed of jointed segments.

vertebrectomy (vēr'tē-brēk'tō-mē) [" + Gr. *ektome*, excision] Excision of a vertebra or part of one.

vertebro- Combining form indicating *vertebra*.

vertebroarterial (vēr'tē-brō-ār-tē'rē-āl) [" + Gr. *arteria*, artery] Concerning the vertebral artery.

vertebrobasilar (vēr'tē-brō-bās'ī-lār) [" + *basilaris*, basilar] Concerning the vertebral and basilar arteries.

vertebrochondral (vēr'tē-brō-kōn'drāl) [" + Gr. *chondros*, cartilage] Pert. to the vertebrae and the costal cartilages.

vertebrocostal (vēr'tē-brō-kōs'tāl) [" + *costa*, rib] Costovertebral.

vertebroplasty (ver'tē-brō-plās-tē) Plastic surgical repair of a vertebra.

vertebrosternal (vēr'tē-brō-stēr'nāl) [" + Gr. *sternon*, chest] Pert. to a vertebra and the sternum.

vertex (vēr'tēks) [L., summit] The top of the head. SYN: *crown*.

vertical (vēr'tī-kāl) [L. *verticalis*, summit] **1.** Pert. to or situated at the vertex. **2.** Perpendicular to the plane of the horizon of the earth; upright.

vertical-banded gastroplasty A bariatric surgical procedure that restricts the passage of food into the stomach, increasing the feeling of satiety after a meal.

verticalis (vēr'tī-kāl'īs) [L.] Vertical, indicating any plane that passes through the body parallel to the long axis of the body.

verticality (vēr'tī-kāl'ī-tē) The ability to perceive accurately the vertical position

in the absence of environmental cues. Deficits in vertical perception may result in a tendency for patients to fall.

verticillate (vēr-tis'il-ăt, -tis-il'ăt) [L. *verticillus*, a little whirl] Arranged like the spokes of a wheel or a whorl.

vertiginous (vēr-tij'ĭ-nūs) [L. *vertiginosus*, one suffering from dizziness] Pert. to or afflicted with vertigo.

vertigo (vēr'ti-gō, vēr-ti'gō) [L. *vertigo*, a turning round] The sensation of moving around in space (subjective vertigo) or of having objects move about the person (objective vertigo). Vertigo is sometimes inaccurately used as a synonym for dizziness, lightheadedness, or giddiness. It may be caused by a variety of entities, including middle ear disease; toxic conditions such as those caused by salicylates, alcohol, or streptomycin; sunstroke; postural hypotension; or toxemia due to food poisoning or infectious diseases. SEE: *vection* (2).

PATIENT CARE: Assessment should include whether the patient experiences a sense of turning or whirling and its direction; whether it is intermittent and the time of day it occurs; whether it is associated with drugs, turning over in bed, occupation, or menses; whether it is associated with nausea and vomiting or with nystagmus and migraine. Safety measures, such as the use of siderails in bed, are instituted. The patient should ambulate gradually after a slow, assisted move from a sitting position. The call bell should be available at all times; tissues, water, and other supplies should be within easy reach; and furniture and other obstacles should be removed from the path of ambulation. The patient who has undergone ear surgery and experiences severe vertigo should be confined to bed for several days and then begin to gradually increase activity.

alternobaric v. Vertigo associated with a sudden decrease in the pressure to which the inner ear is exposed. This could occur when a scuba diver ascends quickly or when an aircraft ascends quickly. SEE: *bends*.

auditory v. Vertigo due to disease of the ear.

benign paroxysmal positional v. ABBR: BPPV. A disorder of the inner ear (labyrinth) characterized by intermittent attacks of vertigo triggered by positional changes of the head. Each episode of vertigo may last from less than a minute to a few minutes, with varying degrees of symptom severity. Episodes may recur for weeks intermittently over a period of years.

SYMPTOMS: A sudden change in head position (such as turning over from one side to another in bed) brings on symptoms that may include dizziness or vertigo, lightheadedness, imbalance,

and nausea. Dropping the head back when lying down, rolling over in bed, and getting out of bed are common problematic motions. BPPV may be called "top shelf" vertigo because its sufferers often feel dizzy and unsteady when tipping their heads back to look up. Stationary beauty parlor hairdryers may bring on symptoms. Symptoms of vertigo are often accompanied by nystagmus.

PATIENT CARE: Motion sickness medications (e.g., the antihistamine meclizine) may be prescribed to control associated nausea. Several physical maneuvers (habituation or Brand-Daroff exercises) taught to the patient provide effective relief of symptoms. SYN: *canalithiasis*. SEE: *canalith repositioning maneuver*.

central v. Vertigo caused by disease of the central nervous system.

cerebral v. Vertigo due to brain disease.

epidemic v. Vertigo that may occur in epidemic form. It is believed to be due to vestibular neuronitis.

epileptic v. Vertigo accompanying or following an epileptic attack.

essential v. Vertigo from an unknown cause.

gastric v. Vertigo associated with a gastric disturbance.

horizontal v. Vertigo that occurs while the patient is supine.

hysterical v. Vertigo accompanying hysteria.

labyrinthine v. An out-of-date term for Ménière's disease.

laryngeal v. Vertigo and fainting during a coughing spell in patients with chronic bronchitis. SYN: *laryngeal syncope*.

objective v. Vertigo in which stationary objects appear to be moving.

ocular v. Vertigo caused by disease of the eye.

organic v. Vertigo due to a brain lesion.

peripheral v. Vertigo due to disturbances in the peripheral areas of the central nervous system.

positional v. Vertigo that occurs when the head is tilted toward a specific axis. SYN: *postural vertigo*. SEE: *benign paroxysmal v.*; *Brandt-Daroff maneuvers*; *canalith repositioning maneuver*.

postural v. Positional vertigo.

rotary v. Subjective v.

subjective v. Vertigo in which the patient has the sensation of turning or rotating. SYN: *rotary vertigo*.

toxic v. Vertigo caused by the presence of a toxin in the body.

vertical v. Vertigo produced by standing or by looking up or down.

vestibular v. Vertigo due to disease or malfunction of the vestibular apparatus.

verumontanitis (vēr'ū-mōn'tān-ī'tis) [L. *veru*, spit, dart, + *montanus*, mountainous, + Gr. *itis*, inflammation] Inflammation of the verumontanum. SYN: *colliculitis*.

verumontanum (vēr'ū-mōn-tā'nūm) [L. *veru*, spit, dart, + *montanus*, mountainous] An elevation on the floor of the prostatic portion of the urethra where the seminal ducts enter.

Vesalius, vein of The small emissary vein from the cavernous sinus passing through the foramen of Vesalius and conveying blood to the pterygoid plexus.

vesica (vē-sī'kā) [L.] A bladder.

vesical (vēs'ī-kāl) Pert. to or shaped like a bladder.

vesical reflex An inclination to urinate caused by moderate bladder distention.

vesicant (vēs'ī-kānt) [L. *vesicare*, to blister] 1. Blistering; causing or forming blisters. 2. An agent used to produce blisters. It is much less severe in its effects than are escharotics. 3. A blistering gas used in chemical warfare. SYN: *vesicatory*. SEE: *gas, vesicant*.

vesication (vēs'ī-kā'shūn) 1. The process of blistering. 2. A blister.

vesicatory (vēs'ī-kā-tor'ē) Vesicant.

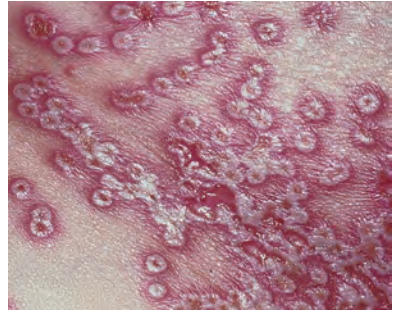
vesicle (vēs'ī-kl) [L. *vesicula*, a little bladder] A small blister-like elevation on the skin containing serous fluid. Vesicles may vary in diameter from a few millimeters to a centimeter. They may be round, transparent, opaque, or dark elevations of the skin, sometimes containing seropurulent or bloody fluid. In sudamina, they result from sweat that cannot escape from the skin; in herpes, they are mounted on an inflammatory base, having no tendency to rupture but associated with burning pain. In herpes zoster, they follow dermatomes. In dermatitis venenata, they result from contact with poison ivy or oak and are accompanied by great itching. They are also seen in dermatitis herpetiformis or multiformis. In impetigo contagiosa, they occur, esp. in children, in discrete form, flat and umbilicated, filled with straw-colored fluid, with no tendency to break. They dry up, forming yellow crusts with little itching. They are also seen in vesicular eczema, molluscum contagiosum, miliaria (prickly heat or heat rash), chickenpox, smallpox, and scabies. SEE: *illius*; *herpes; miliaria*.

brain v. One of the five embryonic subdivisions of the brain.

compound v. Multilocular v.

optic v. A hollow outgrowth from the lateral aspects of the embryonic brain. The retinae and optic nerves develop from these paired vesicles.

seminal v. One of two saccular glands below the urinary bladder in males. The duct from each joins the vas deferens on its own side to form the ejaculatory duct. The seminal vesicle pro-



VESICLES

duces an alkaline, fructose-rich secretion that enhances sperm motility and nourishes the sperm.

transfer v. An intracellular vesicle that carries proteins from one organelle to another; e.g., from the endoplasmic reticulum to the Golgi apparatus.

vesico- (vēs'ī-kō) Combining form meaning *bladder, vesicle*.

vesicocele (vēs'ī-kō-sē'l) [L. *vesica*, bladder, + Gr. *kele*, tumor, swelling] Hernia of the bladder into the vagina. SYN: *cystocele*.

vesicoclysis (vēs'ī-kōk'li-sīs) [v. + Gr. *klysis*, a washing] Injection of fluid into the bladder.

vesicofixation (vēs'ī-kō-fiks-ā'shūn) [L. *vesica*, bladder, + *fixatio*, a fixing] Attachment of the uterus to the bladder or the bladder to the abdominal wall.

vesicoprostatic (vēs'ī-kō-prōs-tāt'īk) [v. + Gr. *prostatae*, prostate] Rel. to the bladder and prostate.

vesicopubic (vēs'ī-kō-pū'bīk) [v. + NL. (*os*) *pubis*, bone of the groin] Pert. to the bladder and os pubis.

vesicopustule (vēs'ī-kō-pūs'tūl) [v. + *pustula*, blister] A vesicle in which pus has developed.

vesicostomy (vēs'ī-kōs'tō-mē) [v. + Gr. *stoma*, mouth] Surgical production of an opening into the bladder.

vesicotomy (vēs'ī-kōt'ō-mē) [v. + Gr. *tome*, incision] Incision of the bladder.

vesicoureteral (vēs'ī-kō-ūr-ē'tēr-āl) [v. + Gr. *oureter*, ureter] Concerning the urinary bladder and a ureter.

vesicouterine (vēs'ī-kō-ūr-ē'tēr-īn) [v. + *uterinus*, pert. to the womb] Pert. to the urinary bladder and uterus.

vesicouterine pouch Downward extension of the peritoneal cavity located between the bladder and uterus.

vesicula (vē-sīk'ū-lā) *pl.* **vesiculae** [L.] A small bladder or vesicle.

vesicular (vē-sīk'ū-lār) Pert. to vesicles or small blisters.

vesicular eczema Eczema accompanied by the formation of vesicles.

vesiculated (vē-sīk'ū-lāt'ēd) Having vesicles present.

vesiculation (vē-sīk"ū-lā'shūn) [L. *vesicula*, a tiny bladder] The formation of vesicles or the state of having or forming them.

vesiculectomy (vē-sīk"ū-lēk'tō-mē) [" + Gr. *ektome*, excision] Partial or complete excision of a vesicle, particularly a seminal vesicle.

vesiculiform (vē-sīk"ū-lī-form) [" + *forma*, shape] Having the shape of a vesicle.

vesiculitis (vē-sīk"ū-lī'tīs) [" + Gr. *itis*, inflammation] Inflammation of a vesicle, particularly the seminal vesicle.

vesiculobronchial (vē-sīk"ū-lō-brōng'kē-āl) [" + Gr. *bronchos*, windpipe] Both vesicular and bronchial.

vesiculocavernous (vē-sīk"ū-lō-kāv'ēr-nūs) [" + *caverna*, a hollow] Vesicular and cavernous.

vesiculogram (vē-sīk'ū-lō-grām) [" + Gr. *gramma*, something written] A radiograph of the seminal vesicles.

vesiculography (vē-sīk"ū-lōg'rā-fē) [" + Gr. *graphein*, to write] Radiography of the seminal vesicles after the injection of a contrast medium. This procedure has been replaced by ultrasound imaging.

vesiculopapular (vē-sīk"ū-lō-pāp'ū-lār) [" + *papula*, pimple] Composed of vesicles and papules.

vesiculopustular (vē-sīk"ū-lō-pūs'tū-lār) [" + *pustula*, blister] Having both vesicles and pustules.

vesiculotomy (vē-sīk"ū-lōt'ō-mē) [" + Gr. *tome*, incision] Surgical incision into a vesicle, as a seminal vesicle.

vesiculotubular (vē-sīk"ū-lō-tū'bū-lār) [" + *tubularis*, like a tube] Sounds from auscultation of the chest that have both vesicular and tubular qualities.

vesiculotympanic (vē-sīk"ū-lō-tīm-pān'īk) [" + Gr. *tympanon*, drum] Having both vesicular and tympanic qualities.

Vespidae (vēs'pī-dē) [L. *vespa*, wasp] Family of wasps, including paper wasps, hornets, and yellow jackets.

Vespula vulgaris (vēs'pūl-ā vūl-gār'īs) [NL., common (little) wasp] The scientific name for the yellow jacket. The yellow jacket is a black-and-yellow-striped stinging wasp whose venom, abbreviated *Ves v* by the World Health Organization, may cause anaphylaxis in susceptible individuals.

vessel (vēs'ēl) [O.Fr. from L. *vascellum*, a little vessel] A tube, duct, or canal to convey the fluids of the body. SYN: *vas*.

blood v. Any of the vessels carrying blood (i.e., arteries, veins, and capillaries).

collateral v. A vessel parallel to the vessel from which it arose.

conduit v. One of the large blood vessels that conducts fluid from the heart to the systemic circulation. The elasticity of these vessels is an impor-

tant factor in the development of hypertension.

great v. One of the large blood vessels entering and leaving the heart.

lacteal v. Lacteal (2).

lymphatic v. A thin-walled vessel that conveys lymph from the tissues. These vessels resemble veins in structure, possessing three layers (intima, media, and adventitia) and paired valves.

nutrient v. One of the vessels supplying specific areas such as the interior of bones.

vestibular bulb One of the two sacculated collections of veins, lying on either side of the vagina beneath the bulbocavernosus muscle, connected anteriorly by the pars intermedia, and through this strip of cavernous tissue communicating with the erectile tissue of the clitoris. The vestibular bulbs are the homologues of the male corpus spongiosum. Injury during labor may give rise to troublesome bleeding. SEE: *Bartholin's gland*; *vagina*; *vestibule of vagina*.

vestibular nerve A main division of the acoustic or eighth cranial nerve; arises in the vestibular ganglion and is concerned with equilibrium.

vestibule (vēs'tī-būl) A small space or cavity at the beginning of a canal, such as the aortic vestibule. **vestibular** (vēs'tīb'ū-lār), *adj.*

aortic v. The part of the left ventricle of the heart just below the aortic valve.

buccal v. The part of the oral cavity bounded by the teeth, gingiva, and alveolar processes and laterally by the cheek.

v. of ear The middle part of the inner ear, behind the cochlea; and in front of the semicircular canals; it contains the utricle and saccule.

v. of larynx The portion of the larynx above the vocal cords.

v. of mouth The thin space between the teeth and gums, and the lips and cheeks. SYN: *oral vestibule*.

v. of nose The anterior part of the nostrils, containing the vibrissae.

oral v. Vestibule of mouth.

v. of vagina An almond-shaped space between the lines of attachment of the labia minora. The clitoris is situated at the superior angle; the inferior boundary is the fourchette. The vestibule is approx. 4 to 5 cm long and 2 cm in greatest width when the labia minora are separated. Four major structures open into the vestibule: the urethra anteriorly, the vagina into the midportion, and the two secretory ducts of the glands of Bartholin laterally. The mucous membrane is stratified squamous epithelium. SEE: *Bartholin's gland*; *vagina*; *vestibular bulb*.

vestibuloplasty (vēs'tīb'ū-lō-plās'tē) ["

+ Gr. *plassein*, to mold] Plastic surgery of the vestibule of the mouth.

vestibulotomy (vĕs-tĭb'ū-lōt'ō-mĕ) [+ Gr. *tome*, incision] Surgical incision into the vestibule of the inner ear.

vestibulum (vĕs-tĭb'ū-lŭm) *pl.* **vestibula** [L.] Vestibule.

vestige (vĕs'tĭj) [L. *vestigium*, footprint] A small degenerate or incompletely developed structure that has been more fully developed in the embryo or in a previous stage of the species.

vestigial (vĕs-tĭj'ĕ-ĭl) Of the nature of a vestige. SYN: *rudimentary*.

vestigium (vĕs-tĭj'ĕ-ŭm) *pl.* **vestigia** [L., a footprint] Vestige.

veterinarian (vĕt'ĕr-ĭ-nār'ĕ-ĭn) One who is trained and licensed to practice veterinary medicine and surgery.

veterinary (vĕt'ĕr-ĭ-nār'ĕ) 1. Pert. to animals, their diseases, and their treatment. 2. A veterinarian.

VF *ventricular fibrillation; vocal fremitus*.

V factor Nicotinamide adenine dinucleotide.

V.H. *viral hepatitis*.

via (vĕ'ā, vĭ'ā) *pl.* **viae** [L.] Any passage in the body such as nasal, intestinal, or vaginal.

viability (vĭ'ā-bĭl'ĭ-tĕ) [L. *vita*, life, + *habilis*, fit] The capacity for living, growing, developing, or surviving. It is used, for example, in reference to a premature fetus once it reaches a certain size or gestational age, or in determining the likelihood that an injured limb or transplanted organ will survive or flourish. **viabile**, *adj.*

Viagra SEE: *sildenafil*.

vial (vĭ'āl) [Gr. *phiale*, a drinking cup] A small glass bottle for medicines or chemicals.

multiple-dose v. A container that holds more than one dose of a medication.



Contamination of multiple-dose vials may occur when health care providers fail to follow standard precautions or sterile procedures. Multiple-dose vials should be stored at temperatures specified by the manufacturer or pharmacist and be discarded when or if contamination is suspected or after the expiration date on the vial.

single-dose v. A container that holds enough medication for one patient's immediate needs. Single-dose vials should not be reused or refilled.

viator (vĭ'ā-tōr) An individual, usually one with a terminal illness, who sells rights to his or her insurance policy in exchange for an antemortem benefit collection.

vibex (vĭ'bĕks) *pl.* **vibices** [L. *vibix*, mark of a blow] A narrow linear mark of hemorrhage into the skin.

vibration (vĭ-brā'shŭn) 1. A to-and-fro movement. SYN: *oscillation*. 2. Therapeutic shaking of the body, a form of massage. It consists of a quick motion of the fingers or the hand vertical to the body or use of a mechanical vibrator. Chest wall vibration is a component of pulmonary hygiene; it improves respiratory function in patients with chronic obstruction lung disease, and can be used as an adjunctive treatment for pneumonia when it is used with postural drainage.

vibrative (vĭb'rā-tĭv) 1. Vibratory. 2. Indicating sound produced by vibration of parts of the respiratory tract as air passes through.

vibrator (vĭ'brā-tor) [L. *vibrator*, a shaker] A device that produces rapid to-and-fro movements in the body or one of its parts. In health care, vibrators are used in hearing aids and middle ear implants; in pulmonary hygiene to assist in clearing secretions or to stimulate diaphragmatic movement; in patients with sexual dysfunction (e.g., patients with spinal cord injuries affecting orgasm, or other organic difficulties); or in the relief of muscle contraction in some patients with neurological deficits.

whole body v. Exposure of the entire body to vibration as would occur in occupations such as truck and tractor drivers, jackhammer operators, helicopter pilots, and construction workers using various vibration-producing tools. Such exposure may produce diseases of the peripheral nerves, prostatitis, and back disorders.

vibratory (vĭ'brā-tō'rĕ) [L. *vibrator*, a shaker] Having a vibrating or oscillatory movement.

vibratory sense The ability to perceive vibrations transmitted through the skin to deep tissues; usually tested by placing a vibrating tuning fork over bony prominences.

Vibrio (vĭb'rĕ-ō) A genus of curved, motile, gram-negative bacilli, several of which may be pathogenic for humans.

V. cholerae The causative agent of cholera.

V. parahaemolyticus A marine vibrio, a common cause of gastroenteritis involving raw or poorly cooked seafood.

V. vulnificus A marine vibrio that may cause fulminant gangrene if it contaminates wounds or may cause fatal septicemia if ingested by those with impaired gastric, liver, kidney, or immune function. The usual source in such cases is raw shellfish.

vibrio (vĭb'rĕ-ō) *pl.* **vibriones** An organism of the genus *Vibrio*. SEE: *bacteria* for illus.

vibriocidal (vĭb'rĕ-ō-sĭ'dāl) Destructive to vibrio organisms.

vibron (vĕ'brĕ-ōn') [Fr.] A vibrio.

vibriosis (vĭb'ĕ-rē-ō'sīs) Infection with bacteria of the genus *Vibrio*.

vibrissae (vĭ-brĭs'ĕ) *sing.*, **vibrissa** [L. *vibrissa*, that which shakes] Stiff hairs within the nostrils at the anterior nares.

vibromassage (vĭ'brō-mā-sāj') A massage in which a mechanical vibrator is used.

vibrometer (vĭ-brōm'ĕt-ĕr) [L. *vibrare*, to shake, + Gr. *metron*, measure] A device used to measure the vibratory sensation threshold. It is particularly useful in judging the progression or remission of peripheral neuropathy.

vibrotactile (vĭ'brō-tāk'tĭl) [ʹ + ʹ] Pertaining to the sense of touch that perceives vibrations.

vibrotactile aid Any instrument that uses vibrations as a sensory substitute for sound. Vibrotactile aids are used by some deaf people to enhance speech recognition, specifically the intensity, pitch, duration, or patterns of spoken words.

vicarious (vĭ-kā'rē-ūs) [L. *vicarius*, change, alternation] Acting as a substitute; pert. to assumption of the function of one organ by another.

vicarious learning Learning through indirect experience.

Vicodin (vĭ'kū-dĭn) SEE: *hydrocodone bitartrate*.

Vicq d'Azur's tract (vĭk dā-zēr'z) [Felix Vicq d'Azur, Fr. anatomist, 1748–1794] A large myelinated bundle arising in mammillary nuclei and terminating in the anterior thalamic nuclei of the brain.

video-assisted Facilitated by live televised images; used for certain surgical techniques.

video clip A brief, recorded, viewable file linked to a website or an electronic message used to educate students or to relay visual information, e.g., from real-time ultrasonography or angiography, from one user to another.

video display terminal ABBR: VDT. A terminal used in information processing (computer terminal) and entertainment (TV picture tube) that produces an image on a screen (target) by bombarding it with electrons. This causes the fluorescent material that coats the screen to emit light. The effects on workers involved with the use of VDTs have been investigated with respect to a variety of factors. There is no evidence that reproductive or visual health is impaired by working with VDTs. Those who work with VDTs may experience musculoskeletal difficulties if the workplaces are poorly designed. This may be due to the screen being positioned in a way that promotes poor posture, or the chair being of improper design. SEE: *ergonomics*.

video electroencephalography ABBR: V-EEG. The simultaneous use of digi-

tal video recording and 16-channel electroencephalography. It is used as a diagnostic aid in refractory epilepsy and may help confirm a diagnosis of psychogenic seizures.

videognosis (vĭd'ĕ-ōg-nō'sīs) [L. *videre*, to see, + Gr. *gnosis*, knowledge] Diagnosis using data and radiographic images transmitted by the use of television.

video-stroboscope A closed-circuit television recording technique used to obtain images while the field is illuminated by use of a stroboscope. Using this provides sequential views of objects in motion.

vidian artery (vĭd'ĕ-ān) [Guido Guidi (L. *Vidius*), It. physician, 1500–1569] The artery passing through the pterygoid canal. SYN: *artery of the pterygoid canal*.

vidian nerve A branch from the sphenopalatine ganglion.

view A body part as seen by an x-ray film or other recording medium.

view box A device made of lights placed behind a translucent screen and used to provide backlighting for a radiographic image. It helps clinicians see the brightness, contrast, and details of an image. Also known as an illuminator.

vigil (vĭj'ĭl) [L., awake] Insomnia, wakefulness.

coma v. A delirious, drowsy state in which the patient is partially conscious and occasionally responsive to stimuli. SEE: *vigilambulism*.

vigilambulism (vĭj'ĭl-ām'bū-lĭzm) [ʹ + *ambulare*, to walk, + Gr. *-ismos*, condition] Automatism that occurs while the person is awake; resembles somnambulism.

vigilance (vĭj'ĭ-lāns) [L. *vigilantia*, wastefulness] The condition of being attentive, alert, and watchful.

vignetting (vin-yĕt'ĭng) In radiology, a loss in brightness and focus toward the periphery of the output phosphor during image intensification.

vigor (vĭg'or) [L.] Active force or strength of body or mind.

Villaret's syndrome (vē-lār-āz') [Maurice Villaret, Fr. neurologist, 1877–1946] Ipsilateral paralysis of the 9th, 10th, 11th, 12th, and sometimes the 7th cranial nerves and the cervical sympathetic fibers. It is caused by a lesion in the posterior retroperitoid space. The signs and symptoms include paralysis and anesthesia of the pharyngeal area with difficulty swallowing; loss of taste sensation in the posterior third of the tongue; paralysis of the vocal cords and the sternocleidomastoid and trapezius muscles; and Horner's syndrome.

villi (vĭl'ĭ) [L.] Pl. of villus.

villoma (vĭ-lō'mā) [L. *villus*, tuft of hair, + Gr. *oma*, tumor] A villous tumor.

villose, villous (vĭl'ōs, vĭl'ūs) [L. *villus*,

tuft of hair] Pert. to or furnished with villi or with fine hairlike extensions.

villositis (vil'ōs-ī'tīs) [v + Gr. *itis*, inflammation] Inflammation of the placental villi.

villosity (vil-lōs-ī-tē) The condition of being covered with villi.

villus (vil'ūs) *pl.* **villi** [L., tuft of hair] A small fold or projection of some mucous membranes.

arachnoid v. Arachnoid granulation.

chorionic v. One of the tiny vascular projections of the chorionic surface that become vascular and help to form the placenta. SEE: *embryo* for *illus*; *chorion*.

intestinal v. One of the multiple, minute projections of the intestinal mucosa into the lumen of the small intestine. These projections increase the surface area for absorption of water and nutrients; each contains a capillary network and a lacteal. SEE: *illus*.

villusectomy (vil'ūs-ēk'tō-mē) [v + Gr. *ektome*, excision] Surgical removal of a synovial villus.

VIN *Vulvar intraepithelial neoplasia*.

Vinca (vīn'kā) A genus of herbs including periwinkles, from which vincristine and vinblastine are obtained.

Vincent's angina (vīn'sēnts) Necrotizing ulcerative gingivitis.

vinclozolin A fungicide used in agriculture, especially for the protection of vegetables and fruits, such as grapevines in vineyards. It is an antiandrogen; i.e., an agent that opposes the action of male hormones.

vinculum (vīn'kū-lūm) *pl.* **vincula** [L., to

bind, tie] A uniting band or bundle. SYN: *frenulum*; *frenum*; *ligament*.

v. tendinum 1. Slender tendinous filaments connecting the phalanges with the flexor tendons. **2.** The ringlike ligament of the ankle or wrist.

vinegar (vīn'ē-gār) [ME. *vinegre*, from Fr. *vin*, wine, + *aigre*, sour] An impure solution containing 4% to 6% acetic acid. It is the product of fermentation of weak alcoholic solutions such as apple cider. SEE: *condiment*.

vinyl (vī'nīl) The univalent ethenyl hydrocarbon molecule, CH₂=CH—.

v. chloride A vinyl radical attached to a chlorine atom, CH₂=CHCl. It is used commercially to make pipes, tubing, and plastic resin. Some individuals exposed to vinyl chloride have developed hepatic angiosarcoma.

v. cyanide A toxic liquid compound, CH₂=CHCN, used in making plastics. SYN: *acrylonitrile*.

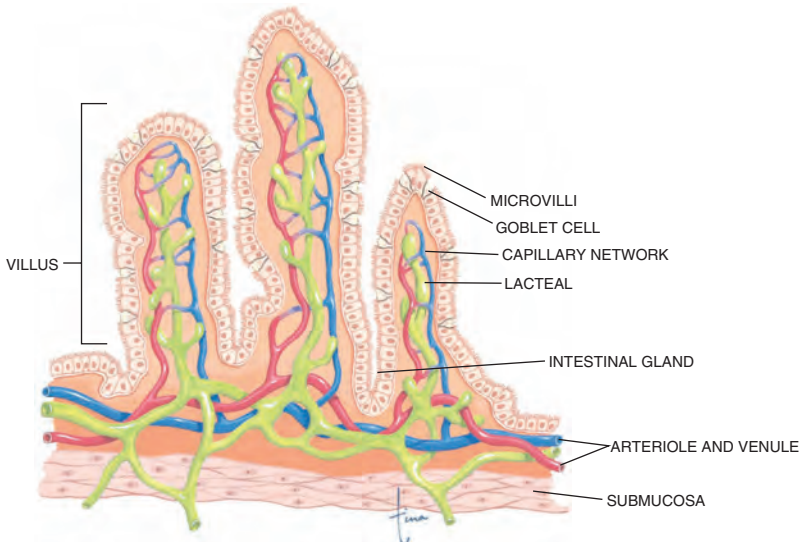
vinyl polysiloxane (pōl'ē-sī-lōk'sān) [v + *sil(icon)* + *ox(ygen)* + "] In dentistry an impression material used to make molded copies of teeth and gums. SYN: *polyvinylsiloxane*.

violaceous (vī'ē-lā'shūs) [L. *violaceus*, violet] Having a purple discoloration, esp. of the skin.

violate (vī'ē-lāt") [L. *violare*, to injure] To harm or injure a person, esp. to rape a female.

violence (vī'ō-lēnts) [L. *violentia*] **1.** The use of force or physical compulsion to abuse or damage. **2.** An act of violent behavior.

domestic v. Abuse or neglect occur-



VILLI OF SMALL INTESTINE

ring within families. Domestic violence includes child abuse, spouse abuse, elder abuse, sexual abuse, marital rape, and lapses in household firearm safety.

intimate partner v. Physical, sexual, or verbal abuse of a spouse or sexual partner.

perinatal v. Abuse or assault of women just before or after childbirth.

risk for v., directed at others Behavior in which an individual demonstrates that he or she can be physically, emotionally, or sexually harmful to others. SEE: *Nursing Diagnoses Appendix*.

risk for v., directed at self Behavior in which a person demonstrates that he can be physically, emotionally, or sexually harmful to himself. SEE: *Nursing Diagnoses Appendix*.

violet (vī'ō-lēt) [ME. *violet*, from L. *viol*, violet] One of the colors of the visible spectrum; similar to purple.

gentian v. C₂₂H₂₀ClN₃; a dye derived from coal tar that is widely used as a stain in histology, cytology, and bacteriology. It has also been used therapeutically as a topical anti-infective. Its chemical name is hexamethylpararosaniline chloride.

viosterol (vī-ōs'tēr-ōl) A solution of irradiated ergosterol in vegetable oil. SYN: *calciferol*.

viper (vī'pēr) Any venomous snake of the family Viperidae.

Viperidae (vī-pēr'i-dē) [L. *vipera*, snake or serpent] The scientific name for a family of venomous snakes that includes the European viper, gaboon viper, puff adder, Russel viper, and saw-scaled viper.

VIPoma (vī-pō'mă) [vasoactive intestinal polypeptide + *oma*, tumor] A rare form of neuroendocrine tumor that causes watery diarrhea, hypokalemia, and achlorhydria as a result of the release of vasoactive intestinal peptide.

-vir (vīr) [Fm. *vir(us)* or *vir(al)*] A combining form used in pharmacology to designate an antiviral agent.

viral (vī'rāl) Pert. to or caused by a virus.

viral coat Capsid.

viral interference The inhibition of the multiplication of one type of virus by the presence of another virus in the same cell. SEE: *interferon*.

viral load A measure of the total body burden of viral particles present in human blood; the greater the number, usually, the sicker the patient. Testing for viral loads has aided the treatment of several illnesses, including AIDS and hepatitis C. In these illnesses, antiviral therapies are initiated at certain levels of viral load and continued if anticipated reductions in viremic burden are achieved.

viral set point The balance in a viral infection between the number of viruses

in the blood (the "viral load") and the response by the immune system to initial infection. It may be one of the predictors of disease progression in illnesses such as human immunodeficiency virus (HIV) infection.

Virchow's node (fir'kōz) Node, sentinel.

viremia (vī'rēm'ē-ā) The presence of viruses in the blood.

vires (vī'rēs) Pl. of *vir*.

virgin (vēr'jīn) [L. *virgo*, a maiden] 1. A woman or man who has not had sexual intercourse. 2. Untamated; fresh; new.

virginal (vēr'jīn-āl) [L. *virgo*, a maiden] Rel. to a virgin or to virginity.

virginity (vēr'jīn'it-ē) [L. *virginitas*, maidenhood] The state of being a virgin; not having experienced sexual intercourse.

virile (vir'īl) [L. *virilis*, masculine] Masculine.

virile reflex 1. The sudden downward movement of a completely relaxed penis when the prepuce or glans is pulled upward. SYN: *bulbocavernosus reflex*. 2. The contraction of the bulbocavernosus muscle on percussing the dorsum of the penis. 3. The contraction of the bulbocavernosus muscle resulting from compression of the glans penis.

virilence (vir-il-ēs'ēns) [L. *virilis*, masculine] Virilization.

virilism (vir'īl-izm) [+ Gr. *-ismos*, condition] The presence or development of male secondary characteristics in a woman.

virility (vir-īl'ī-tē) [L. *virilitas*, masculinity] 1. The state of possessing masculine qualities. 2. Sexual potency in the male.

virilization (vir'ī-lī-zā'shūn) The production of masculine secondary sex characteristics in a woman. These include deepening of the voice, development of male-type baldness, clitoral enlargement, and increased growth of facial and body hair. Virilization may be caused by one of several endocrine diseases that lead to excess production of testosterone, or by the woman's taking anabolic steroids, e.g., to attempt to enhance muscular development. SYN: *virilence*.

virion (vī'rē-ōn, vī'rē-ōn) A complete virus particle; a unit of genetic material, the genome, surrounded by a protective protein coat, the capsid. Sometimes the capsid is surrounded by a lipid envelope. SYN: *particle(4)*. SEE: *capsid*.

viripotent (vī-rīp'ō-tēt) [L. *viripotens*] Sexually mature, as applied to a man.

viroid (vī'royd) A small, naked, infectious molecule of RNA. Viroids differ from viruses by the absence of a dormant phase and by genomes that are much smaller than those of known viruses.

virology (vī-rōl'ō-jē) [L. *virus*, poison, +

Gr. *logos*, word, reason] The study of viruses and viral diseases.

viropexis (vī'rō-pēk'sīs) [v' + Gr. *pexis*, fixation] The fixation of a virus particle to a cell. This leads to the inclusion of the virus inside the cell.

virotherapy (vī'rō-thēr'ā-pē) The use of viruses to infect and kill rapidly replicating cells, esp. cancer cells. Oncolytic viruses used in virotherapy include some adenoviruses, influenza virus, mumps virus, Newcastle virus, and poliovirus.

virotoxin A poisonous substance (usually a protein) released by a virus that destroys or alters the metabolic integrity of cells.

virtual (vēr'tū-āl) [L. *virtus*, capacity] Appearing to exist; made by software to resemble real phenomena.

virtual colonoscopy SEE: under *colonoscopy*.

virucidal (vīr'ū-sī'dāl) [L. *virus*, poison, + *cidus*, to kill] Destructive of a virus.

virucide (vīr'ū-sīd) An agent that destroys or inactivates a virus, esp. a chemical substance used on living tissue.

virulence (vīr'ū-lēns) [LL. *virulentia*, stench] **1.** The relative power and degree of pathogenicity possessed by organisms. Properties that influence the virulence of an organism include **1.** the strength of its adhesion molecules, which link it to the target cell; **2.** its ability to secrete enzymes or exotoxins that damage target cells, or endotoxins that interfere with the body's normal regulatory systems; and **3.** its ability to inhibit or evade the actions of white blood cells and their chemical mediators. SEE: *immunocompetence*; *immunocompromised*. **2.** The property of being virulent; venomousness, as of a disease. SEE: *attenuation*.

virulent (vīr'ū-lēnt) [L. *virulentus*, poison] **1.** Very poisonous. **2.** Infectious; able to overcome the host's defensive mechanism.

viruliferous (vīr'yū-līf'ēr-ūs) [*virul(ence)* + "l"] Colonized or infected by a virus and able to transmit that virus to another organism.

viruria (vīr'ūr'ē-ā) [v' + Gr. *ouron*, urine] The presence of viruses in the urine.

virus (vī'rūs) [L., poison] A pathogen composed of nucleic acid within a protein shell, which can grow and reproduce only after infecting a host cell. More than 400 types of viruses that cause a great variety of illness are known. All of them can attach to cell membranes, enter the cytoplasm, take over cellular functions, reproduce their parts, and assemble themselves into mature forms capable of infecting other cells.

Some of the most virulent agents

known are viruses (e.g., the hemorrhagic fever caused by Ebola virus). Viruses are also responsible for the common cold, childhood exanthems (e.g., chickenpox, measles, rubella), latent infections (herpes simplex), some cancers or lymphomas (Epstein-Barr virus), and diseases of all organ systems.

Although viral architecture is astonishingly complex, every virus contains at least the following components:

1. A genome, and
2. a capsid.

Most animal viruses are also surrounded by a lipid envelope, a bilayered membrane analogous to a cell membrane. The envelope may be parasitized from host cells. Its chemical components are phospholipids and glycoproteins. The lipid envelope is frequently dotted by spikes.

Viruses with lipid envelopes have a greater ability to adhere to cell membranes and to avoid destruction by the immune system. Both the capsid and envelope are antigenic. Frequent mutations change some viral antigens so that the lymphocytes are unable to create an antibody that can neutralize the original antigen and its replacement. The common influenza viruses have antigens that mutate or combine readily, requiring new vaccines with each mutation. The body's primary immune defenses against viruses are cytotoxic T lymphocytes, interferons, and, to some extent, immunoglobulins; destruction of the virus often requires destruction of the host cell.

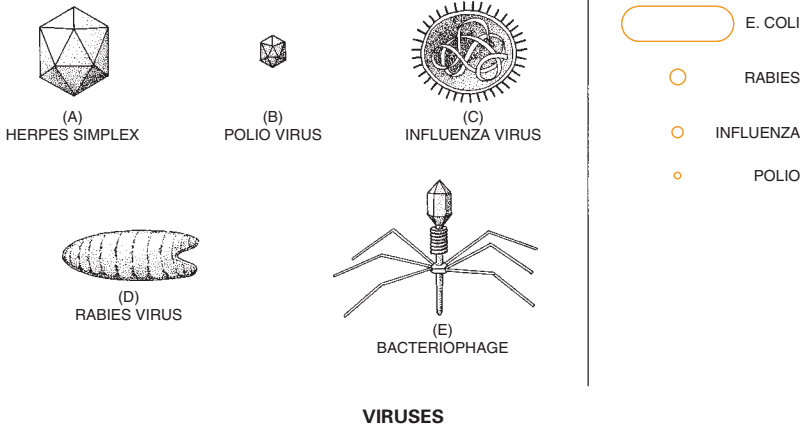
When viruses enter a cell, they may immediately trigger a disease process or remain quiescent for years. They damage the host cell by blocking its normal protein synthesis and using its metabolic machinery for their own reproduction. New viruses are then released either by destroying their host cell or by forming small buds that break off and infect other cells. SEE: *ilus*; *table*.

CLASSIFICATION: The 400 known viruses are classified in several ways: by genome core (RNA or DNA), host (animals, plants, or bacteria), method of reproduction (e.g., retrovirus), mode of transmission (e.g., enterovirus), and disease produced (e.g., hepatitis virus).

TREATMENT: Antiviral drugs include such agents as acyclovir (for herpes simplex); amantadine and rimantadine (for influenza A); interferons (for chronic hepatitis B and C); ribavirin (for respiratory syncytial virus and chronic hepatitis C); and lamivudine (among many others, for human immunodeficiency virus [HIV]).

attenuated v. A virus with reduced pathogenicity due to treatment or repeated passage through hosts.

bacterial v. Bacteriophage.



cercopithecine v. 1, cercopithecine herpesvirus 1 A virus commonly found in macaques but not other primates. Humans who handle macaques may be infected by bites or exposure to animal blood or body fluids. Although in macaques the virus causes a herpetic rash, in humans it often produces deadly infections of the brain and meninges. SYN: *B virus*.

cowpea mosaic v. A plant virus that has been 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.

coxsackie v. SEE: *coxsackievirus*.

cytomegalic v. ABBR: CMV. Cytomegalovirus.

defective v. A virus particle that, because of a lack of certain essential factors, is unable to replicate. Sometimes this can be overcome by the presence of a helper virus that provides the missing factor or factors.

DNA v. A virus such as the papilloma virus and the herpesviruses whose genome is deoxyribonucleic acid (DNA).

enteric v. Enterovirus.

Common Viral Characteristics

Characteristics	Examples
Genetic material	
RNA	HIV, hepatitis A, polio, measles, mumps, rhinovirus, influenza
DNA	Herpesviruses, hepatitis B, adenoviruses, human papilloma viruses, cytomegalovirus
Hosts	
Humans	Measles, mumps, rubella, varicella-zoster, poliovirus
Humans and animals	Rabies, influenza, hantavirus, encephalitis virus
Plants	Tobacco mosaic virus, cowpea mosaic virus
Bacteria	Phages
Envelope	
Present	Herpesviruses, rabies, HIV
Absent	Rotavirus, Norwalk virus, adenovirus
Respiratory	Influenza, parainfluenza, hantavirus
Teratogenic	Herpes varicella, cytomegalovirus, rubella
Neurological and fatal	Rabies
Paralytic encephalitic	Polio, many encephalitis viruses
Fulminant	Yellow fever, hantavirus, Ebola-Marburg
Latent	Herpesviruses
Cancer causing	Human T-cell lymphotropic virus, hepatitis viruses, papillomavirus

enteric cytopathogenic human orphan v. ABBR: echovirus. A virus that was accidentally discovered in human feces and is not known to be associated with a disease; thus the name "orphan." Initially, 33 echovirus serotypes were designated, but numbers 10 and 28 have been reclassified. Various serotypes have been associated with aseptic meningitis, encephalitis, acute upper respiratory infection, enteritis, pleurodynia, and myocarditis.

enteric orphan v. SEE: *enteric cytopathogenic human orphan v.*

fixed v. A rabies virus stabilized and modified but only partially attenuated by serial passage through rabbits.

foamy v. Spumavirus.

GB v. type C Hepatitis G virus.

helper v. A virus that permits a defective virus present in the same cell to replicate. SEE: *defective v.*

herpes v. Herpesviruses.

human immunodeficiency v. ABBR: HIV. SEE: *human immunodeficiency virus.*

human papilloma v. SEE: *under papillomavirus.*

JC v. A DNA papovavirus that causes progressive multifocal leukoencephalopathy in immunosuppressed patients. It is carried asymptotically by a large percentage of the population.

Junin v. An arenavirus that chronically infects rodents. It is the cause of sporadic outbreaks of Argentine hemorrhagic fever, a potentially lethal infection usually found in South America.

latent v. A virus that has the ability to infect the host, initially causing little or no evidence of illness but persisting for the lifetime of the infected individual; later on, a specific triggering mechanism may cause the virus to produce a clinically apparent disease. This occurs with herpes simplex virus that remains latent in sensory ganglia and is reactivated by trauma to the skin supplied by the distal sensory nerves associated with these ganglia. After reactivation, the virus may cause localized or generalized lesions in the affected area and the central nervous system.

lytic v. Any virus that, after infecting a cell, lyses it.

masked v. A virus that ordinarily occurs in the host in a noninfective state but is activated and demonstrated by indirect methods.

neurotropic v. A virus that reproduces in nerve tissue.

Nipah v. ABBR: NiV. A member of the family of paramyxoviruses that can cause outbreaks of encephalitis and respiratory disease in humans. It is transmitted to humans from infected swine (e.g., in slaughterhouses).

Norwalk v. [virus first identified in Norwalk, Ohio, U.S.A.] ABBR: NLV. A

calicivirus that is the causative organism in over half of the reported cases of epidemic viral gastroenteropathy. It commonly causes nausea, vomiting, and diarrhea. The incubation period ranges from 18 to 72 hr. Outbreaks are usually self-limited. Intestinal signs and symptoms last for 24 to 48 hr. Treatment, if required, is supportive and directed at maintaining hydration and electrolyte balance. SYN: *Norwalk agent*. SEE: *Calicivirus*.

Oliveros v. An arenavirus of the T-caribe complex of viruses that normally infects rodents in the pampas of Argentina. It may cause a fatal hemorrhagic fever in humans.

oncogenic v. Tumor virus.

Onyong-nyong v. An alphavirus (family Togaviridae) found in central Africa that causes epidemic fevers, joint pains, and swollen glands. The virus is transmitted to humans by mosquito bite.

orphan v. One of several viruses that initially were not thought to be associated with human illness. This group includes the enteroviruses and rhinoviruses.

parainfluenza v. One of a group of viruses that affect infants and young children. It causes respiratory infections that may be mild or may progress to pneumonia. Most infections are so mild as to be clinically inapparent.

pox v. Poxvirus.

reassortant v. A virus whose genetic material has been recombined or reshuffled so that it contains new nucleic acid sequences, new antigenic structures, and new combinations of protein products.

respiratory syncytial v. ABBR: RSV. A single-stranded RNA virus that is an important cause of upper and lower respiratory tract disease in infants, children, and the elderly. When limited to the upper respiratory tract, RSV causes symptoms of the common cold. In the lower respiratory tract, it causes bronchiolitis, pneumonia, or respiratory distress, and can be life-threatening. Respiratory syncytial virus is the most common cause of lower respiratory infections in infants and children under age 2. It is spread by physical contact, usually with infected nasal or oral secretions. In the U.S. its season begins in the fall and peaks in winter. About 90,000 young children are hospitalized with RSV infections each year in the U.S.

SYMPTOMS: Three to five days following exposure to RSV, the patient typically develops an upper respiratory infection (URI) lasting 1 to 2 weeks with cough, mild to moderate nasal congestion, runny nose, and low-grade fever. If the infection spreads to the lower respi-

ratory tract, symptoms worsen, and may include wheezing and difficulty breathing. Infants and children with RSV pneumonia exhibit retractions; rapid grunting respirations, poor oxygenation, and respiratory distress. Vomiting, dehydration, and acidosis may occur.

DIAGNOSIS: Diagnosis is based on signs and symptoms and confirmed by isolating RSV from respiratory secretions (sputum or throat swabs). Immunofluorescence techniques, enzyme immunoassays, or rapid chromatographic immunoassays provide rapid identification of viral antigens for diagnosis.

PATIENT CARE: Treatment is mainly supportive. Antibiotics are not effective. Acetaminophen or ibuprofen are given for pain or fever. Oxygen is administered if the patient's oxygen saturation SpO_2 falls below 92%. Bronchodilators, such as albuterol and epinephrine, are used to treat wheezing. In patients with severe RSV infections, noninvasive positive-pressure ventilation or intubation and mechanic ventilation are required. Intravenous fluids are administered as prescribed if the patient cannot take enough fluid orally. Nasopharyngeal suction may be needed to clear congestion (by bulb syringe for infants).

Strict adherence to infection control measures is important in preventing an outbreak in any facility. This includes using meticulous hand hygiene (the most important step in preventing RSV spread) before donning gloves for patient care, after removing gloves, and if any potentially contaminated surfaces have been touched. Standard and contact precautions should be observed for all patients with known or suspected RSV (gown, mask and eye protection for direct contact with respiratory secretions or droplets). Protective coverings should be removed in this order: gloves (followed by hand hygiene), goggles or face shield, gown, and finally mask or respirator, discarding them in an infectious waste container in the patient's room. The patient with RSV should be in a private room and dedicated equipment should be used in patient care, with terminal equipment disinfection by the appropriate agency facility. Room assignments should be arranged to avoid cross-contamination whenever possible. Individuals with symptoms of respiratory infection should be prevented from caring for or visiting pediatric, immunocompromised, or cardiac patients.

The administration of high doses of respiratory syncytial virus immune globulin is an effective means of preventing lower respiratory tract infection in infants and young children at high risk for contracting this disease. Paviliumab, a monoclonal antibody given in-

tramuscularly, can prevent RSV disease in high-risk infants and children.

Rift Valley v. A phlebovirus that causes sporadic epidemics among both humans and animals of hemorrhagic fever, in Africa. It is transmitted by the bite of infected mosquitoes.

RNA v. A virus such as the human immunodeficiency virus, influenza virus, and polio virus whose genome is ribonucleic acid (RNA).

sandfly fever v. Toscana v.

Sindbis v. An alphavirus typically found in South Africa or Oceania that is disseminated to humans by mosquitoes of the genus *Culex*. It can cause a transient febrile illness accompanied by a diffuse maculopapular rash and muscle and joint pains.

slow v. A virus that replicates and causes disease indolently. SEE: *slow v. infection*.

slow v. infection An infection caused by a virus that remains dormant in the body for a prolonged period before causing signs and symptoms of illness. Such viruses may require years to incubate before causing diseases. Examples include progressive multifocal leukoencephalopathy and subacute sclerosing panencephalitis.

street v. A rabies virus obtained from an infected animal rather than from a laboratory strain.

SV 40 v. Simian virus 40, which is a member of the papovavirus family. The virus produces sarcomas after subcutaneous inoculation into newborn hamsters.

Tacaribe complex v. A group of viruses, originally identified in South America, that cause hemorrhagic fever in humans. They are members of the arnavirus family and are typically found in rodents. One member of this group is the Sabia virus.

Toscana v. A Bunyavirus transmitted by insect bite, esp. the bite of the sandfly (*Phlebotomus papatasi*). The virus is endemic in Sicily, Cyprus, and other Mediterranean locations and may cause encephalitis, aseptic meningitis, or septicemia. SYN: *sandfly fever virus*.

transfusion-transmissible v. ABBR: TTV. A single-stranded DNA virus, found in recipients of blood transfusions, that colonizes in the liver. It is not known whether the virus causes liver disease, e.g., chronic hepatitis, or benignly colonizes the liver.

tumor v. A virus that causes malignant neoplasms. Viruses suspected of causing tumors in humans include Epstein-Barr virus (associated with Burkitt's lymphoma), hepatitis B virus (with hepatocellular carcinoma), papilloma virus (with carcinoma of the cervix), and human herpesvirus 8 (with Kaposi's sarcoma). SYN: *oncogenic virus*.

vaccinia v. A double-stranded DNA virus, the causative agent of cowpox and a member of the Orthopoxvirus family. Vaccines against smallpox are derived from live cultures of vaccinia virus. SEE: *Orthopoxvirus*.

West Nile v. An arbovirus that primarily infects birds but can be transmitted by mosquito bite to humans and other animals. Since West Nile virus was identified in the U.S. in 1999, it has produced a nationwide epidemic of encephalitis. Although infection is usually asymptomatic, signs and symptoms that are more likely to be observed in the very young, the very old, or the very sick include fever, headache, stiff neck, fatigue, loss of appetite, nausea or vomiting, muscle pain, aches, and weakness ("neuroinvasive" disease may produce an acute flaccid paralysis). Infection is occasionally fatal. Those over age 50 are at greatest risk for serious complications and death.

In 2005 42 states in the U.S. reported having human cases of West Nile Fever. There were 2949 reported cases of this viral infection in the U.S. in 2005. Infected patients with neuroinvasive disease sometimes suffer long term consequences of infection, including fatigue and malaise, difficulty concentrating or thinking, or movement disorders. The disease is sometimes spread from patient to patient by blood transfusion or organ transplantation.

PATIENT CARE: Disease transmission can be prevented with mosquito control and mosquito avoidance measures. Health care professionals should advise patients and families to limit time out of doors esp. at dusk and dawn, to wear clothing (long sleeves, long pants, and socks), to place mosquito netting over infant carriers or strollers, and to apply an FDA-approved insect repellent (e.g., DEET, picaridin, or oil of lemon eucalyptus). Mosquito breeding grounds should be eliminated: standing water should be removed from flower pots, bird baths, pool covers, rain gutters, and discarded tires. Window and door screens should be installed and kept in good repair to prevent mosquitoes from entering homes. SEE: *illus.*

virusemia (vī'rūs-ēm'ē-ā) [" + Gr. *haima*, blood] Viremia.

virus shedding, viral shedding The release of a virus from the host.

virustatic (vīr'ū-stāt'īk) [" + Gr. *statikos*, bringing to a standstill] Stopping the growth of viruses.

vis (vīs) *pl.* **vires** [L., strength] Force, strength, energy, power.

VISA, VRSA (vē'sā) *Vancomycin-Intermediate/Resistant Staphylococcus aureus*.

viscera (vīs'ēr-ā) *sing.*, **viscus** [L.] In-



WEST NILE VIRUS

The *Culex* mosquito, vector of West Nile Virus

ternal organs enclosed within a cavity, esp. the abdominal organs.

visceral (vīs'ēr-āl) [L. *viscera*, body organs] Pert. to viscera.

visceral fat Fat that accumulates around internal organs, especially organs within the peritoneum, pleura, or pericardium. Visceral fat is more commonly found in men than in women. It contributes to insulin resistance and other aspects of the metabolic syndrome.

viscero- (vīs'ēr-ō) [L. *viscera*, body organs] Combining form meaning *viscera*.

viscerocranium (vīs'ēr-ō-krā'nē-ūm) That portion of the skull derived from the pharyngeal arches.

viscerogenic (vīs'ēr-ō-jěn'īk) [" + Gr. *gennan*, to produce] Originating in the viscera.

visceroinhibitory (vīs'ēr-ō-īn-hīb'ī-tō-rē) [" + *inhibere*, to restrain] Decreasing the action of the viscera.

visceromegaly (vīs'ēr-ō-mēg'ā-lē) [" + Gr. *megalos*, great] Generalized enlargement of the abdominal visceral organs.

visceropleural (vīs'ēr-ō-ploo'rāl) [" + Gr. *pleura*, a side] Rel. to the thoracic viscera and pleura.

visceroptosis (vīs'ēr-ō-ptō'sīs) [" + Gr. *ptosis*, a dropping] Downward displacement of a viscus.

visceroreceptors (vīs'ēr-ō-rē-sēp'torz) A group of receptors that includes those located in visceral organs. Their stimulation gives rise to poorly localized and ill-defined sensations or to pain. In hollow visceral organs, they are stimulated principally by excessive contraction or by distention.

viscerosensory (vīs'ēr-ō-sēn'sō-rē) [" + *sensorius*, sensory] Pert. to sensations aroused by stimulation of visceroreceptors.

viscerosensory reflex SEE: under *reflex*.

viscerotonia (vīs'ēr-ō-tōn'ē-ā) [" + Gr. *tonos*, tension] A temperament characterized by predominance of social over intellectual and physical traits. A person with such traits is sociable and con-

vivial, exhibits unusual appreciation of food, and loves company, affection, social support, and approval. **viscerotonic** (-tôn'ík), *adj.*

viscerotrophic (vís'ēr-ō-trōf'ík) [*v* + Gr. *trophē*, nourishment] Pert. to trophic changes rel. to or associated with visceral conditions.

viscerotropic (vís'ēr-ō-trōp'ík) [*v* + Gr. *tropos*, a turn] Primarily affecting the viscera.

viscerovisceral reaction (vís'ēr-ō-vís'ēr-āl) A reaction taking place in the viscera as a result of stimulation of visceral receptors. Such reactions are usually below the level of consciousness.

viscid (vís'íd) [L. *viscum*, mistletoe, birdlime] Adhering, glutinous, sticky. In bacteriology, said of a colony that strings out by clinging to a needle that is touched to the culture and withdrawn. In a liquid culture the sediment rises in a coherent strand when the culture tube is swirled.

viscoelasticity (vís'kō-ē'lās-tis'ī-tē) The property of being viscous and elastic.

viscosimeter (vís'kōs-īm'ē-tēr) [LL. *viscosus*, viscous, + Gr. *metron*, measure] A device for estimating the viscosity of a fluid, esp. of blood.

viscosimetry (vís'kō-sīm'ē-trē) Measurement of the viscosity of a substance.

viscosity (vís'kōs'ī-tē) [LL. *viscosus*, viscous] **1.** The state of being sticky or gummy. **2.** Resistance offered by a fluid to change of form or relative position of its particles due to attraction of molecules to each other.

specific v. The internal friction of a fluid, measured by comparing the rate of flow of the liquid through a tube with that of some standard liquid, or by measuring the resistance to rotating paddles.

viscous (vís'kūs) Sticky, gummy, gelatinous, with high viscosity.

viscus (vís'kūs) *pl.* **viscera** [L., body organ] Any internal organ enclosed within a cavity such as the thorax or abdomen.

visibility (vīz'ī-bīl'ī-tē) [L. *visibilitas*] The quality of being visible.

visible (vīz'ī-bl) [L. *visibilis*] Capable of being seen.

visile (vīz'īl) [L. *visum*, seeing] **1.** Pert. to vision. **2.** Readily recalling what is seen, more than that which is audible or motile.

vision (vīzh'ūn) [L. *visio*, a seeing]

1. Act of viewing external objects. SYN: *sight*. SEE: *reading machine for the blind*. **2.** Sense by which light, color, form, and contrast are apprehended. **3.** An imaginary sight.

achromatic v. Complete color blindness.

artificial v. A technique, still in the experimental stage, designed to make it possible for some persons who are blind

to see as a result of electrical stimulation of the retina or the connection of digital video cameras to the visual cortex of the brain.

binocular v. The visual sensation that is produced when the images perceived by each eye are fused to appear as one.

central v. Vision resulting from light falling on the fovea centralis.

day v. A condition in which one sees better during the day than at night, found in peripheral lesions of the retina such as retinitis pigmentosa. SYN: *photopic vision*.

dichromatic v. A form of defective color vision in which only two of the primary colors are perceived.

double v. Diplopia.

field of v. The space within which an object can be seen while the eye remains fixed on one point. SEE: *perimetry*.

half v. Hemianopia.

indirect v. Peripheral v.

low v. A significant loss of vision that cannot be corrected medically, surgically, or with eyeglasses.

monocular v. Vision using only one eye.

multiple v. Polyopia.

oscillating v. Oscillopsia.

peripheral v. Vision resulting from rays falling on the retina outside of the macular field. SYN: *indirect vision*.

phantom v. An experience of visual sensations following surgical removal of an eye; usually a transient condition.

photopic v. Day v.

scotopic v. Vision at low light levels, primarily as a function of the rods. SEE: *night vision*.

stereoscopic v. Vision in which things have the appearance of solidity and relief, as though seen in three dimensions. Binocular vision produces this effect. SYN: *stereopsis*.

tunnel v. **1.** Visual acuity that is limited to the central visual field, for example, two to three degrees of visual radius. **2.** An inability to appreciate the full scope of an issue.

v. without sight The ability of individuals who are blind and unable to perceive visual stimuli, including bright light, to respond to light.

vision therapy Orthoptics.

visit An encounter between a patient and a health professional that requires either the patient to travel from his or her home to the professional's usual place of practice (office visit) or vice versa (home visit).

visitability (vīz'īt-ā-bīl'ī-tē) Residential home accessibility, i.e., a group of design features that help people with disabilities to enter, maneuver in, and use the toilet in every newly designed home. Some architectural features of homes with visitability include having at least

one entrance without a step, 32-in wide passages from one room to another, and an easily accessible bathroom on the first floor of the home.

Visiting Nurse Association A voluntary health agency that provides nursing services in the home, including health supervision, education and counseling, and maintenance of the medical regimen. Nurses and other personnel such as home health aides who are specifically trained for tasks of personal bedside care provide the services offered by the agency. These agencies originated in the visiting or district nurse service provided to the poor in their homes by voluntary agencies such as the New York City Mission, which existed in the 1870s. The first visiting nurse associations were established in Buffalo, Boston, and Philadelphia between 1886 and 1887.

VistA-Office Electronic Health Record ABBR: VOE. Electronic medical record software developed by the U.S. Veterans Administration and marketed to private medical practices beginning in 2005.

visual (vīzh'ū-āl) [L. *visio*, a seeing]

1. Pert. to vision. 2. One whose learning and memorizing processes are largely of a visual nature.

visual acuity A measure of the resolving power of the eye. It is usually determined by one's ability to read letters of various sizes at a standard distance from the test chart. The result is expressed as a comparison: for example, 20/20 is normal vision, meaning the subject has the ability to see from a distance of 20 ft (6.1 m) what a person with normal vision should see at that distance. Visual acuity of 20/40 means that a person sees at 20 ft (6.1 m) what a person with normal vision sees from a distance of 40 ft (12.2 m).

DIAGNOSIS: The Snellen chart used for most purposes ranges from 20/10 to 20/200. People who can see no better than 20/200 are said to be legally blind. People with worse vision (e.g., 20/400 or worse) are said to have "count fingers" (CF) vision: they may not be able to read any of the letters or figures on an eye chart, but they can often see (and count) how many fingers are held in front of them from a specified distance. Those who cannot identify fingers from any distance may still see "hand motion" (HM), or they may have light perception (LP). People who are completely blind are said to have "no light perception" (NLP).

Young children or people who do not recognize Western alphabets may be able to demonstrate their visual acuity with eye charts on which symbols (e.g., of animals or other commonly recognized shapes) are drawn to similar sizes and specifications.

PATIENT CARE: A health care professional should conduct an initial visual acuity test on all patients who come to the Emergency Department, clinic, or health care provider's office with a visual complaint or disorder. Visual acuity should be tested with an illuminated Snellen eye chart set at eye level 20 ft (~6 m) from the patient. The visual acuity of each eye is checked independently with and without the patient's distance glasses or contact lenses (if worn); then the acuity of both eyes is checked.

visual angle The angle between the line of sight and the extremities of the object seen.

visual cone The cone whose vertex is at the eye and whose generating lines touch the boundary of a visible object.

visual-constructional apraxia The inability to assemble or draw an object after viewing its image or a model of it. This form of apraxia is commonly seen in patients with brain injuries or dementias with parietal lobe lesions.

visual evoked response ABBR: VER. A reaction produced in response to visual stimuli. While the patient is watching a pattern projected on a screen, the electroencephalogram is recorded. The characteristics of the wave form, its latency, and the amplitude of the wave can be compared with the normal, and important information concerning the function of the visual apparatus in transmitting stimuli to the brain can be obtained. SEE: *brainstem auditory evoked potential; evoked response; somatosensory evoked response.*

visual field The area within which objects may be seen when the eye is fixed. SEE: *illus.; perimetry.*

visual function Vision.

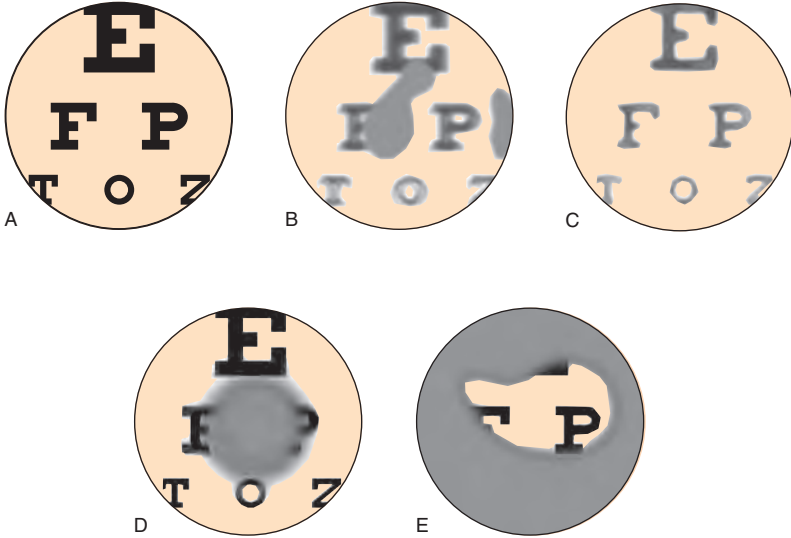
visual inspection with acetic acid ABBR: VIA. Inspection of the surface of the uterine cervix after 5% acetic acid has been applied to it. VIA is a test sometimes used to determine whether the cervix is infected with human papilloma virus or whether irregularities seen on the cervix may be cancerous or precancerous.

visualization (vīzh'ū-āl-ī-zā'shūn) The act of viewing or sensing a picture of an object, esp. the picture of a body structure as obtained by radiographic study.

visualize (vīzh'ū-āl-īz) 1. To make visible. 2. To imagine or picture something in one's mind.

visual loss, functional A reduction in vision with no identifiable lesion of the visual pathways. It may be caused by an occult disease of the eye or of the optical centers in the brain. It may also occur in certain psychiatric disorders.

visual object agnosia Loss of the ability to visually recognize objects presented, even though some degree of ability to see is intact.



VISUAL FIELD ABNORMALITIES

(A) normal vision, (B) diabetic retinopathy, (C) cataracts, (D) macular degeneration, (E) advanced glaucoma

visual point The center of vision.

visuognosis (vīzh"ū-ōg-nō'sīs) [v + Gr. *gnosis*, knowledge] The recognition and appreciation of what is seen.

visuopsychic (vīzh"ū-ō-sī'kik) [v + Gr. *psyche*, soul, mind] Both visual and psychic, applied to the cerebral area involved in perception of visual sensations.

visuosensory (vīzh"ū-ō-sén'sō-rē) [L. *visio*, a seeing, + *sensorius*, sensory] Rel. to the recognition of visual impressions.

visuospatial (vīzh"ū-ō-spā'shāl) Concerning the ability to discern spatial relationships from visual presentations.

vita glass (vī'tā-glās) [L. *vita*, life, + AS. *glæs*, glass] Window glass containing quartz for transmitting the ultraviolet rays of sunlight.

vital (vī'tāl) [L. *vitalis*, pert. to life]

1. Pert. to or characteristic of life.
2. Contributing to or essential for life.

vitality (vī-tāl'ī-tē) 1. Animation, action.
2. The state of being alive.

vitalometer (vī'tā-lōm'ē-tēr) A diagnostic device that measures the response of a nerve in the pulp of a tooth to an electrical stimulus. SYN: *pulp tester*.

vital statistics Statistics relating to births (natality), deaths (mortality), marriages, health, and disease (morbidity). Vital statistics for the U.S. are published annually by the National Center for Health Statistics of the Department of Health and Human Services. SYN: *population statistics*.

vitamer (vī'tā-mēr) Any one of a number

of compounds that have specific vitamin activity.

vitamin (vī'tā-mīn) [L. *vita*, life, + *amine*] An accessory but vital nutrient that serves as a coenzyme or cofactor in an essential metabolic process. Small quantities of the substance assist biological reactions such as oxidation and reduction, or the synthesis of nucleic acids, hemoglobin, clotting factors, or collagen. Vitamin deficiencies produce well-recognized syndromes (e.g., scurvy [vitamin C deficiency], or beriberi [thiamine deficiency]). Unlike proteins, carbohydrates, fats, and organic salts, vitamins are not energy sources or components of body structures. Instead, they are agents that hasten or facilitate biochemical processes involving these other organic molecules. SEE: *dietary reference intakes*; *mineral*.

Only vitamins A, D, and K are made within the body. The rest must be consumed in the diet. Vitamin A is formed from its precursor, carotene; vitamin D is formed by the action of ultraviolet light on the skin; and vitamin K is formed by the symbiotic action of bacteria within the intestines.

A common classification system distinguishes fat-soluble vitamins (A, D, E, and K) from water-soluble vitamins (B and C). Fat-soluble vitamins are poorly assimilated in diseases that interfere with the digestion of fat, such as steatorrhea, but accumulate in organs like the liver when taken in excess. Water-soluble vitamins are readily lost from

the body in urine and sweat and are more likely to be lacking from the body than overabundant. SEE: *Vitamins Appendix*.

One's need for vitamins increases in conditions that deplete their stores from the body, such as pregnancy and lactation, alcoholism, and febrile illnesses. Some drugs block the action of specific vitamins, or create illnesses that can be prevented with vitamin supplementation. In patients taking isoniazid for tuberculosis, for example, vitamin supplementation with pyridoxine is needed to prevent peripheral neuropathy.

SYMPTOMS: Refer to the *Vitamins Appendix* for signs and symptoms of vitamin deficiency.

vitamin A A fat-soluble vitamin formed within the body from alpha, beta, and gamma carotene, the yellow pigments of plants. It is essential for normal growth and development, normal function and integrity of epithelial tissues, formation of visual pigment, and normal tooth and bone development. It is stored in the liver. The recommended daily requirement for adults is 1000 mg. Retinol is the form of vitamin A found in mammals. One retinol equivalent is equal to 6 mg of beta-carotene. Excessive intake of vitamin A may cause acute or chronic effects and may increase risk of developing cancer in smokers. SYN: *retinol*. SEE: *hypervitaminosis*; *Vitamins Appendix*.

SOURCES: Butter, butterfat in milk, egg yolks, and cod liver oil are rich sources. The vitamin is found also in liver, green leafy and yellow vegetables, prunes, pineapples, oranges, limes, and cantaloupes.

STABILITY: This vitamin resists boiling for some time if not exposed to oxidation. It is quite stable with brief exposure to heat but not with continued high temperatures (above 100°C or 212°F).

DEFICIENCY DISORDERS: A deficiency of vitamin A causes interference with growth, reduced resistance to infections, and interference with nutrition of the cornea, conjunctiva, trachea, hair follicles, and renal pelvis. Thus these tissues have an increased susceptibility to infections. Vitamin A deficiency also interferes with the ability of the eyes to adapt to darkness (night blindness) and impairs visual acuity. Children with vitamin A deficiency will experience impaired growth and development. SEE: *Bitot's spots*.

vitamin A₁ A form of vitamin A found in fish liver oils.

vitamin A₂ A compound found in the livers of freshwater fish; similar in properties to vitamin A but with different ultraviolet absorption spectra.

vitamin B₁ Thiamine hydrochloride.

vitamin B₂ Riboflavin. SEE: *Vitamins Appendix*.

Vitamin B₃ Niacin.

vitamin B₄ Adenine.

vitamin B₅ Pantothenic acid.

vitamin B₆ Pyridoxine; found in rice, bran, and yeast. Excess doses (2 to 5 g/day for months) have caused impairment of central nervous system function. SEE: *Vitamins Appendix*.

vitamin B₇ Biotin.

vitamin B₈ Inositol.

Vitamin B₉ Folic acid.

vitamin B₁₀ ABBR: PABA. Para amino-benzoic acid.

vitamin B₁₁ Choline.

vitamin B₁₂ A red crystalline substance, a cobamide, extracted from the liver, that is essential for the formation of red blood cells. Its deficiency results in pernicious anemia. It is used for prophy-laxis and treatment of these and other diseases in which there is defective red cell formation. The recommended adult daily requirement is 2 µg/day. The terms vitamin B₁₂ and cyanocobalamin are used interchangeably as the generic term for all of the cobamides active in humans. SYN: *cyanocobalamin*. SEE: *Vitamins Appendix*.

vitamin B complex A group of water-soluble vitamins isolated from liver, yeast, and other sources. Only grain-made yeast preserves its potency if dried. Among vitamins included are thiamine (B₁), riboflavin (B₂), niacin (nicotinic acid), pyridoxine (B₆), biotin, folic acid, and cyanocobalamin (B₁₂).

SOURCES: *Thiamine:* Whole grains, wheat embryo, brewer's yeast, legumes, nuts, egg yolk, fruits, and vegetables. *Riboflavin:* Brewer's yeast, liver, meat, esp. pork and fish, poultry, eggs, milk, and green vegetables. *Nicotinic acid:* Brewer's yeast, liver, meat, poultry, and green vegetables. *Pyridoxine:* Rice, bran, and yeast. *Folic acid:* Leafy green vegetables, organ meats, lean beef and veal, and wheat cereals. *General:* Fortified cereals, breads and baked goods are good sources of these.

ACTION/USES: The B vitamins affect growth, stimulate appetite, lactation, and the gastrointestinal, neurological, and endocrine systems; aid in prevention of marasmus; stimulate appetite; are important in metabolism of carbohydrates, including sugar; and stimulate biliary action.

Vitamin B₁, thiamine, affects growth and nutrition and carbohydrate metabolism. B₂, riboflavin, affects growth and cellular metabolism. Nicotinic acid prevents pellagra. Pyridoxine is used by patients taking the antitubercular drug, isoniazid, to prevent peripheral neuropathy.

NOTE: Prolonged use of antibiotics may destroy intestinal flora that pro-

duce some of the B vitamins. Vitamin supplementation may be required to prevent deficiencies.

STABILITY: B vitamins are stable during normal cooking, although they may be destroyed by excessive heating for 2 to 4 hr. Baking soda destroys thiamine. Riboflavin and nicotinic acid are more stable than thiamine and are not destroyed by heat or oxidation.

DEFICIENCY DISORDERS: Deficiency causes beriberi, pellagra, digestive disturbances, enlargement of the liver, disturbance of the thyroid, degeneration of sex glands, and disturbance of the nervous system. It also induces edema; affects the heart, liver, spleen, and kidneys; enlarges the adrenals; and causes dysfunction of the pituitary and salivary glands.

vitamin C Ascorbic acid, a factor necessary for formation of collagen in connective tissues and essential in maintenance of integrity of intercellular cement in many tissues, esp. capillary walls. Vitamin C deficiency leads to scurvy. SEE: *Vitamins Appendix*.

NOTE: The recommended adult daily allowance is 60 mg. Large daily doses of vitamin C have been recommended for prevention and treatment of the common cold. Although the effectiveness of vitamin C for this purpose has not been established, it is felt that the vitamin may at least decrease the severity of cold symptoms. Smoking causes an increased need of vitamin C. Excess doses of vitamin C for an extended period can interfere with absorption of vitamin B₁₂, cause uricosuria, and promote formation of oxalate kidney stones.

SOURCES: Vitamin C is found in raw cabbage, young carrots, orange juice, lettuce, celery, onions, tomatoes, radishes, and green peppers. Citrus fruits and rutabagas are esp. rich in this vitamin. Strawberries are about as rich a source as tomatoes. Apples, pears, apricots, plums, peaches, and pineapples also contain vitamin C.

STABILITY: The vitamin is destroyed easily by heat in the presence of oxygen, as in open-kettle boiling. It is less affected by heat in an acid medium; otherwise, it is stable.

DEFICIENCY DISORDERS: Vitamin C deficiency causes scurvy, imperfect prenatal skeletal formation, defective teeth, pyorrhea, anorexia, and anemia. It also leads to undernutrition injury to bone, cells, and blood vessels.

vitamin D One of several vitamins having antirachitic activity. The vitamin D group, which is fat-soluble, includes D₂ (calciferol), D₃ (irradiated 7-dehydrocholesterol), D₄ (irradiated 22-dihydroergosterol), and D₅ (irradiated dehydrositosterol). It is essential in calcium and phosphorus metabolism;

consequently, it is required for normal development of bones and teeth. The recommended daily allowance is 10 µg. The stability of this vitamin is not affected by oxidation; heat, unless over 100°C (212°F); or long-continued cooking. A deficiency of vitamin D causes imperfect skeletal formation, bone diseases, rickets, and caries. SEE: *Vitamins Appendix*.

SOURCES: Milk, cod liver oil, salmon and cod livers, egg yolk, and butter fat contain vitamin D. Ergosterol in the skin activated by sunlight or ultraviolet radiation possesses vitamin D potency.

ACTION/USES: Vitamin D is necessary for the absorption of calcium and phosphorus from food in the small intestine. It is called the antirachitic vitamin because its deficiency interferes with calcium and phosphorus use, which in turn causes rickets. Sun or ultraviolet radiation exposure synthesizes this vitamin in the body. Its presence is necessary for the most efficient absorption of calcium and phosphorus. It is used to treat and prevent infantile rickets, spasmophilia (infantile tetany), and softening of bone. Vitamin D is also important in normal growth and mineralization of skeleton and teeth.

Prolonged excessive doses of vitamin D (100,000 IU daily) cause hypercalcemia with anorexia, nausea, vomiting, polyuria, polydipsia, weakness, anxiety, pruritus, and altered renal function.

vitamin D analogue Any medication that is chemically similar to or derived from vitamin D. Analogues of vitamin D are used to treat skin disorders such as psoriasis.

vitamin E A vitamin that consists of eight components: four tocopherols (of which alpha tocopherol is the most common constituent) and four tocotrienols. Vitamin E is an antioxidant found in many commonly consumed foods. Deficiencies of the vitamin in the general population are rare. SEE: *Vitamins Appendix*.



1. Doses of vitamin E in excess of 100 mg/kg/day in low birth weight neonates have been implicated in the development of necrotizing enterocolitis and sepsis. 2. Vitamin E supplementation in adults that exceeds 400 International Units/day increases mortality.

vitamin H Biotin.

vitamin K An antihemorrhagic factor whose activity is associated with compounds derived from naphthoquinone. Vitamin K, which is fat soluble, is present in broccoli, collards, beet greens, (most green vegetables); vitamin K₂, in fishmeal. Vitamin K₃ is synthesized as menadione sodium bisulfite.

Vitamin K is necessary for synthesis of clotting factors VII, IX, X, and prothrombin by the liver. Its deficiency prolongs blood-clotting time and causes bleeding. Its roles in bone metabolism include its requirement for the conversion of osteocalcin to its active form and its requirement for matrix Gla-protein (MGP) function in bones, teeth, and cartilage. Within the kidney, it acts to inhibit calcium oxalate stone formation. It appears to have a role in normal retinal signaling. In the newborn, the colon is sterile until food is ingested and bacteria colonize the site. Because this bacterial source of vitamin K is not immediately available, an intramuscular injection of 1 mg of water-soluble vitamin K₁ (phytonadione) is recommended for all newborns.

Large doses may cause hemolysis in persons with G6PD deficiency and in some healthy individuals. Large doses in the newborn may lead to anemia and kernicterus. The recommended adult daily allowance is 65 μg for women and 80 μg for men. SEE: *Vitamins Appendix*.

ACTION/USES: Vitamin K helps to eliminate prolonged bleeding in operations and in the biliary tract of jaundiced patients. Bile salts are necessary for its absorption.

vitamin loss Loss of vitamin content in food products as a result of oxidation or heating. Methods of preserving foods such as pickling, salting, curing, or fermenting and canning enhance vitamin loss. Vitamin C is especially labile; up to 85% is lost in commercial canning and pasteurization. Vitamin B₁ in wheat is lost through milling because the vitamin B₁ wheat embryo is removed.

vitamin supplement Any vitamin tablet or capsule containing one or more vitamins. Thus, a tablet or capsule may contain a single vitamin or many, and in some instances, a preparation will contain more than a dozen vitamins and an even greater number of minerals. In general, healthy adult men and healthy nonpregnant, nonlactating women consuming a normal, varied diet do not need vitamin supplements.

The difficulties of individuals choosing to treat themselves with vitamin supplements are: 1. People who take the supplements are usually already consuming an adequate diet. 2. The vitamins chosen are often not the ones inadequate in their diet. 3. The dose may be many times greater than the daily needs. SEE: *Food Guide Pyramid*; *vitamin C*.

vitellary (vīt'ēl-ā-rē) [L. *vitellus*, yolk of an egg] Vitelline.

vitellin (vī-tēl'īn) A protein that can be extracted from egg yolk and contains lecithin. SEE: *nucleoprotein*; *ovovitellin*.

vitelline (vī-tēl'ēn) Pert. to the yolk of an egg or the ovum.

vitelline duct Yolk stalk.

vitellolutein (vī'tēl-ō-lū'tē-īn) [L. *vitellus*, yolk, + *luteus*, yellow] A yellow pigment present in lutein.

vitellorubin (vī'tēl-ō-rū'bin) [v + *ruber*, red] A red pigment present in lutein.

vitellose (vī-tēl'ōse) A proteose present in vitellin.

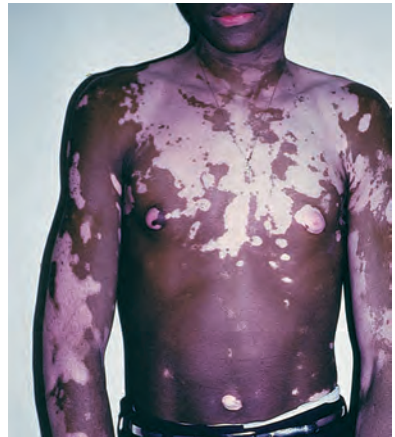
vitellus (vī-tēl'ūs) [L.] The yolk of an ovum, esp. the yolk of a hen's egg.

vitiatio (vīsh'ē-ā'shūn) [L. *vitiare*, to corrupt] Injury, contamination, impairment of use or efficiency.

vitiliginous (vīt'ī-līj'ī-nēz) Depigmented areas of skin. SEE: *vitiligo*.

vitiliginous (vīt'ī-līj'ī-nūs) Concerning vitiligo.

vitiligo (vīt-īl-ī'gō) [L.] A skin disorder characterized by the localized loss of melanocytes, with patchy loss of skin pigment. The depigmented areas, which appear most commonly on the hands, face, and genital region, are flat and pale and surrounded by normal pigmentation. Vitiligo affects all ages and races but is most noticeable in people with dark skin. The cause is unknown, but may be an autoimmune process since autoantibodies to melanocytes have been identified and vitiligo often occurs with autoimmune diseases. SYN: *leukoderma*; *skin, piebald*. SEE: *illius*.



VITILIGO

TREATMENT: Oral and topical synthetic trioxsalen and a natural psoralen, methoxsalen, are used with exposure to long-wave ultraviolet light, but the efficacy is doubtful. The lesions may be masked by use of cosmetic preparations. Vitiliginous areas should be protected from sunburn by applying a 5% aminobenzoic acid solution or gel to the affected areas. The use of 5% fluorouracil cream applied under an occlusive

dressing to the depigmented areas may cause erosion of the dermis and, after re-epithelialization, pigment may reappear.

v. capitis Vitiligo of the scalp with depigmentation of the hairs of the affected area.

perinevic v. Vitiligo surrounding a nevus.

vitium (vish'ē-ūm) *pl.* **vitia** [L., fault] A fault, defect, or vice.

vitrectomy (vi-trēk'tō-mē) [L. *vitreus*, glassy, + Gr. *ektome*, excision] The surgical removal of the vitreous of the eye. The removed vitreous is replaced, usually with gas or liquid. This process is used to treat epiretinal membranes, macular pucker, macular hole, and other disorders of the retina or the vitreous.

enzymatic v. Pharmacological vitrectomy.

pharmacological v. A method of vitrectomy in which enzymes are used to liquefy the vitreous and weaken its attachment to the limiting membrane of the retina. SYN: *enzymatic vitrectomy*.

vitrecapsulitis (vit'rē-ō-kăp'sū-lī'tīs) [L. *vitreus*, glassy, + *capsula*, capsule, + Gr. *itis*, inflammation] Inflammation of the vitreous humor. SYN: *hyalitis*.

vitreodentin (vit'rē-ō-dēn'tīn) A particularly hard and brittle form of dentin.

vitreoretinal (vit'rē-ō-rēt'i-nāl) Concerning the vitreous and the retina.

vitreous (vit'rē-ūs) [L. *vitreus*, glassy] **1.** Glassy. **2.** Transparent, colorless mass composed of collagen fibrils and hyaluronic acid. It fills the posterior segment of the eye between the lens and the retina. **3.** Vitreous body.

vitreous body A jelly-like substance within the eye that fills the space between the lens and the retina. It is colorless and transparent. It may contain minute particles called "floaters."

vitreous face Condensation of the anterior surface of the vitreous behind the lens and the posterior surface of the vitreous attached to the internal limiting membrane of the retina. SEE: *hyaloid membrane*.

vitrescence (vi-trēs'ēns) Becoming hard and transparent like glass.

vitreum (vit'rē-ūm) Vitreous body.

vitrification (vi'trif-i-kā'shūn) The process of converting a silicate material into a smooth, viscous substance by heat. The silicate material hardens on cooling and possesses a smooth, glossy surface. In dentistry, it is related to the extensive use of ceramics, cements, and porcelains. These vary by the additive components that determine their density and refractive qualities.

vitriol (vit'rē-ōl) [L. *vitriolum*] A sulfate of any of various metals.

vitronectin (vi'trō-nēk'tīn) An adhesive

glycoprotein found in the blood and the extracellular matrix. It contributes to blood clotting, cell growth and differentiation, the ability of tumors to metastasize, and normal wound healing. SYN: *complement S protein*.

vitropression (vit'rō-prēsh'ūn) [L. *vitrum*, glass, + *pressio*, a squeezing] A method of temporarily eliminating redness of the skin caused by hyperemia by pressure with a glass slide on the skin for the purpose of studying any lesions or discolorations.

vivi- (viv'i) [L. *vivus*] Combining form meaning *alive*.

vividiffusion (viv'i-dif-ū'zhūn) [L. *vivus*, alive, + *dis*, apart, + *fundere*, to pour] The process of removing diffusible substances from the blood of a living animal by allowing it to flow through dialyzing membranes immersed in saline solution.

vivification (viv'i-ft-kā'shūn) [*v* + *facere*, to make] **1.** Trimming of the surface layer of a wound to aid the union of tissues. **2.** Transformation of protein through assimilation into the living matter of cellular organisms.

viviparity (viv'i-pār'i-tē) The ability to produce living young rather than producing young by laying an egg that hatches.

viviparous (viv-īp'ār-ūs) [*v* + *parere*, to bring forth, to bear] Developing young within the body, the young being expelled and born alive; the opposite of oviparous.

vivisect (viv'ī-sēkt) [L. *vivus*, alive, + *sectio*, a cutting] To dissect a living animal for experimental purposes.

vivisection (viv'ī-sēk'shūn) [*v* + *sectio*, a cutting] Cutting of or operation on a living animal for physiological investigation and the study of disease.

vivisectionist (viv'ī-sēk'shūn-īst) One who practices or believes in vivisection. SEE: *antivivisection*.

vivisector (viv-īs-ēk'tor) [*v* + *sector*, a cutting] One who practices vivisection.

Vivotif (viv'ō-tif) Typhoid vaccine, live, oral Ty21a.

VLDL *very low-density lipoprotein*.

VMA *vanillylmandelic acid*.

V_{max} *maximum velocity*.

VNA *Visiting Nurse Association*.

VO₂ Ventilatory oxygen extraction, a measure of the exercise capacity of a patient.

vocal (vō'kāl) [L. *vocalis*, talking] Pert. to the voice.

vocal apparatus The organs, including the pharynx, larynx, teeth, tongue, and lips, that produce sounds and speech.

vocal cord Either of two thin, reedlike folds of tissue within the larynx that vibrate as air passes between them, producing sounds that are the basis of speech. SEE: *illust.*



VOCAL CORDS

Vocal cords (closed, seen endoscopically)



VOCAL CORDS

Vocal cords (open, seen endoscopically)

vocal cords, false The ventricular folds of the larynx.

vocal cords, true Vocal folds.

vocal folds The true vocal cords; the inferior pair of folds within the larynx; each contains a vocal ligament. They form the edges of the rima glottidis and are involved in the production of sound. SYN: *vocal cords, true*.

vocal ligament SEE: under *ligament*.

vocal signs The indication of disease by changes in the voice.

voces (vō'sēz) [L.] Pl. of vox.

voice (voys) [L. *vox*] A sound uttered by human beings produced by vibration of the vocal cords.

amphoric v. Cavernous v.

v. break The sudden interruption of speech, or a sudden decrease in vocal amplitude. It is a sign of laryngeal spasm.

cavernous v. A hollow voice sound

heard during auscultation of the chest, indicating a pulmonary cavity. SEE: *amphoric v.*

eunuchoid v. The characteristic high-pitched voice of a male in whom the normal sexual development has not occurred or in a male who was castrated before puberty.

voiceprint (voys'prīnt) A graphical representation of the characteristics of an individual's speech pattern. Because voiceprints, like fingerprints, can be used to distinguish one person from another, the technique is useful in forensic medicine and in identifying the voices of criminal suspects.

voices (voys'ēz) In psychiatry, verbal-auditory hallucinations expressed as being heard by the patient.

void (voyd) [O.Fr. *voider*, to empty]
1. To evacuate the bowels or bladder.
2. An empty space, e.g., one seen in radiographical evaluation of arteries or veins.

vol% *volume percent*.

vol *volume*.

vola (vō'lā) [L. *vola*, hollow of the hand, palm (of the hand); sole (of the foot)] The palm of the hand or sole of the foot. The preferred Latin terms for the palm of the hand and the sole of the foot are *palma* and *planta*, respectively. **volar** (vō'lār), *adj.*

volatile (vōl'ā-tīl) [L. *volatilis*, flying] Easily vaporized or evaporated. Examples of volatile liquids are ether (boiling point, 34.5°C) and ethyl chloride (boiling point, 12.2°C).

volatilization (vōl'ā-tīl-i-zā'shūn) Conversion of a solid or liquid into a vapor.

volatilize (vōl'ā-tīl-īz) To vaporize a liquid or solid.

volition (vō-līsh'ūn) [L. *volitio*, will] The act or power of willing or choosing.

volitional (vō-līsh'ūn-āl) Performed by volition.

Volkmann's canals (fōlk'mānz) [Alfred Wilhelm Volkman, Ger. physiologist, 1800–1877] Small canals found in bone through which blood vessels pass from the periosteum. They connect with the blood vessels of haversian canals or the marrow cavity.

Volkmann's contracture (fōlk'mānz) [Richard von Volkman, Ger. surgeon, 1830–1889] Degeneration, contracture, fibrosis, and atrophy of a muscle resulting from injury to its blood supply; usually seen in the hand. SYN: *ischemic paralysis*.

volley (vōl'ē) [L. *volare*, to fly] The simultaneous or nearly simultaneous discharge of a number of nerve impulses from a center within the brain or spinal cord.

volt (vōlt) [Count Alessandro Volta, It. physicist, 1745–1827] ABBR: V. An electrical unit of pressure, the electromotive force required to produce 1 am-

pere of current through a resistance of 1 ohm.

voltage (völ'tij) Electromotive force or difference in potential expressed in volts.

voltaic (völ-tä'ik) Concerning electricity produced by a battery.

voltalism (völ'tä-izm) Galvanism.

voltammeter (völt-äm'më-tër) A device for measuring both volts and amperes.

voltammetry, anodic stripping (völt-äm'ti-trë) ABBR: ASV. An analytical technique used to assay blood lead content.

voltampere (völt-äm'për) The value obtained by multiplying volts times amperes.

voltmeter (völt'më'tër) A device for measuring voltage, esp. for determining the voltage between two points of an electrical circuit.

volubility (völ'ü-bil'ti-të) [L. *volubilitas*, flow of discourse] Excessive speech.

volume (völ'üm) The space occupied by a substance, usually a gas or liquid. Liquid volume is expressed in liters or milliliters; gas volume in cubic centimeters.

closing v. The amount of gas remaining in the lung when the small airways close during a maximum expiratory effort. It is increased in patients with small airway disease.

compressed v. The portion of the mechanically delivered tidal volume that is not delivered to the patient owing to expansion of the ventilator circuit with pressure. Tubing with a high compliance increases the compressed volume, esp. when the tidal volume is delivered under high pressure.

expiratory reserve v. The maximal amount of air that can be forced from the lungs after normal expiration.

hospital v. The number of cases of specific conditions (e.g., stroke, acute myocardial infarction, or organ transplantation) treated at an inpatient facility. Morbidity and mortality are typically lowest in treatment centers where professional staff has the greatest clinical experience.

inspiratory reserve v. The maximal amount of air that can be inhaled after a normal inspiration.

mean corpuscular v. ABBR: MCV. The mean volume of an average erythrocyte. Normal values range from 82 to 92 cubic microns.

minute v. The volume of gas expired or inspired per minute in quiet breathing, usually measured as expired ventilation.

packed cell v. Hematocrit.

plasma v. The total quantity of plasma in the body. It decreases with dehydration and increases with greater salt and water intake and during early pregnancy. Plasma volume can be mea-

sured with injected fluorescent-labeled albumin.

residual v. ABBR: RV. The volume of air remaining in the lungs after maximal expiration. This air is essential for continuous gas exchange.

stroke v. The amount of blood ejected by the left ventricle at each heartbeat. The amount varies with age, sex, and exercise but averages 60 to 80 ml.

tidal v. The volume of air inspired and expired in a normal breath.

volume controller Buret (2).

volumenometer (völ'ü-më-nöm'ë-tër) Volumometer.

volume percent ABBR: vol%. The number of cubic centimeters (milliliters) of a substance (usually oxygen or carbon dioxide) contained in 100 ml of another substance (e.g., blood).

volume rendering The imaging of the surface elements, internal geometry, and components of a three-dimensional structure.

volumetric (völ'ü-mët'rik) [L. *volumen*, a volume, + Gr. *metron*, measure] Pert. to measurement of volume.

volumetric analysis Quantitative analysis performed by the measurement of the volume of solutions or liquids.

volumetric brain imaging, volumetric neuroimaging Measurement of the size of specific structures within the brain with magnetic resonance imaging or other devices. It is used to diagnose and identify brain diseases noninvasively. Atrophy of certain anterior brain structures is found in patients with frontotemporal dementia. In schizophrenia, the hippocampus and amygdala are reduced. Other findings have been demonstrated in depression, fragile X syndrome, Rett's disease, Tourette's syndrome, and many other neurological disorders.

volumetric capnography ABBR: VCap. The plot of the expired partial pressure of carbon dioxide versus the expired tidal volume during a breath.

volumometer (völ'ü-möm'ë-tër) A device for measuring volume. SYN: *volumenometer*.

voluntary (völ'ün-tër'ë) [L. *voluntas*, will] Pert. to or under control of the will.

voluntary health agency Any nonprofit, nongovernmental agency, governed by lay or professional individuals and organized on a national, state, or local level, whose primary purpose is health related. This term applies to agencies supported mainly by voluntary public contributions. These agencies are usually engaged in programs of service, education, and research related to a particular disability or group of diseases and disabilities; for example, the American Heart Association, American Cancer Society, National Lung Institute,

Causes of Vomiting

Cause	Example
Gastrointestinal diseases	Esophageal obstruction, gastric distention, peptic ulcer disease, gastroparesis, cholecystitis, cholelithiasis, pancreatitis, intestinal obstruction, ileus
Metabolic illnesses	Hyponatremia, hypokalemia, hypercalcemia, adrenal insufficiency, uremia, ketoacidosis
Intoxications	Acetaminophen, arsenic, mercury, methanol, opiates, mescaline, food poisoning
Drug side effects	Antidepressants, digitalis, erythromycin, theophyllines, many chemotherapeutic drugs for the treatment of cancer (e.g., cisplatin)
Intracranial illnesses	Migraine, meningitis, intracranial hemorrhage
Febrile illnesses	Strep throat (esp. in children), pyelonephritis
Pregnancy	Hyperemesis gravidarum

and their state and local affiliates. The term can also be applied to such agencies as nonprofit hospitals, visiting nurse associations, and other local service organizations that have both lay and professional governing boards and are supported by both voluntary contributions and charges and fees for service provided.

volutuous (vō-lūp'tū-ūs) [L. *volutas*, pleasure] **1.** Pert. to, arising from, or provoking, consciously or otherwise, sensual desire, usually applied to the female sex. **2.** Given to sensualism.

volute (vō-lūt') [L. *volutus*, rolled] Convolute.

volutrauma (vōl'ū-traw'mā) [L. *volumen*, scroll, something rolled, + Gr. *trauma*, wound] A lung injury caused by excessively high tidal volumes during the use of mechanical ventilation.

volvulosis (vōl'vū-lō'sis) Onchocerciasis.

volvulus (vōl'vū-lūs) [L. *volvere*, to roll] A twisting of the bowel on itself, causing obstruction. A prolapsed mesentery is the predisposing cause. This usually occurs at the sigmoid and ileocecal areas of the intestines.

vomer (vō'mēr) [L., plowshare] The plow-shaped bone that forms the lower and posterior portion of the nasal septum, articulating with the ethmoid, the sphenoid, the two palatine bones, and the two maxillae.

vomerine (vō'mēr-īn) Pert. to the vomer.

vomer nasal (vō'mēr-nā'sāl) Pert. to the vomer and nasal bones.

vomer nasal organ Organ of Jacobson.

vomica (vōm'ī-kā) *pl.* **vomicae** [L., ulcer] **1.** A cavity in the lungs, as from suppuration. **2.** Sudden and profuse expectoration of putrid purulent matter.

vomicose (vōm'ī-kōs) Marked by many ulcers; ulcerous; purulent.

vomit (vōm'it) [L. *vomere*, to vomit] **1.** Material that is ejected from the stomach through the mouth. **2.** To eject stomach contents through the mouth. SYN: *vomitus*. SEE: *melena*; *nausea*.

PHYSIOLOGY: The act is usually a reflex involving the coordinated activity of both voluntary and involuntary muscles. A certain position is assumed, the glottis is closed, the diaphragm and abdominal muscles contract, and the cardiac sphincter of the stomach relaxes while antiperistaltic waves course over the duodenum, stomach, and esophagus.

bilious v. Bile forced back into the stomach and ejected with vomited matter.

black v. Vomit containing blood acted on by gastric digestion; seen in digestion conditions where blood collects in the stomach.

coffee-ground v. Vomit having the appearance and consistency of coffee grounds because of blood mixed with gastric contents. It can occur in any condition associated with hemorrhage into the stomach.

vomiting (vōm'it-īng) [L. *vomere*, to vomit] Ejection through the mouth of the contents of the gastrointestinal tract. Vomiting, along with diarrhea and hemorrhage, is an important potential cause of dehydration. It may result from toxins, drugs (such as those given for cancer chemotherapy), uremia, and fevers; cerebral tumors; meningitis; diseases of the stomach such as ulcer, cancer, dysmotility, or dyspepsia; hormonal changes in early pregnancy, reflux from pressure of the gravid uterus in pregnancy, uterine or ovarian disease, irritation of the fauces, intestinal parasites, biliary colic; intestinal obstruction; motion sickness; and neurological disorders such as migraine. Vomiting may also be psychological ("psychogenic") in origin. Esophageal vomiting may result from reflux or obstruction. SYN: *emesis*. SEE: table; *bulimia*; *hyperemesis gravidarum*.

TREATMENT: Antinausea ("anti-emetic") medicines may be administered by mouth, rectally, intramuscularly, or intravenously. Fluids may be

given by mouth if the patient will accept them. If vomiting continues, and dehydration or acid-base imbalances occurs, intravenous fluids and electrolytes must be used to replace those lost in the vomit.

PATIENT CARE: Causative factors such as drugs, food, diseases, and psychological factors are assessed and treated if possible. Frequency, amount, time, and characteristics of the vomit are assessed. The patient is positioned to protect the airway and prevent aspiration, and in the hospital, suction equipment is provided for the patient's safety. Food and fluids are withheld for several hours, and oral care is offered. For the pre-operative patient, restriction of foods and fluids for approx. 8 hr before surgery helps to prevent postoperative vomiting. Comfort measures (e.g., a cool cloth applied to the face) are instituted. Vital signs, skin turgor, and urine output are monitored for evidence of dehydration. The health caregiver promotes a calm environment and provides distraction.

cyclic v. Periodic, recurring attacks of vomiting typically occurring in patients with a family history of migraine headaches. Such vomiting causes metabolic alkalosis as a result of chloride loss.

PATIENT CARE: The patient's symptoms are assessed and documented, vital signs monitored, fluid and electrolyte balance maintained, and prescribed medications administered to relieve headache, nausea, and vomiting. A calm, stress-free environment is provided.

dry v. Nausea and retching without vomit.

epidemic v. Sudden unexplained attacks of gastroenteritis characterized by nausea, vomiting, and sometimes diarrhea. Although not proven, the symptoms are believed to be due to a virus. Treatment is symptomatic.

induced v. The production of vomiting by administering certain types of emetics (e.g., syrup of ipecac or amorphine) or by physical stimulation of the posterior pharynx.



Vomiting should never be induced after patients ingest caustic chemicals or in patients who cannot protect their airways.

pernicious v. Hyperemesis gravidarum.

projectile v. Ejection of vomit with great force.

psychogenic v. Occasional or persistent vomiting associated with severe emotional stress or brought on by the anticipation of stress.

stercoraceous v. Vomiting of fecal matter.

vomitus (võm'ĩ-tűs) Vomit.

von Gierke disease (fõn gěr'kěz) [Edgar von Gierke, Ger. pathologist, 1877–1945] Glycogen storage disease type 1a. SYN: *glycogenosis*; *glycogen storage disease*.

von Graefe's sign (fõn grā'fěz) [Albrecht von Graefe, Ger. ophthalmologist, 1828–1870] The failure of the eyelid to move downward promptly with the eyeball; the lid moves tardily and jerkily. This sign is seen in exophthalmic goiter and is a common sign in thyroid eye disease.

von Hippel-Lindau syndrome Hippel's disease.

von Pirquet's test (fõn pěr'kāz) [Clemens Peter Johann von Pirquet, Austrian pediatrician, 1874–1929] A diagnostic test for tuberculosis in which a small amount of tuberculin is applied to a scarified area of the skin of the arm. A positive reaction is seen if a pimply red eruption appears several days later at the site of inoculation. SEE: *tine test*.

von Recklinghausen's disease Type 1 neurofibromatosis.

von Recklinghausen's tumor Recklinghausen's tumor.

von Willebrand's disease (fõn vil'ě-brāntz) [Erik Adolph von Willebrand, Finnish physician, 1870–1949] ABBR: vWD. A congenital bleeding disorder caused by either the mismanufacture of or a deficiency of a protein that helps platelets stick to injured blood vessels during the formation of blood clots. Inadequate amounts of the protein ("von Willebrand's factor") result in easy bruising or bleeding. Common symptoms of the disorder are frequent bleeding from the gums after toothbrushing, frequent or prolonged nosebleeds, heavy menstrual periods, or heavy bleeding after childbirth or surgery.

The disease is the most common inherited bleeding disorder. It is inherited in autosomal fashion – therefore, unlike hemophilia A and B it affects both boys and girls. The most common forms are autosomal dominant, but several recessive types of vWD are also known. Despite its high prevalence in the population (about 3% of Americans are affected), vWD is often undiagnosed because many people affected by vWD have mild episodes of bleeding. vWD can be diagnosed by the demonstration of low levels of von Willebrand factor in the blood; by a prolonged bleeding time, or by factor VIII deficiency (one function of von Willebrand factor is to carry clotting factor VIII in plasma). Treatments for heavy bleeding episodes (or for necessary surgeries) may include the administration of clotting factors contain-

ing von Willebrand factor or Factor VIII, or synthetic vasopressin.

Voorhees' bag (voor'ēz) [James Ditmors Voorhees, U.S. obstetrician, 1869–1929] An inflatable rubber bag formerly used for dilating the cervix uteri to induce and facilitate labor.

voracious (vō-rā'shūs) [L. *vorare*, to devour] Having an insatiable or ravenous appetite.

vortex (vor'tēks) *pl.* **vortices** [L., a whirlpool] A structure having a spiral or whorled appearance.

coccygeal v. The region over the coccyx where lanugo hairs of the embryo come to a point.

v. of heart The region at the apex of the heart where muscle fibers of the ventricles make a tight spiral and turn inward.

v. lentis Spiral patterns on the surface of the lens owing to a concentric pattern of fiber growth.

vortices (vor'tī-sēz) [L.] Pl. of vortex.

v. pilorum Hair whorls as in arrangement of hairs on the scalp.

vorticose (vor'tik-ōs) [L. *vortices*, whirlpools] Whirling or having a whorled arrangement.

vorticose vein One of four veins (two superior and two inferior) that receive blood from all parts of the choroid of the eye. They empty into posterior ciliary and superior ophthalmic veins.

vox (vōks) *pl.* **voices** [L.] Voice.

voxel (vōk'sél) A volume element, i.e., an individually representable volume of tissue detected by a digital radiographical imaging device, represented on the final image by a picture element (a "pixel").

voyeur (vwah-yēr', voy-ēr') [Fr., one who sees] One who derives sexual pleasure from observing nude persons or the sexual activity of others.

voyeurism (voy'yēr-izm) The experiencing of sexual gratification by observing nude persons or the sexual activity of others.

V/Q mismatch In ventilation/perfusion (V/Q) scanning, a region of the lung that ventilates normally but does not receive normal blood flow. SYN: *mismatch*.

VR *right vision; ventilation rate; vocal resonance*. SEE: *ventilation rate* under rate.

VRE *vancomycin-resistant enterococcus*.

VRSA (vē'ār'ēs'ā') *vancomycin-resistant Staphylococcus aureus*.

VS *vesicular sound; vital signs; volumetric solution*.

VSD *ventricular septal defect*.

V_T *tidal volume*.

vulgaris (vül-gā'rīs) [L.] Ordinary, common.

vulnerable (vül'nēr-ā-bl) [L. *vulnerare*, to wound] Easily injured or wounded.

vulnerant (vül'nēr-ānt) **1.** Something

that wounds or injures. **2.** To inflict injury.

vulnerary (vül'nēr-ār'ē) **1.** Pert. to wounds. **2.** An agent, esp. a folk remedy or herb, used to promote wound healing.

vulsella, vulsellum (vül-sél'ä, vül-sél'üm) [L. *vulsella*, tweezers] A forceps with a hook on each blade.

vulva (vül'vä) *pl.* **vulvae** [L., covering] That portion of the female external genitalia lying posterior to the mons veneris, consisting of the labia majora, labia minora, clitoris, vestibule of the vagina, vaginal opening, Bartholin's glands. SEE: *illus. vulval, vulvar* (vül'väl, vül'vär), *adj.*

velamen vulvae An abnormally elongated clitoris.

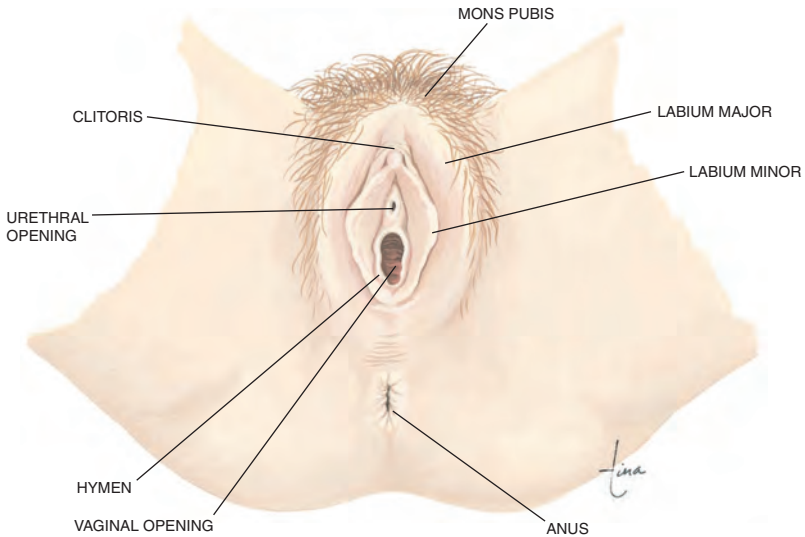
vulvar dystrophy (vül'vēr dīs'trā-fē) Lichen sclerosus et atrophicus.

vulvar leukoplakia Lichen sclerosus et atrophicus.

vulvar vestibulitis syndrome The presence of severe pain on pressing or touching the vestibule of the vagina or on attempted vaginal entry. Physical findings of localized erythema are limited to the mucosa of the vestibule. Although the etiology is unknown, the syndrome often develops in women who have intractable moniliasis or who are receiving long-term antibiotic therapy. No therapy, including vestibulectomy, has been 100% effective. SEE: *vulvodynia*.

vulvectomy (vül'vek'tō-mē) [v + Gr. *ektome*, excision] Excision of the vulva, used to manage cancers of the vulva. Surgical approaches depend on the extent of the disease. They range from simple vulvar excision (for small, confined lesions with no lymph node involvement) to radical vulvectomy with bilateral superficial and deep inguinal node dissection. If metastasis is extensive, resection may include the urethra, vagina, and rectum. Plastic surgery, including pelvic area reconstruction via a mucocutaneous graft may be carried out at a later date. SEE: *vulvar cancer*.

PATIENT CARE: The caregiver provides emotional support, encourages questions, and meets the patient's informational needs. *Preoperative:* Care includes skin preparation, teaching about postoperative care (pain management, pulmonary hygiene, and venous stasis prevention) administration of prophylactic medications to prevent infection, and insertion of an indwelling catheter. The nurse encourages the woman to verbalize her anxieties, fears, and concerns; validates her understanding of the procedure and its implications (change in body image and alterations in sexual function); and witnesses her informed consent. *Postoperative:* Care includes cleansing the wound with diluted hydrogen peroxide, rinsing with



VULVA

Inferior view of the perineum

normal saline, and drying with a heat lamp, a cool-air hair dryer, or exposure to the air three or more times daily as ordered. The wound must be observed closely for evidence of occult bleeding or infection. The caregiver positions, and frequently repositions the woman for comfort using special mattresses, bed cradles, and trapeze to aid self-movement and administers analgesics as needed and prescribed. Patient-controlled analgesia (epidural or intravenous) are appropriate for the early postoperative period. Deep breathing using an inspiriometer and coughing are encouraged. Antiembolic hose or pneumatic pump dressings are applied. Nourishment and hydration is provided by intravenous route until oral fluid and solids are tolerated. Antidiarrheal drugs are administered as needed and meticulous wound cleansing employed to prevent infection. Stool softeners and a low-residue diet may be appropriate as the patient progresses. Depending on the extent of the procedure, home health care is arranged. Discharge teaching emphasizes meticulous wound and catheter care. The patient is advised to report bleeding, purulent discharge, or intolerable pain to the primary caregiver. After a simple vulvectomy, sexual intercourse may resume when the wound has healed (about 6 to 8 wk postsurgery). Adjuvant postoperative treatments may include Chemotherapy with or without radiation therapy. Irradiation may be used for palliative care if advanced age,

poor health, extensive metastasis, or patient preference rules out surgical treatment.

vulvitis (vül-vī'tis) [L. *vulva*, covering, + Gr. *itis*, inflammation] Inflammation of the vulva.

acute nongonorrheal v. Vulvitis resulting from chafing of the opposed lips of the vulva or from accumulated sebaceous material around the clitoris.

desquamative v. Erosion or scarring of the vulva as a result of immunological or blistering conditions, such as contact dermatitis, lichen planus, lupus, or squamous cell carcinoma.

follicular v. Inflammation of the hair follicles of the vulva.

gangrenous v. Necrosis and sloughing of areas of the vulva, often a complication of infectious diseases such as diphtheria, scarlatina, herpes genitalis, or typhoid fever.

leukoplakic v. Lichen sclerosis et atrophicus.

mycotic v. Vulvitis caused by various fungi, most commonly *Candida albicans*.

plasma cellularis v., plasma cell vulvitis Inflammation and edema of the vulva, with infiltration of the upper dermis by plasma cells and other inflammatory cells. This rare condition causes itching, sexual discomfort, and discomfort during urination as well as a macular rash with sharply defined borders. SYN: *Zoon's vulvitis*.

vulvo- Combining form meaning *covering, vulva*.

vulvocrural (vül"vō-kroo'räl) [L. *vulva*,

covering, + *cruralis*, pert. to the leg] Rel. to the vulva and thigh.

vulvodynia (vŭl"vō-dīn'ē-ā) [" + *dynia*, pain] Vulvar pain; a nonspecific syndrome of unknown etiology. Common complaints include sporadic pain, dyspareunia, and pruritus. A provisional diagnosis is based on the patient's symptoms, and an absence of any other vulvovaginal or systemic pathology. Palliative treatment is individualized, although some women report relief of symptoms with an oxalate-restricted diet. SEE: *vaginitis*; *candidal vaginitis*; *pruritus*; *vulvar*; *vulvar vestibulitis syndrome*.

The Vulvar Pain Foundation provides information and support for women with vulvodynia. Their address is P.O. Box 4177, Graham, NC 27253. Phone 336-226-0704; www.vulvarpainfoundation.org/. Other support groups may be found on the internet.

PATIENT CARE: The health care professional encourages the woman to verbalize her feelings and concerns. The eliciting and careful review of the woman's history focuses on identifying any coexisting disorders, and noting factors or events that preceded the symptoms and those that increase or decrease symptoms. Patient teaching for palliative self-care emphasizes soothing personal hygiene techniques. Some treatments may be helpful, including physical therapy, trigger point injections, sexual counseling, cognitive behavioral therapy, biofeedback, and some pain-relieving antidepressants or anticonvulsants. However, treatments are often partly, rather than wholly effective. Some women have refractory symptoms.

idiopathic v. Vulvar dysesthesia.

vulvopathy (vŭl-vōp'ā-thē) [" + Gr. *pa-*

thos, disease, suffering] Any disorder of the vulva.

vulvovaginal (vŭl"vō-vāj'ī-nāl) [" + *vagina*, a sheath] Pert. to the vulva and vagina. SYN: *vaginoulvar*.

vulvovaginal gland One of the small glands on either side of the vaginal orifice. SYN: *Bartholin's gland*.

vulvovaginitis (vŭl"vō-vāj'ī-nī'tis) [" + " + Gr. *itis*, inflammation] Simultaneous inflammation of the vulva and vagina, or of the vulvovaginal glands. The condition may be due to chemical irritation produced by materials present in medications, tight-fitting or nonabsorbent underclothes, inadequate perineal hygiene, allergic conditions, or a variety of infectious agents including bacteria, yeasts, viruses, and parasites.

diabetic v. Mycotic vulvar infection commonly occurring in diabetes mellitus.

VURD syndrome A combination of urinary tract abnormalities consisting of posterior urethral valves, unilateral urinary reflux, and dysplasia of the affected kidney. This condition typically occurs in male infants.

vv veins.

v/v volume of dissolved substance per volume of solvent.

VW vessel wall.

v/w volume of a substance per unit of weight of another component.

VX A toxic nerve gas, O-ethyl-[S]-[2-diisopropylaminoethyl]-methylphosphonothiolate, that might cause severe damage to public health if it were used in an act of biological terrorism.

V-Y-plasty A technique used in plastic surgery to repair a skin defect or to lengthen a scar as to release tension. A V-shaped incision is made, and the tissue at the apex of the V is placed on tension and advanced to create a straight limb of Y-shaped defect. The edges of the new wound are then sutured so that a Y-shaped scar is now produced.