

## Pregnancy

**Preconception:** Important to maintain good health, good nutrition, exercise, subluxation free, drug, alcohol and tobacco free.

### Signs of Pregnancy: (Mattox pg. 42)

- Amenorrhea** – most common
- Fatigue
- Nausea
- Small bladder
- Breast changes
- Chloasma - mask of pregnancy, dark pigmentation around eyes and on face
- Braxton-Hicks contractions-“practice contractions”
- Quickening – perception of fetal movement
  - Multipara - first feel movement around 16 weeks
  - Primigravida - first feel movement around 20 weeks

### Objective Signs (pg. 49)

- Chadwick’s sign – vaginal wall becomes cyanotic and congested
- Hegar’s sign – isthmus of the uterus is soft at 6 to 8 weeks
- Piscacek’s sign – enlargement of uterus near uterine tube, at 7-8 weeks
- Goodell’s sign – softening of cervix and vagina
- Detection of the fetus – ballottement of fetus on bi-manual exam (Mattox pg. 50)
- Linea nigra – usually in 2<sup>nd</sup> Trimester, dark strip umbilicus to pubes
- Fundal height –
- Uterine/Funic soufflé –
  - Uterine: Mom’s heart rate
  - Funic: fetal umbilical cord-babies heart rate
  - Doppler – possible to detect fetal heart tones as early as 10 weeks menstrual age
  - Fetal heart rate range twice as fast as Mom’s heart rate (120 to 160 beats/min)
- Sonogram – Confirms it much earlier gestation
  - Fetal cardiac activity usually verified

### Pregnancy Tests (pg. 50)

Based on identification of beta chain HCG, but teratomas of the ovary and testes, choriocarcinoma and hydatiform mole can give a positive HCG test

**Intrapartum Care**  
**Chapter 7 Pages 63 - 83**

Pregnancies are dated from the first day of the last normal menstrual period, even though classically fertilization does not occur until 2 weeks later.

-Delivery before 22 weeks' gestation is referred to as an abortion.

-Delivery between the beginning of the 23<sup>rd</sup> week and the end of the 36<sup>th</sup> week is called premature delivery.

-Delivery at term occurs between the beginning the 37<sup>th</sup> week and the completion of the 42<sup>nd</sup> week.

-Post term delivery occurs after 42<sup>nd</sup> week.

**ASSESSMENT OF GESTATIONAL AGE**

-EDD: Estimated Date of Delivery

-EDC: Estimated Date of Confinement

Due Date - EDC based on 280-day gestation from 1<sup>st</sup> day of LMP assuming 28-day cycle which is 40 weeks.

1<sup>st</sup> day of last menstrual period

(-)minus 3 months

(+)plus 7days

(+) plus 1 year

Example: June 15, 2009 LMP, EDD March 22, 2010; The Range is: March 7 to April 7.

**Fundal height** relative to gestational dating should be compared at each visit; 2-cm to 3-cm discrepancy may represent normal variations of fetal lie, normal amniotic fluid, maternal habitus and measurement technique. Arrest of fundal growth or a precipitate increase should prompt further evaluations

12 weeks fundus felt above upper border of pubis

16 weeks fundus is halfway to umbilicus

20 weeks fundus level with umbilicus

From 20 to approximately 34 to 36 weeks fundal height in centimeters

from pubic symphysis is same as weeks' gestation

**Fundal Height** through the Weeks (see drawing pg. 51)

**Causes that may alter Fundal Height:**

- Big Baby
- Multiple pregnancy
- Polyhydramnios – increased amniotic fluid
- Tumors eg: Fibroids, hydatidiform Moles, etc.
- Growth Retardation

**Terms:**

Parturient: when she is in labor

Puerperal: after delivery

Gravida: total number of pregnancies, regardless of their type, location and time or method of termination-delivery.

Primigravida: is pregnant for the first time

Nulligravida: has never been pregnant

Parity: refers to the number of deliveries of viable infants

Para: indicates the number of pregnancies, regardless of methods of delivery or number of fetuses, that terminate after the 22<sup>nd</sup> week

Nullipara: has never carried a pregnancy beyond the twenty-second week

Multipara: carried more than one pregnancy beyond 22 weeks

## **NUTRITIONAL NEEDS OF PREGNANT WOMEN**

- Pre-Conception Nutrition is as important as nutrition during pregnancy
- If previously using contraceptives, need increased amounts of Vit. E, B6, B12, C, and folic acid.
- DHA (Docosahexanoic Acid) and AA (Arachidonic Acid)
- Take a multiple vitamin / mineral that contains 100 to 150% of RDAs plus at least 400 mcg folic acid and 18 mg iron daily.
- Not quantity of food, but quality; Frequently, small meals and snacks
- Daily energy needs increase by ~ 300 calories during the 2nd and 3rd trimesters
- Eat Protein, high-fiber diet, Whole Foods (veggies, fruits, whole grains)
- Avoid processed foods
- Lots of bottled water; stay hydrated!
- Avoid Fluorides, Artificial Sweeteners, Caffeine, Alcohol (and Tobacco and 2<sup>nd</sup> hand smoke)

## **ADVERSE EFFECTS OF SUBSTANCE ABUSE**

**Alcohol** - (Mattox pg. 142) Fetal alcohol syndrome (FAS) has been described in the offspring of alcoholics.

1. Affected infants have a variety of craniofacial, limb and neurologic abnormalities.
2. They are below normal intelligence and may develop behavioral problems. Increased risk of hyperactivity, short attention span, emotional problems.
3. Effects of high alcohol levels may be enhanced by excessive smoking, drug use and malnutrition.

**Tobacco** – (Mattox pg. 61 &142) The newborns of smoking women are at greater risk of respiratory problems. The babies of women who smoke heavily have a low birth weight, birth defects, rate of miscarriage is twice as high, twice the risk of SIDS. The perinatal death cases among infants born to smoking mothers also are increased. 2<sup>nd</sup> hand smoke increases risk of URI, otitis, asthma, and cancer.

**Other Drugs** – (Mattox pg. 142) Recreational drugs may cause a number of multitude disorders: These infants may experience: growth retardation, delayed mental development, placental abruption, preterm delivery and even fetal death. The behaviors that are often present with the use of recreational drugs also compromises prenatal care, nutrition and increases risk of infection.

**Exercise** – (Mattox pg. 57) The amount of exercise is determined by the tolerance of the individual mom. What she is used to doing? Is it a high risk pregnancy?

- Do pelvic exercises throughout the pregnancy. (Specifically kegel exercises).
- Walking, swimming, yoga and stationary bike riding offer bilateral body movement and toning with low impact and jarring.
- Do aerobic exercises at a conversational pace. Dancing is excellent.
- 3-5 days for 30 mins. About 60% of Max. Capacity OK! 45-60 mins for 7 days will shunt blood from baby
- Avoid straight sit-ups, weight lifting, or other exercise that involves holding the breath which elevates intra-abdominal pressure.
- Babies of Exercising Moms are Alert and easier to clam and soothe.
- Avoid twisting and bending
- Sleep on side and Cushion between thighs to keep pelvis in alignment

**Travel** – (Mattox pg. 57) Wearing seat belts should be routine. The lab belt Should be at the ASIS and inferior to the baby (NOT across the baby).

**Sex:** Women with uncomplicated pregnancies can continue intercourse without fear of injury or infection.

**Employment (Mattox pg. 57):**

-There is no medical reason for woman not to work during pregnancy provided she is not in danger, remains healthy and the pregnancy is not a risk.

## **Stress**

- \* Pregnancy and birth are natural phenomena and they require change and adaptation

How relaxation affects the pregnant woman and her body

- \* Fear and anxiety decrease
- \* Mother feels calm
- \* Blood flow to uterus is maximized
- \* Blood flow to baby is maximized
- \* Baby's oxygen and nutrients are maximized as a result of increased blood flow
- \* Mother and baby are less affected by stress hormones circulating in the blood

### **When to Call the Birth Care Provider During Pregnancy:**

- \* Visual problems blurred vision, double vision, or spots in front of your eyes
- \* Swelling of face or fingers
- \* Severe headache
- \* Muscle irritability
- \* Convulsions
- \* Abdominal pain
- \* Persistent vomiting after the first trimester
- \* Blood or fluid from vagina
- \* Chills or fever
- \* Burning on urination
- \* Unusual change in baby's movements, especially long absence of movement

### **First trimester: (WEEK 1-14)**

-Few gravitational changes at this gestation age.

-Good Bra to due to increased breast size.

-Ligament Laxity – 1<sup>st</sup> pregnancy not usually until the 2<sup>nd</sup> Trimester, in the 2<sup>nd</sup> and 3<sup>rd</sup> pregnancy it begins at fertilization

-Vaginal Discharge – effect of hormonal changes on cervical gland: usually thin, milk color, and has a slight odor.

### **ASSESSMENT OF FETAL GROWTH, WELL-BEING AND MATURITY (Mattox pg. 52-53)**

-Fetal heart rate should be 120-160. Heart rate below 100 may indicate a problem and necessitates further testing.

-Fetal Motion (Quickening) as felt by the mother can be an indicator of fetal well being.

Generally, fetal movements decline rapidly over a day or two and are then absent for another one to two days before intrauterine death occurs. If a woman in the third trimester complains of decreased fetal movement, further biophysical testing should be considered.

-Onset of preterm labor: Symptoms of: increase vaginal discharge, pelvic pressure, cramping, or vaginal bleeding might precede.

-Material weight gain is an indicator of nutritional status as well as fluid retention. (Mattox pg. 53)

First trimester – 1 to 3 pounds

Last two trimesters – less than a pound per week

About 20 pounds for the products of conception and physiologic changes in the mother. Now days a total gain of 25-35 pounds is OK.

### Maternal blood pressure

-Blood pressure and physiologic response to pregnancy normally a decrease in blood pressure during the second trimester and return to normal in the third trimester.

-Preeclampsia is a major cause of maternal and fetal morbidity and mortality. Early detection and intervention will prevent or minimize complications.

-Presence of edema is noted. **Pedal edema is common.**

-Facial or hand edema may indicate developing hypertension.

## 1st Trimester Complications

### Bleeding-Causes

**Hormonal swing** - physiological dip at 8-12 weeks (Corpus Luteum functioning less and placenta functioning more) (Mood Swings)

**Abortion**- < 22 wks. = Abortion

-anything that violates or disrupts fetus

-viability is 28th week

**Habitual aborter**-3 or more consecutive natural abortions-not induced

-find out when it occurred and can determine where problem is:

**Ectopic pregnancy**- >97% occur in Fallopian tubes (pg.97)

-Tubal abortion-mass ejected

-Tubal mole-mass dies & is not expelled from body -"missed abortion"

-Tubal rupture-mass grows until tube bursts

-Ectopic: out of the ordinary location, in pregnancy it is out of the uterus

## **Morning Sickness (Hyperemesis gravidarum)**

- Most often during the 1st trimester, 50-80% of women have it
- Onset usually 4-8 weeks gestation.
- Possibly due to HCG levels which are highest during the 1st trimester and then falls.
- Doesn't occur just in the morning-can be anytime.
- dehydration, electrolyte imbalance, high ketone levels in urine, requires hospitalization.
- Notify midwife or OB if: urine is decreased, infrequent and/or concentrated, and if  
Nausea and vomiting that continues after 16 weeks gestation.

## **Obstetric Procedures (Mattox Chapter 28 Page 268 – 278)**

### **Ultrasound**

Uses for Ultrasound include (sex, wt, not approved, reasons!)

- determining gestational age – important IF uterus measuring off
- determine fetal abnormalities - confirm fetal life (GI tract, kidneys)
- determine position of placenta
- detect fetal masses
- detect/locate ectopic pregnancy

Transabdominal Ultrasound - gestational sac seen 6 weeks after  
Last normal Menstrual Period

### **Amniocentesis**

- Done at – 14-15 wks. gestation, used for karyotypic, enzymatic or DNA analysis.
- If tested in the late third trimester to evaluate fetal lung maturity, intrauterine infection or to administer medication into the amniotic fluid

### **Amniocentesis Risks**

- Risk of infection and less than 1% risk of spontaneous abortion

**AFP-Alpha Fetal Protein-** test for neural tube defect. Ultrasound must be used with both.

**CVS-Chorionic Villus Sampling** done at 8-12 weeks gestation

- Catheter is inserted transcervical to suction chorionic villi from the placental bed.
- Test for karyotypic, enzymatic or DNA analysis
- NOT used to test for neural tube defect



### **CVS-Chorionic Villus Sampling Risks**

- Fetal loss
- Distal limb reduction abnormalities

### **CORDOCENTESIS**

- Percutaneous umbilical blood sampling (PUBS)
- test for: karyotypic, fetal metabolic process, hematocrit and platelets

### **Cordocentesis Risks**

- 2%-3% risk of significant hemorrhage
- Lesser risk of fetal trauma or infection

### **Doppler Velocity**

Doppler velocimetric analysis evaluates the adequacy of organ perfusion in the fetus.

### **2nd Trimester – (WEEKS 14-28)**

- Morning Sickness usually (should be) gone, feeling better, has the pregnancy “glow”
- Quickening** – first fetal movement felt by the mother

### **2nd Trimester complications**

- Yeast Infection, Group B strep (\$20 test)
- Herpes virus-Increases with in stress

### **Incompetent cervix**

-Bleeding cervix

-Incompetent cervix-due to baby pressing on lower pole of the uterus, poor nerve supply to muscles will allow cervix to open.

-Medically - will stitch cervix close - cerclage

### **Gestational Diabetes (Mattox pg. 121)**

-Ob performs a routine screening about 24-28 weeks gestation.

-Fetus at risk for: macrosomia (abnormally large body), polycythemia, hypoglycemia, hypocalcemia, hyperbilirubinemia

-Risk factors for developing GDM: glucosuria, hx of DM in 1st degree relative, previous heavy -for-date baby, obesity of mother, high maternal age (35 yrs), hx of stillbirth or spontaneous abortion.

-Large babies which can complicate labor and delivery for both Mom and baby.

-Gestational Diabetes Babies have a higher rate of Type I and Type II Diabetes and Artherosclerosis in early life.

### **3rd Trimester: (WEEK 28 to Birth)**

-Gravitational factors – increased lordosis and kyphosis, Center of Gravity changes  
Pregnancy belt to support the abdomen and decrease stress to Lumbar spine

↓ Balance-Be careful - with based stance and gait

-Upper extremity concerns may be due to change in posture

-Sitting-crossed legs, sit on foot, = asymmetrical Pelvis

-**Braxton Hicks contractions** – occur in the last 8-10 weeks, the uterus is contacting but the cervix is not changing yet

-**Lightening** – the fetus “drops” in to the pelvic inlet

### **Orthopedic and Neurological conditions of Pregnancy (Fallon pg. 87-102)**

**Bell’s Palsy**- direct result of compression of CN7 within the temporal bone

**Carpal Tunnel Syndrome**- defined as compression of Median Nerve in the carpal tunnel under the flexor retinaculum

+ Tinel’s sign

-Subluxation of the carpals or Lunate is usual in pregnancy due to hormonal changes, and edema in the extremities (Charette's Protocol and Activator Methods Chiropractic Technique protocol)

-Vit. B complex

**Meralgia Paresthetica**- compression of the lateral femoral cutaneous nerve as it passes beneath the inguinal ligament

-relieved by sitting, exacerbated by walking

-begins the 13<sup>th</sup> week of pregnancy

-obesity and increased lordosis of pregnancy tend to stretch the nerve, may become compressed under the inguinal ligament

**Inguinal hernias**-common during pregnancy

**Separation of the symphysis pubis**- one inch or greater is a true luxation

**Coccydynia** - pain directly due to subluxation of the coccyx

-patient will report preference to sit in a hard chair vs. a cushion, due to support of the ischial tuberosity

**Sciatic Neuralgia**-compression of lumbar plexus, pain into buttocks and down the leg

-L2 to S1 and or Sciatic Notch of the Ilium

**Obstetric palsies / traumatic neuritis** –motor or sensory deficits of L5, S1, S2 roots resulting from trauma during labor or delivery, cephalopelvic distortion, dystocia, and primiparity are all causes of peripheral neuropathies

**Obstetric palsies can result from any of the following:**

- disc protrusion at the IVF
- traction of the lumbo-sacral trunk (forceps)
- compression of the L-S trunk by the fetal head
- compression of the popliteal nerve due to positioning during delivery

**Palsy can manifest in many ways with the following being the most common:**

- 1) Foot Drop - results for Forceps use
- 2) Femoral Neuropathy – femoral (anterior crural) nerve compression during vaginal childbirth or c-section
- 3) Obturator Neuropathy – L3, L4 nerve root compression at the level of the pelvic brim during a difficult labor or due to improper placement to the needle or torque applied to the meninges during epidural

**Intercostal neuralgia** – subluxation of the rib and the vertebral level should be evaluated

- known as the first neurological condition of pregnancy
- rib cage begins to flatten out and intercostal nerves begin to experience compressive forces and stretching forces
- changes the rate and depth of breathing and recruitment of accessory muscles of respiration also affect the intercostal nerves

**Brachial neuralgia** – compression of the nerves of the brachial plexus

- evaluate cervical spine for subluxation to reduce compression of the nerve root

**Headaches** – in pregnancy are usually muscle or tension types

-Migraine headaches are nearly unheard of during pregnancy as most of those HA have a vascular component which is minimized by the hormones of pregnancy, 77% of Migraines disappear during pregnancy.

### **3rd Trimester Complications**

#### **Trimester Bleeding (Mattox Chapter 18 Pages 188 – 198)**

\*It is prudent to assume that all third trimester vaginal bleeding may be life-threatening.

**-Placenta previa** – location of the placenta is between the baby and the internal cervical os

A placenta previa is present when the implantation occurs in the lower uterine segment. "Placental migration" occurs in 90% of placentas that implant in the lower uterine segment and they will be in the upper aspect of the uterus by the late third trimester.

The three varieties of placenta previa are:

1. Marginal, edge of placenta next to but not overlying the internal cervical os
2. Partial, internal os is partially covered by the placenta
3. Complete, the internal os of the cervix is totally covered by the body of the placenta.

The risks factors of placenta previa are:

1. The risk for placenta previa increases with parity. It occurs infrequently in the nulliparous gravids
2. Advancing maternal age
3. Surgical scarring of the lower uterine segment

Diagnosis of placenta previa:

1. Bright Red Bleeding and the passing of clots and the onset of bleeding is quite sudden, without apparent provocation
2. The first episode of hemorrhage usually occurs in the early third trimester of pregnancy, with a peak incidence between 30-40 weeks gestation
3. Pelvic examination, intercourse, or douching sometimes will provoke bleeding of an unsuspected placenta previa

4. Because placenta previa occupies the lower uterine segment, fetal malpresentation is often noted
  5. Real-time ultrasonography has become an extremely accurate modality for diagnosing placenta previa.
- G. Management of placenta previa
1. An attempt at vaginal delivery in the setting of placenta previa is potentially life threatening and is unwarranted.
  2. Cesarean Section delivery remains the standard approach.

**-Placenta abruptio** – early separation of the placenta, blood loss, is danger to mother & baby

1. In contrast to the bright red, clotting blood associated with the placenta previa, blood passed during an abruption is usually **dark and non-clotting.**
2. Acute or chronic maternal hypertension is a considerable risk factor for placental abruption.

**-Placenta Accreta** – abnormal adherence of chorionic villi to the myometrium (Stedman's pg 1140)

### **PREECLAMPSIA-ECLAMPSIA SYNDROME (Mattox Chapter 13 pg. 146-151)**

Preeclampsia is a condition unique to human pregnancy.

**Preeclampsia-eclampsia** is defined as hypertension with edema, proteinuria, or both.

**-Chronic hypertension** is defined as high blood pressure that was present before pregnancy or diagnosed before 20 weeks of gestation. > 140/90 mm Hg

#### **Severe preeclampsia:**

1. Blood pressure 160 mm Hg systolic or 110 mm Hg diastolic on at least two occasions more than 6 hours apart with the patient at bed rest.
2. Proteinuria of 5 g or more per 24 hours
3. Oliguria
4. Cerebral or visual disturbances
5. Epigastric pain
6. Pulmonary edema or cyanosis

**Eclampsia** is the occurrence of seizures or coma in a patient with preeclampsia when there is no other cause.

-The preeclampsia patient is at risk for developing renal and hepatic failure, seizures, coma, or cerebral edema.

-The ONLY cure for preeclampsia is delivery.

### **Palpation of the baby: Leopold's Maneuver**

Superior – is the baby under the ribs?

Lateral aspects of abdomen – is it a vertical lie?

Superior to the Pubic Bone – can you grasp the head? Buttock?

Both are very boney until late in 3<sup>rd</sup> trimester, Moving the Buttock will move the baby's whole body.

Find the cervical spine – is the chin to the chest in full flexion?

### **ECV – External Cephalic Version**

Not worried at 32 weeks if baby is not Vertex yet. It should be by about week 36-37.  
– Done at 37 Weeks. Medical procedure.

### **Chiropractic: Webster InUtero Constraint Technique**

Webster InUtero Constraint Technique is 82% effective requires no screenings and can be done on anyone.

### **Preterm Labor (Premature Labor 23-36 wk gestation) (40 wks=full gestations) Ch 19 Page 199 – 206**

-Prematurity is the leading cause of newborn mortality and morbidity.

-Every pregnant patient is at risk for PTL and should be aware of the signs and symptoms of PTL which include:

1. Uterine contractions (71%);
2. Pelvic pressure (50%);
3. Backache (47%);
4. Increased vaginal discharge (47%);
5. Menstrual-like cramps (43%); and
6. Intestinal cramping or diarrhea, spotting or bleeding, and a general feeling that “things are not right.”

## Premature Rupture of Membrane (Chapter 20 Page 207 – 212)

-Premature rupture of the membranes (PROM)

-PROM is probably the single most common precipitating factor in preterm delivery.

-preterm premature rupture of the membrane (PPROM)

### COMPLICATIONS

A. The main complications of PROM are labor and infection.

Premature labor can be expected within 24 hours following PROM in 80% to 90% of the patients. Studies show that by 4 days after PROM most patients are in labor.

B. In PPRM, Chorioamnionitis occurs in 6% to 22% of patients

1. Maternal consequences are:

- a. Sepsis and all its possible complications
- b. Endometritis
- c. Abscesses
- d. Fistulas
- e. Infertility

\*These infections remain potentially lethal to the mother.

2. Neonatal consequences vary significantly with term as:

- a. At term consequences to the fetus/neonate are slight
- b. At preterm perinatal mortality increases 3% to 11%, the rate of serious newborn infections increases 2.5 times; and the rate of respiratory syndrome doubles.

-Umbilical cord prolapse has increased in PROM.

This is particularly so when PROM and **malpresentation** coexist.

**-In the case of ruptured membranes, it is important that the mother check her vagina for the presence of a prolapsed cord. If she feels this, she should wrap the cord in a warm towel and call 911 immediately!**

**NO oxygen to the fetus = suffocation!**

-PROM also effects fetal development subsequent to amniotic fluid loss.

## PREMATURE RUPTURE OF MEMBRANE AT LESS THAN 24 WEEKS

- 50% of women will deliver within 1 week.
- Maternal risks are greater than at later gestational ages.
- There is nearly double the rate of chorioamnionitis and a subsequent risk of hemorrhage from retained placenta, often necessitating blood transfusions.
- Survival rate of 40%, of which about 30% will have major neurological handicaps.

## PREMATURE RUPTURE OF MEMBRANE AT 25 TO 36 WEEKS

- Delivery should be considered if fetal lung maturity has been achieved or 36 weeks of pregnancy reached.

## PREMATURE RUPTURE OF MEMBRANE AT MORE THAN 37 WEEKS

- A reasonable amount of time (12-24 hours) should be allowed for the patient to go into labor.
- After that time, if labor has not started, pitocin induction should begin.
- Cesarean section should be at least 12 hours after beginning pitocin.
- Digital examination of the cervix should be avoided completely until the mother is in active labor.
- Premature rupture of the membrane continues to be a controversial area in obstetrics.**

## **CHARACTERISTICS OF UTERINE CONTRACTIONS AND LABOR (Mattox Pg. 63)**

Labor is the mechanism by which the products of conception are expelled from the uterus and vagina. This is accomplished almost entirely by the activity of the uterine muscles.

## **FORCES AND MECHANISMS IN LABOR (Mattox pg. 65)**

-"The mechanism of labor is a term applied to the series of changes in the attitude and position of the fetus that permits it to progress through the irregularly shaped pelvic cavity."

The steps in the mechanism of labor (occiput positions) are: **descent, flexion, internal rotation, extension, restitution, and external rotation** (descent through the pelvis; flexion; and internal rotation sometimes all occur simultaneously).



## **Descent (Mattox pg. 67)**

-If the **sagittal suture is equidistant from symphysis and the sacral promontory, the head is said to be entering the inlet in a synclitic manner.**

**Molding of the head-** dynamic process:  
the shape of the head changes constantly throughout labor.

**-The degree of descent is gauged by the station of the presenting part which is its relationship to the plane of the ischial spines. (Mattox pg. 68)**

-lowest point of the presenting part

Engagement – level of the Ischial spines, = station 0

-stations: -1, -2 and -3 are located superior to the Ischial spines with -3, the most superior station

-floating: presenting part is above the plane of the pelvic inlet

-stations: +1, +2 and +3 are the location of the presenting part inferior to the Ischial spines and +3 is the presenting part has reached the pelvic floor.

## **TECHNIQUES TO EVALUATE THE PROGRESS OF LABOR (Mattox pg. 70-78)**

**Terms:** Cervical Effacement – thinning of the cervix

Cervical Dilation – opening/dilation of the cervix, full dilation is 10 cms.

First stage of labor usually is described in two phases:

- Latent phase - effacement is completed and cervical dilation begins
- Active Phase-cervical dilation is completed

Second Stage (pg. 70)

- Complete dilation to delivery of infant.

Third Stage (Mattox pg. 79, 81)

- The interval between: delivery of infant and delivery of placenta.

Puerperium – period from the termination of labor to complete involution of the uterus, usually defined as 42 days. (Stedman's pg 1217)

Involution of Uterus – return of an enlarged organ to normal size (Stedman's pg 770)

## MANAGEMENT (Mattox pg. 185)

### Prolonged latent phase

-A laboring woman should be encouraged to walk and change position frequently to provide for the most efficient labor.

## INDUCTION AND AUGMENTATION OF LABOR (Mattox pg.271)

-Labor induction: is the initiation of regular contractions before the onset of spontaneous labor.

-Indications for labor induction include: chorioamnionitis, isoimmunization, preeclampsia-eclampsia, premature rupture of membranes, or fetal death.

-Generally, any contraindication for vaginal delivery is a contraindication to induce labor. This includes:

1. Any uterine incision other than a low-segment incision
2. Severe maternal pelvic abnormalities
3. Certain fetal anomalies (e.g. massive hydrocephaly)
4. Placenta previa
5. Active herpetic infection of the genital tract.

### **-Induction of Labor:**

Pitocin - synthetic form of oxytocin

Cervical Gels- synthetic prostaglandin derivatives

Amniotomy - Rupturing the membranes

## **PAIN MANAGEMENT DURING LABOR (Mattox pg. 72)**

**Direct quote from textbook;**

***“The ‘perfect’ agent must provide relief from pain while it neither interferes with the progress of labor nor adds to the risk for the mother or fetus. Such an agent has not yet been discovered.”***

## **Abnormal Labor (Mattox Chapter 17 Page 180 – 187)**

Dystocia: abnormal labor that progresses slower than normal can be the result of:

- anatomic or functional abnormalities of fetus
- maternal tissues that comprise the birth canal
- uterus: weak contractions
- combinations the above

FOCEPS or VACUUM may be used to assist the delivery of the fetus.

### **• Forceps Delivery Indications**

- use if fetal distress
- maternal distress
- labor that does not progress favorably
- breech to deliver the head quickly

## **METHODS OF MONITORING THE MOTHER AND FETUS**

- A. Fetal heart rate
- B. Electronic Fetal monitor
- C. Maternal BP
- D. Contractions
- E. Maternal Temperature every 4 hours
- F. Vaginal Exam, risk of infection
- G. Full bladder may slow the fetal descent
- H. Not eat, due to delayed emptying of stomach during labor

## **EPISOTOMY (Mattox pg. 274)**

An incision in the perineum. It is done to reduce the risk of perineal laceration during vaginal delivery.

## **CESAREAN DELIVERY** -The most common indications include:

- placental previa
- fetal distress
- maternal distress
- failure for labor to progress
- breech
- malpresentation
- pre-determined pelvic distortion
- active herpes
- eclampsia
- dystocia

-Despite data that suggest that VBAC is a safe and reasonable option, many repeat cesarean deliveries continue.

-Most use an incision placed transversely in the lower aspect of the uterus

## **Postpartum Care (Mattox Chapter 9 Page 88 – 95)**

Episiotomy: clean with soap and water, ice packs and oral analgesia, sitz baths after day one

Encourage ambulation as soon as possible after an uncomplicated vaginal delivery.

Encourage a healthy diet immediately postpartum.

Lactation: baby and mom should be encouraged to breast feed. Uterine contraction can be strong during nursing.

Lochia – discharge from the vagina for mucus, blood, and tissue debris, following childbirth (Stedman's pg 847)

## POSTPARTUM COMPLICATIONS (Mattox pg. 93)

- A. Hemorrhoids
  1. Local application of witch hazel packs or anosol suppositories
  2. Acupuncture
  
- B. Pubic Separation
  1. Adjust.
  2. Trochanteric Belt

-It takes about 12-18 months to get back to pre-pregnancy status for ligaments and muscles.

### Postpartum Depression

-Decrease the Postpartum Depression with regular Chiropractic adjustments. It will assist the Mom's body to obtain homeostasis as it recovers from the pregnancy.

### Other Terms and Info

**Menarche** – first menstrual period

**Cystocele** – herniation of the bladder usually into the vagina and introitus (Stedman's pg 369)

**Rectocele** – syn: proctocele (Stedman's pg 1191) prolapse or herniation of the rectum

**Dysmemorrhea** – difficult and painful menstruation (Stedman's pg 443)

Most common malignancy of female genital tract is the cervix.

**Classifications of PAP (Papanicolaou) Smears:** used to detect cancer; evaluation of cells from the cervix

Classification of PAP Smear:

I – normal

II – atypical or benign

III – dysplasia

IV – in situ

V – malignancy

Hormones:

FSH: Follicle stimulating hormone – syn: follitropin (Stedman's pg 559) (maturation of follicle)

LH: Luteal hormone – syn: progesterone (Stedman's pg 858) (ovulation)

Oxytocin – (Stedman's pg 1066) produced in posterior pituitary gland, causes uterine contractions and milk release during lactation

Prolactin – produced in anterior pituitary gland, stimulates secretion of milk (Stedman's pg 1195)

Vernix caseosa– (Stedman's pg 1554) fatty cheesy substance, consisting of desquamated epithelial cells, lanugo (downy hairs), and sebaceous matter, that covers the skin of the fetus and provides a waterproof protective cover