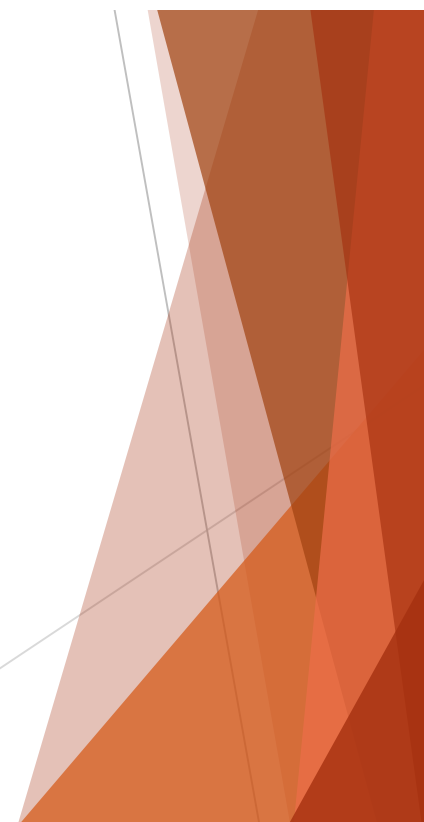


OPERATIVE OBSTETRICS



RICHARD G. MOUTVIC, MD, FACOG



Objectives

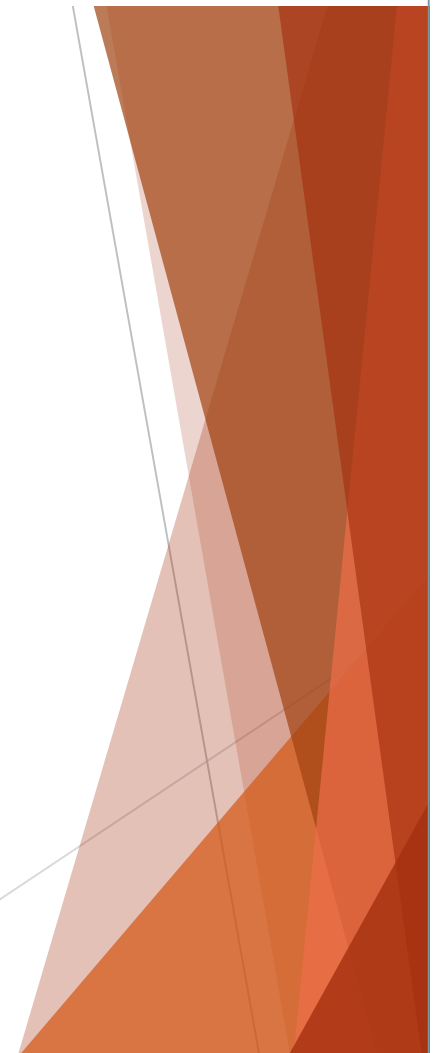


- ▶ Episiotomy and Vaginal Lacerations
- ▶ Abortion---Spontaneous and Induced
- ▶ Ectopic Pregnancy
- ▶ Forceps
- ▶ Vacuum Extraction
- ▶ Cesarean Section
- ▶ VBAC

Episiotomy and Vaginal Lacerations



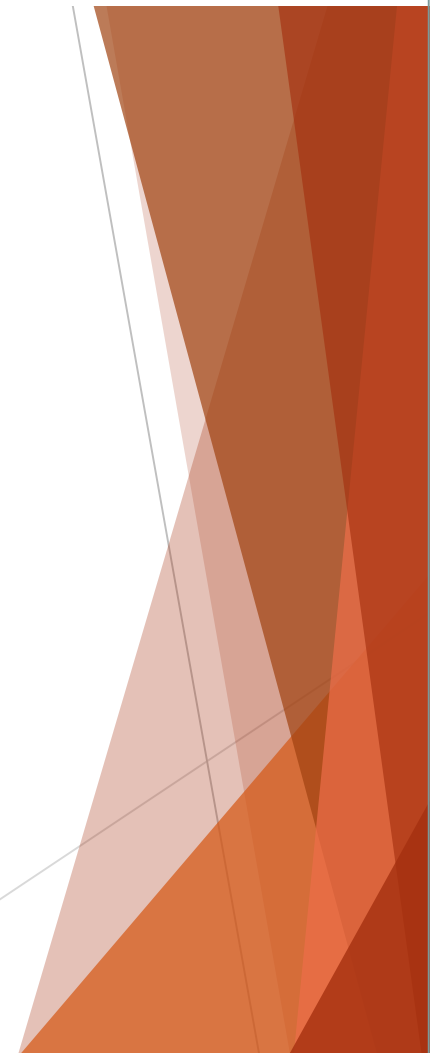
- ▶ Midline Episiotomy
- ▶ Lateral Episiotomy
- ▶ Vaginal Lacerations
 - ▶ First, Second, Third, Fourth Degree

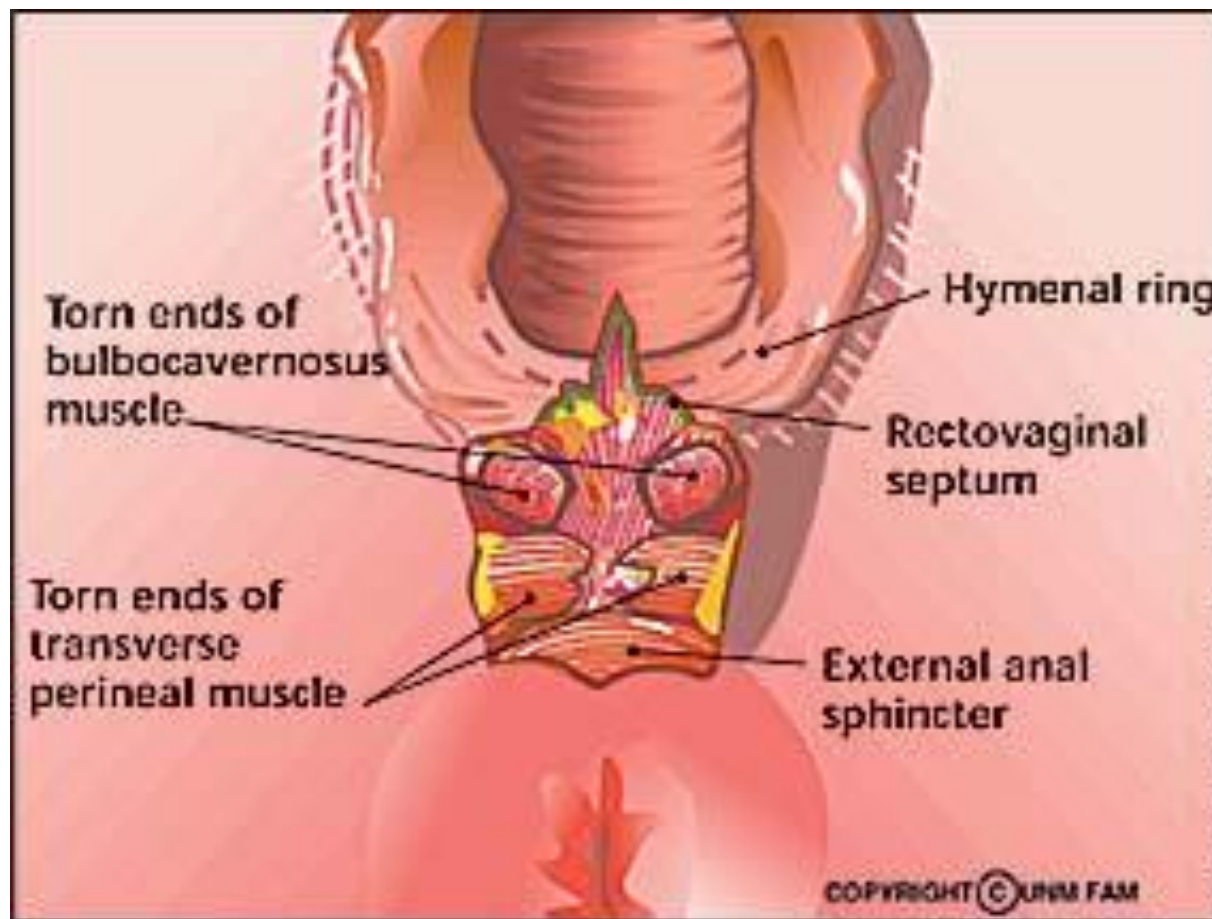


Muscles of the Perineal Body



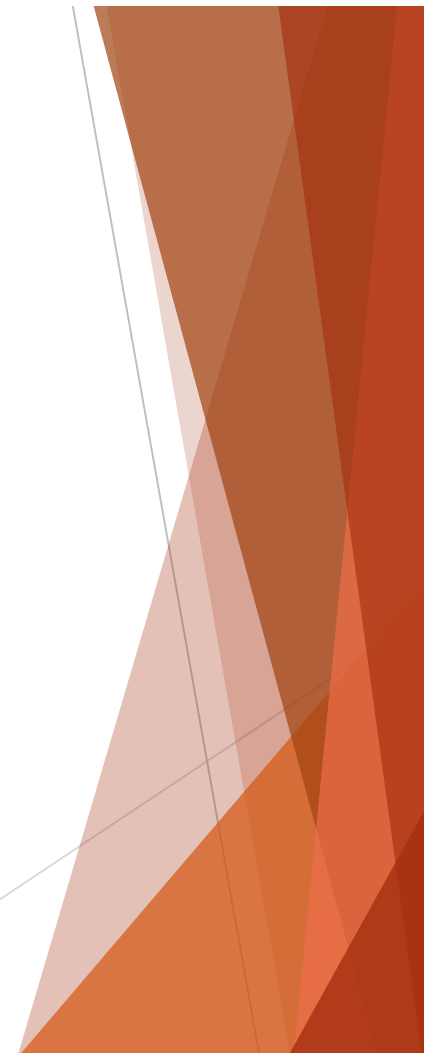
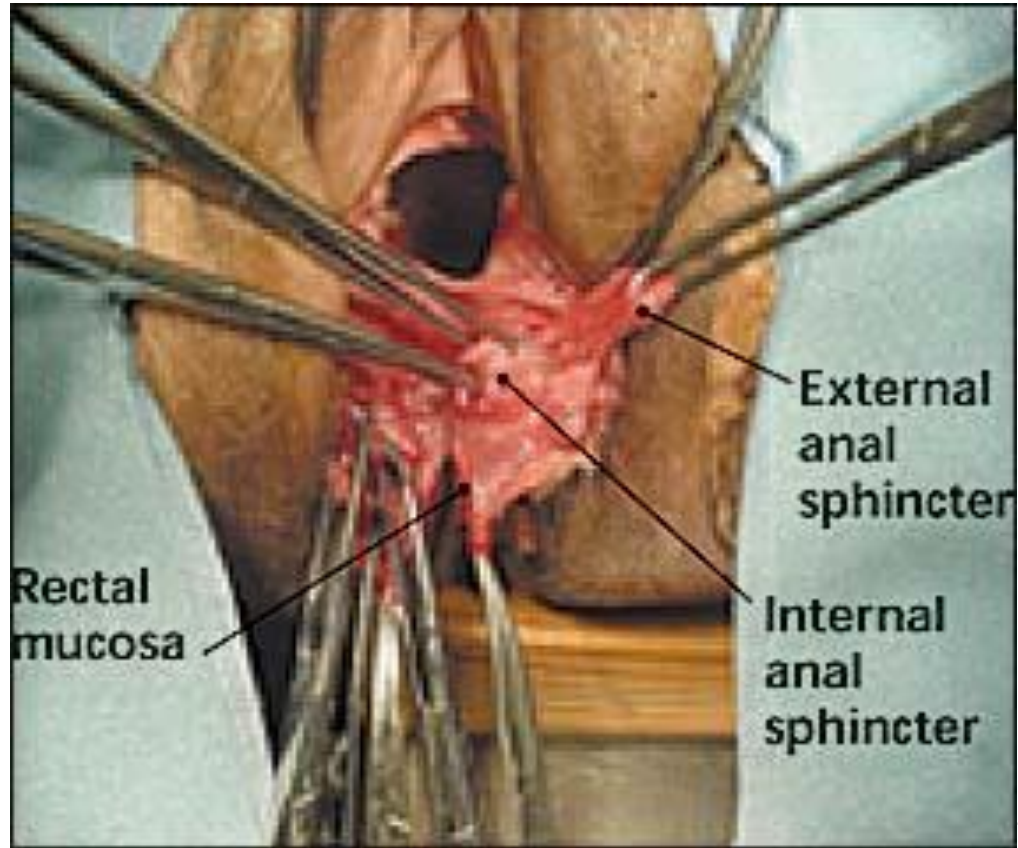
- ▶ **Bulbocavernosus**
- ▶ **Transverse perineal**
- ▶ **Puborectalis**
- ▶ **External Anal Sphincter**





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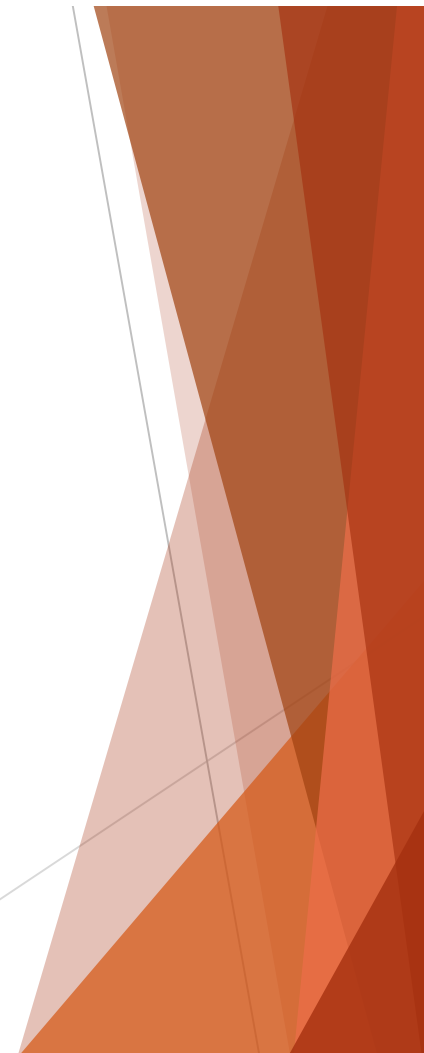
Obstetric Laceration



Abortion



- ▶ Spontaneous
 - ▶ Induced
 - ▶ Treatment
 - ▶ Suction curettage
 - ▶ D and C
 - ▶ Medical Intervention



Spontaneous Abortion



- **Spontaneous**
 - Threatened – bleeding in early gestation
 - Inevitable – bleeding with contractions and dilation
 - Incomplete – products of conception partially passed
 - Missed – dead fetus retained without expulsion
 - Septic-Fever over 100.4F due to infection (endo/parametritis-septicemia)

Spontaneous Abortion

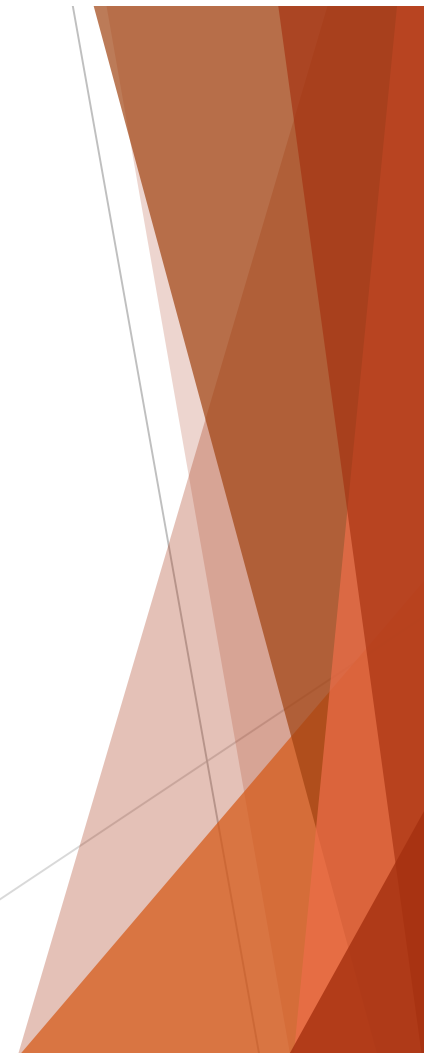


- **Etiology**
 - Developmental abnormality of zygote, embryo, fetus, placenta
 - >50% degenerated or absent embryo (blighted ovum)
 - 60% abnormal chromosomes (>30% of 2nd trimester Ab's)
 - Hemorrhage into decidua basalis causes necrosis
 - Ovum detaches, stimulates contractions

Spontaneous Abortion



- Treatment
 - Observation
 - Dilation and Curettage (D&C)
 - Vacuum Extraction (suction curettage)



Induced Abortion



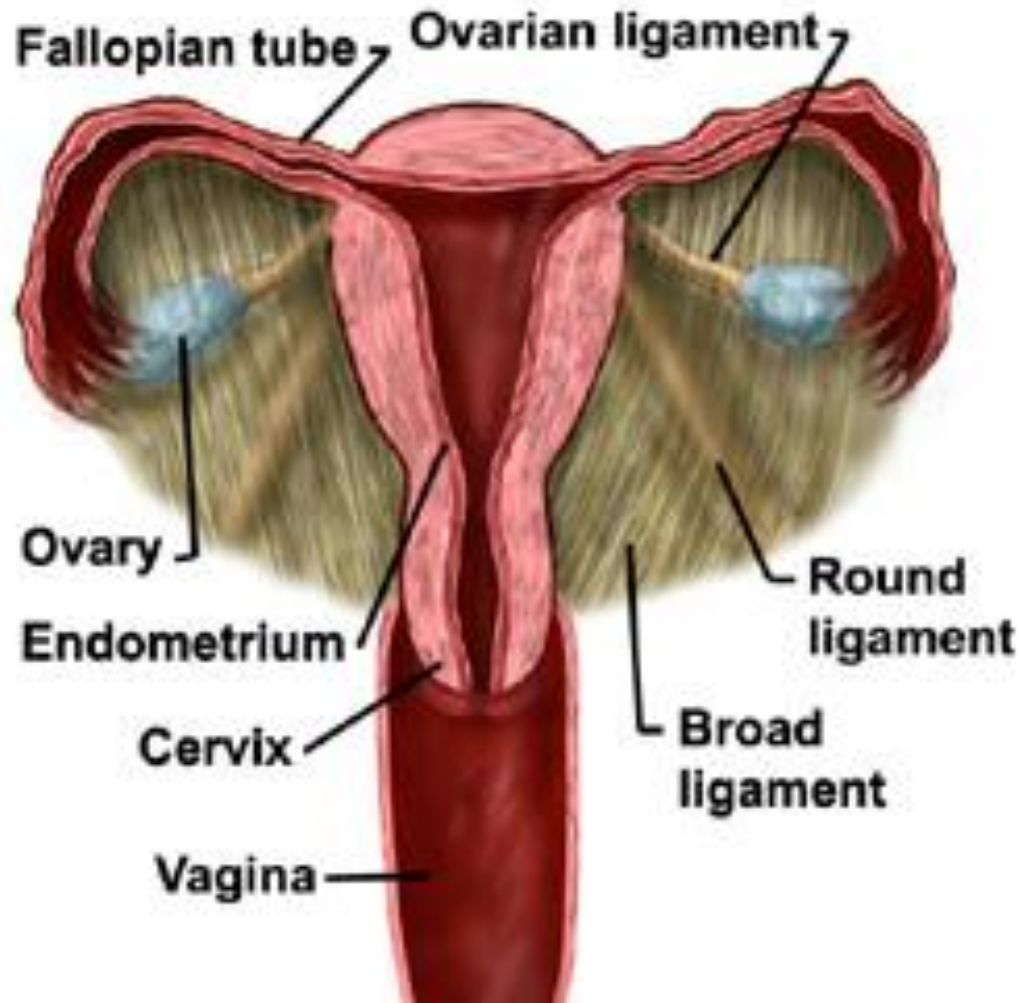
- Rate: 238/1000 live births (60% in first 8 weeks, 88% iw/in 12 weeks)
- Outpatient centers – up to 15 weeks
- Medical centers over 15 weeks



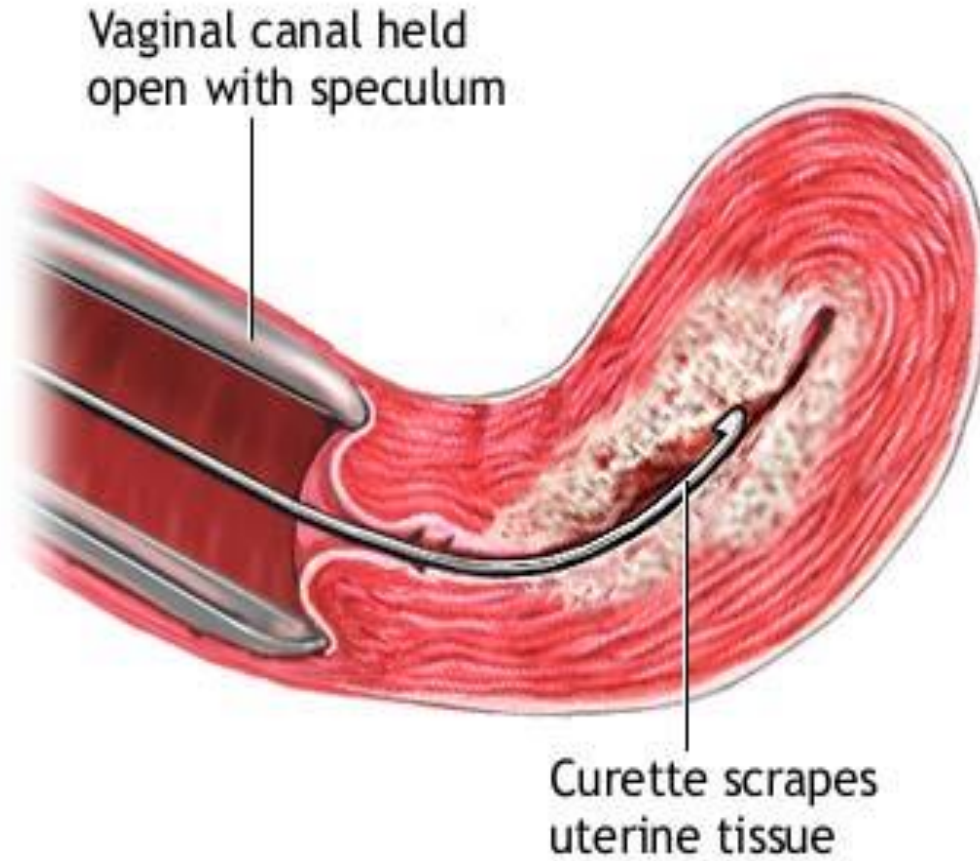
Induced Abortion

- Treatment Medical induction agents
RU487, Estrogen/Progesterone, Dilatories
 - Menstrual aspiration
 - Dilation and Curettage
 - Dilation and Evacuation
 - Cervical dilation substances
 - Uterine stimulants
 - Partial Birth Abortion
 - Hysterotomy
 - Hysterectomy

Female Pelvic Organs



D and C

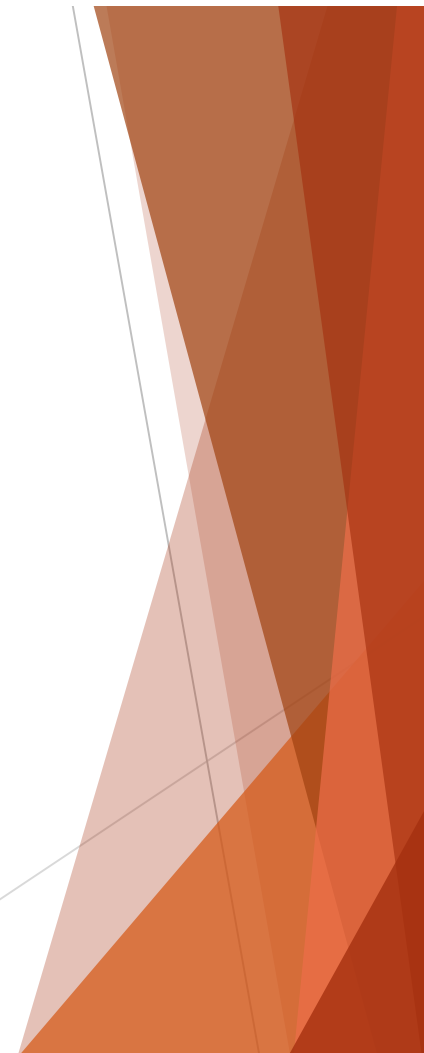


Ectopic Pregnancy



▶ Diagnosis

- Abnormal uterine bleeding
- Pelvic Pain
- Positive Pregnancy Test
- Ultrasound



Ectopic Pregnancy

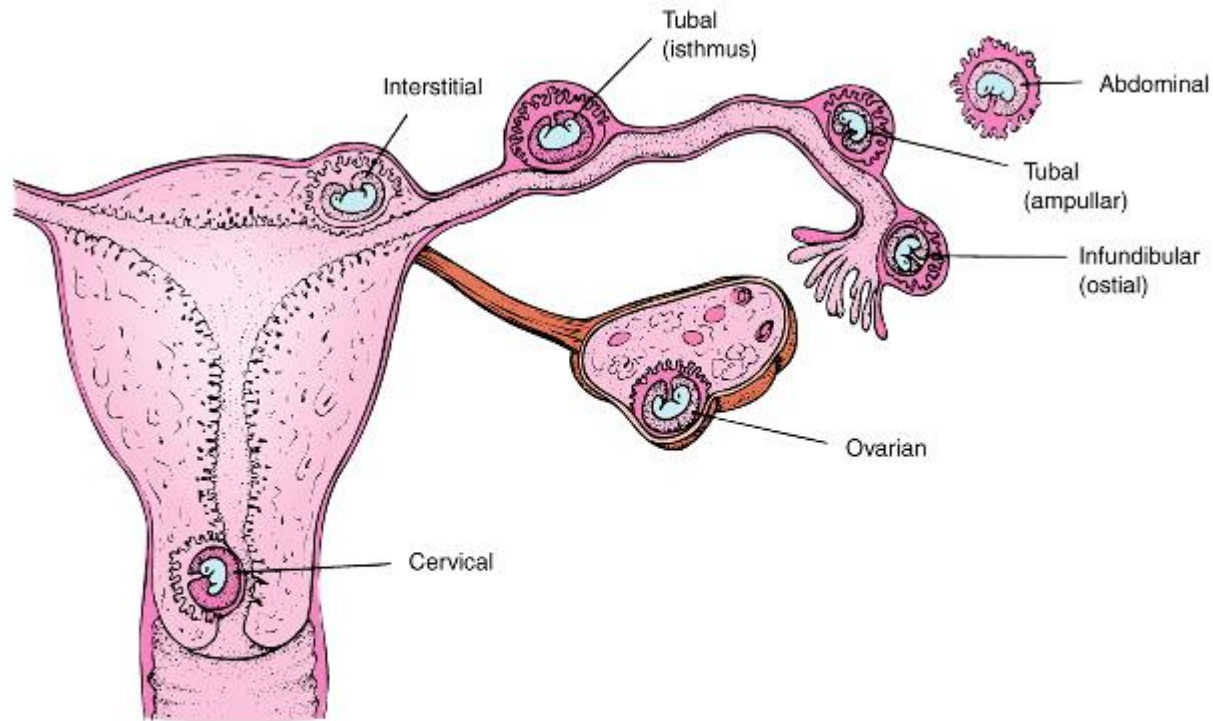


Figure 46-9 Sites of ectopic pregnancy.

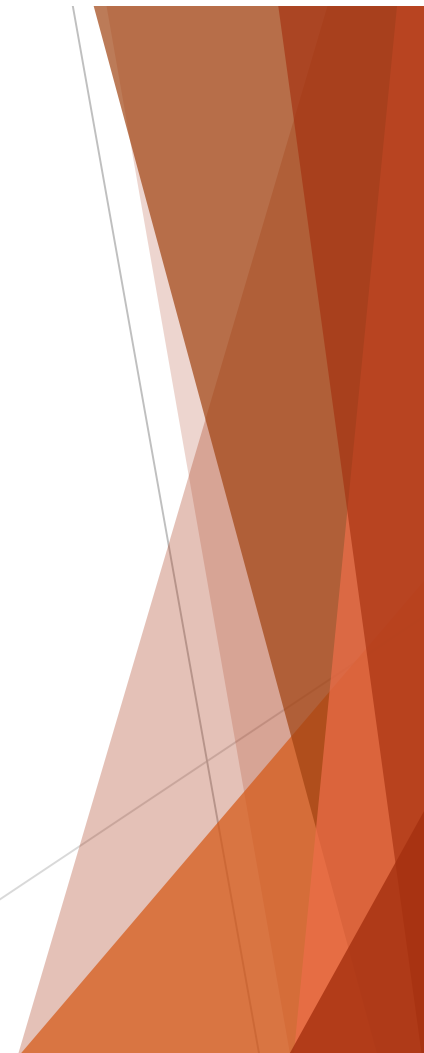
Copyright © 2004 Lippincott Williams & Wilkins.

Ectopic Pregnancy

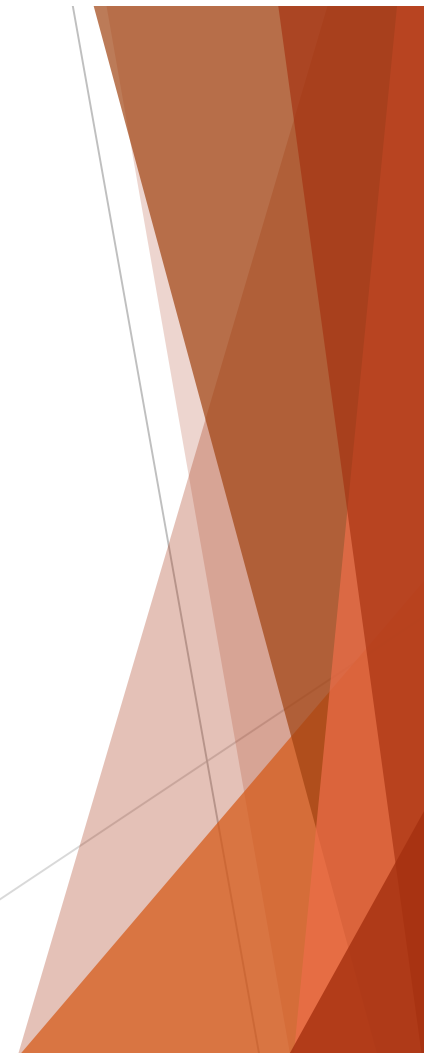
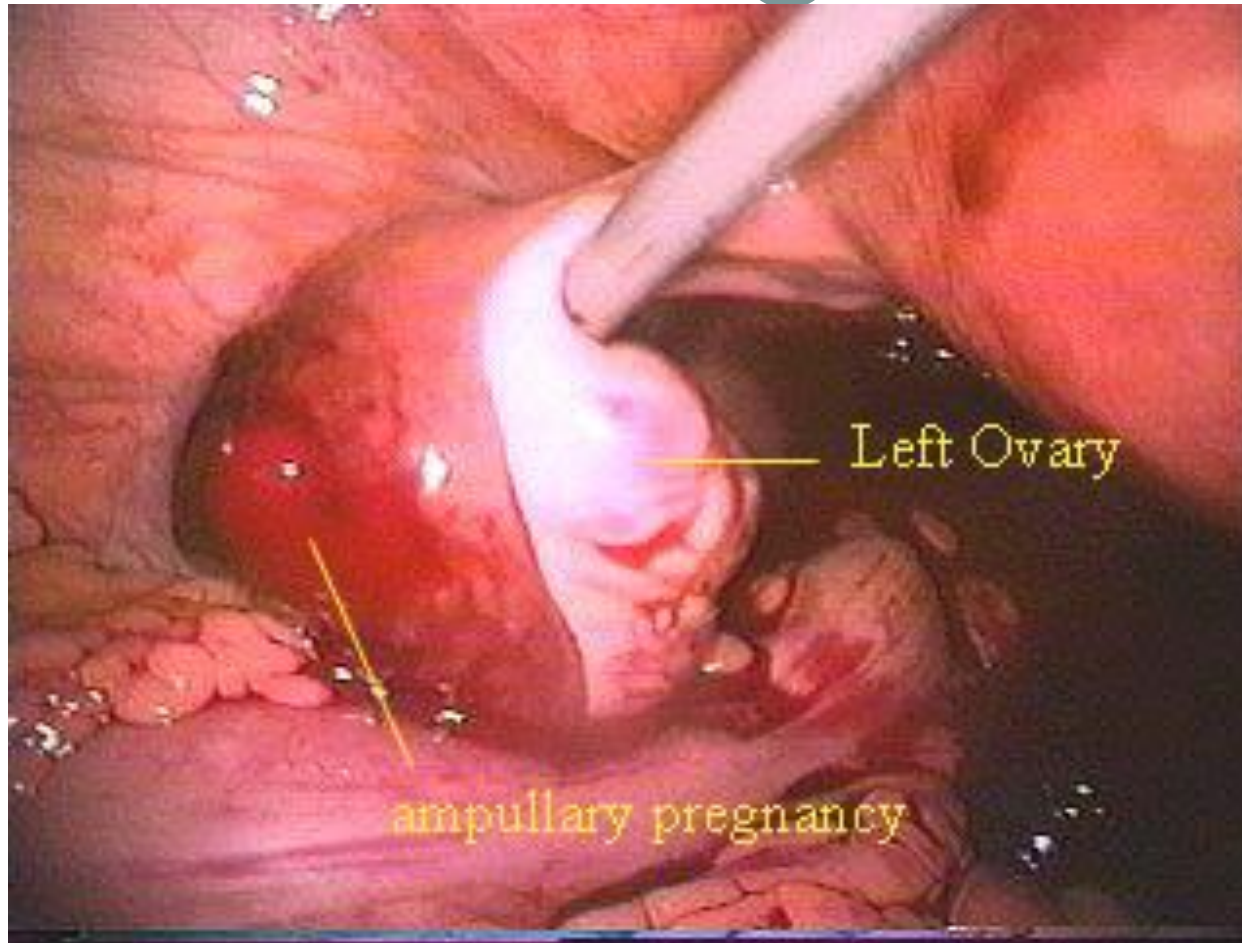


- ▶ Surgical Treatment
 - Laparoscopy, Laparotomy

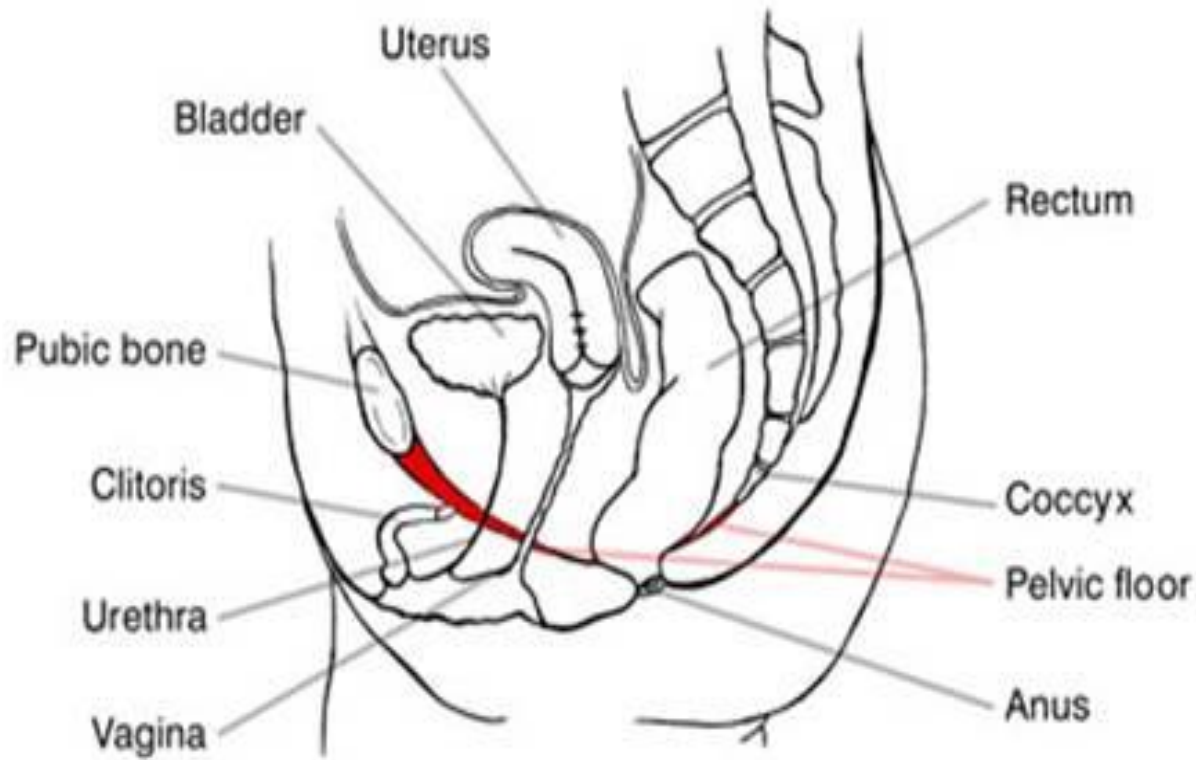
- ▶ Medical Treatment
 - Methotrexate and others



Laparoscopic view



Female Pelvis

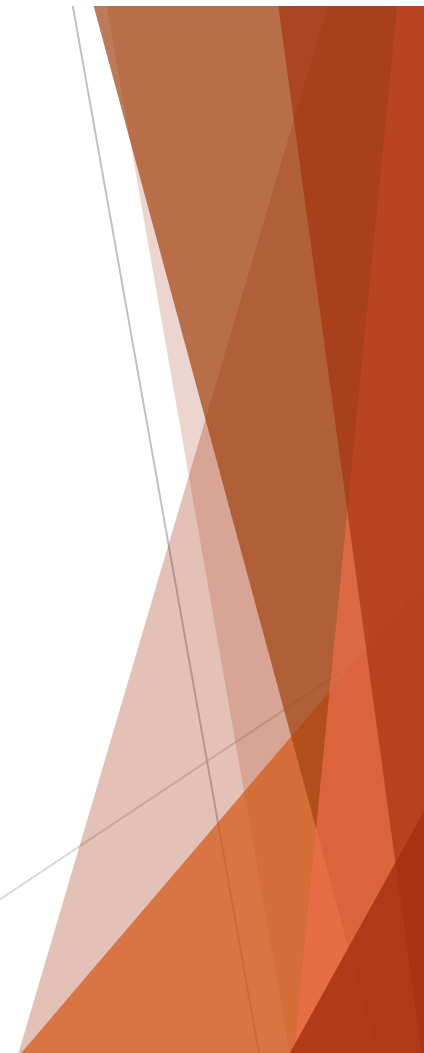


Pelvic Types

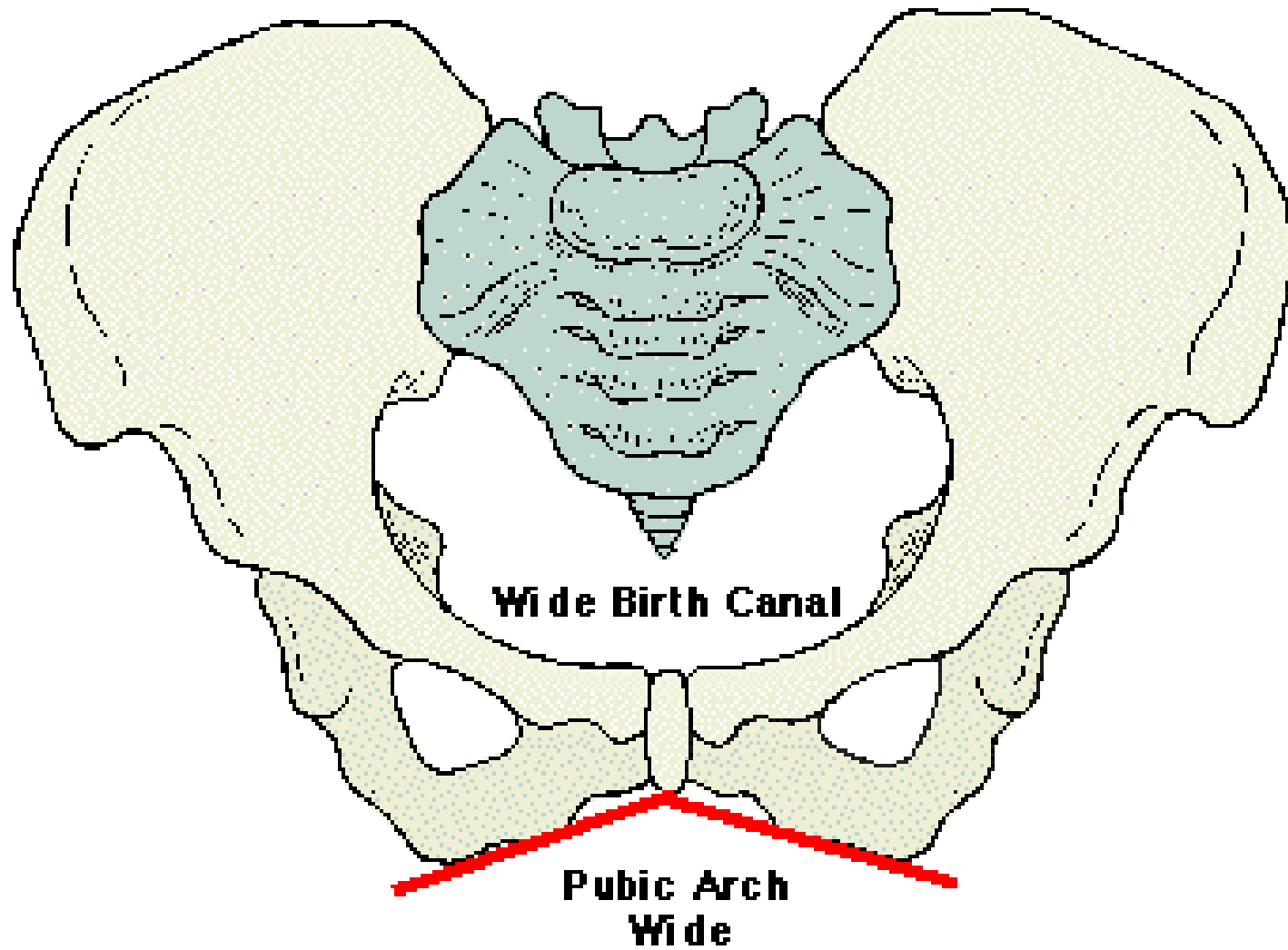


- ▶ Pelvic Types

Gynecoid, Android, Anthropoid, Platypoid



Gynecoid Pelvis



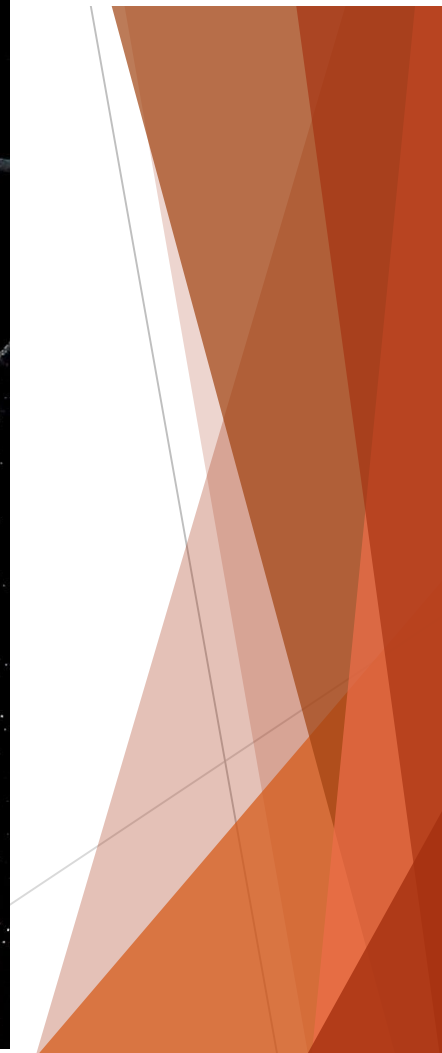


男性骨盤（上面）



女性骨盤（上面）

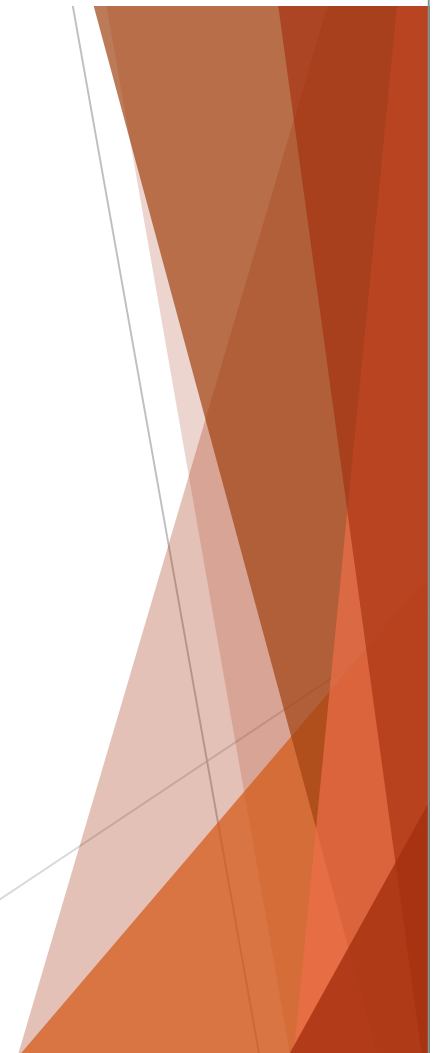
Android Pelvis



Pelvic Measurements



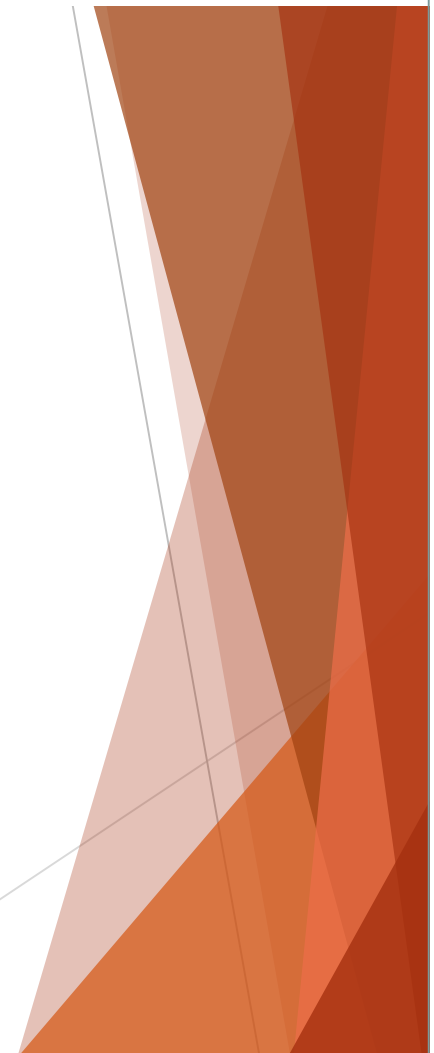
- ▶ Inlet
- ▶ Midplane
- ▶ Outlet



Mechanisms of Labor



- ▶ Flexion
- ▶ Descent
- ▶ Internal Rotation
- ▶ Extension
- ▶ External Rotation
- ▶ Explusion



STATION



- ▶ Plane across ischial spines



Station



▶ -3

▶ -2

▶ -1

▶ 0

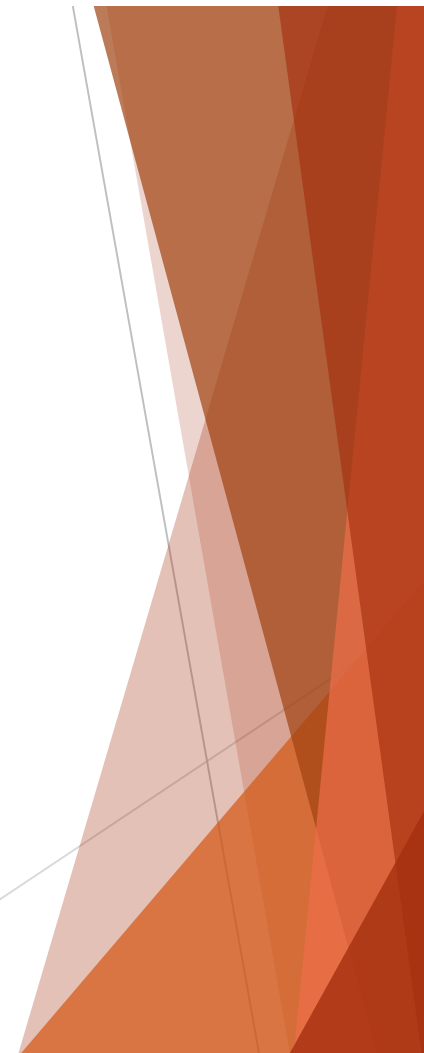
▶ +1

▶ +2

▶ +3

▶ +4

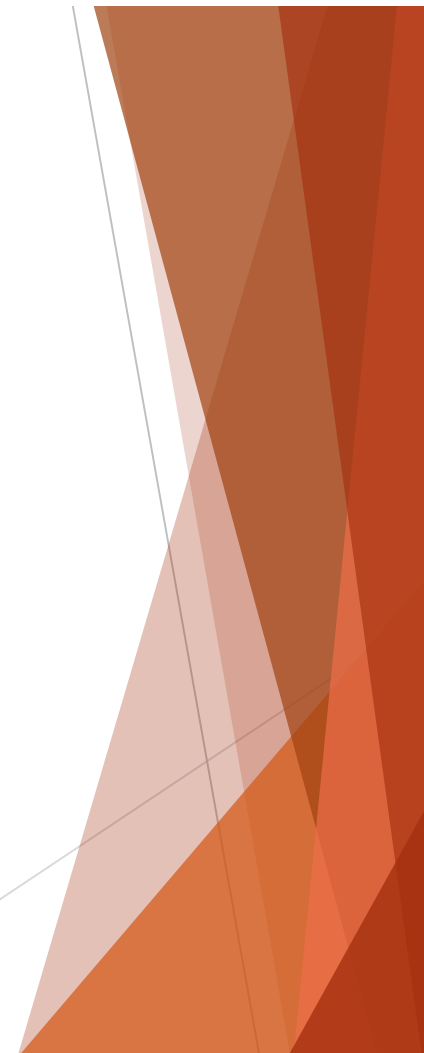
VTX @ Spines

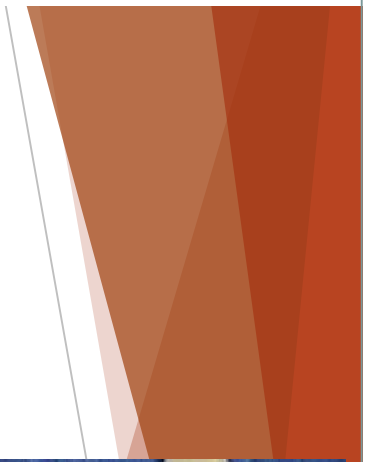
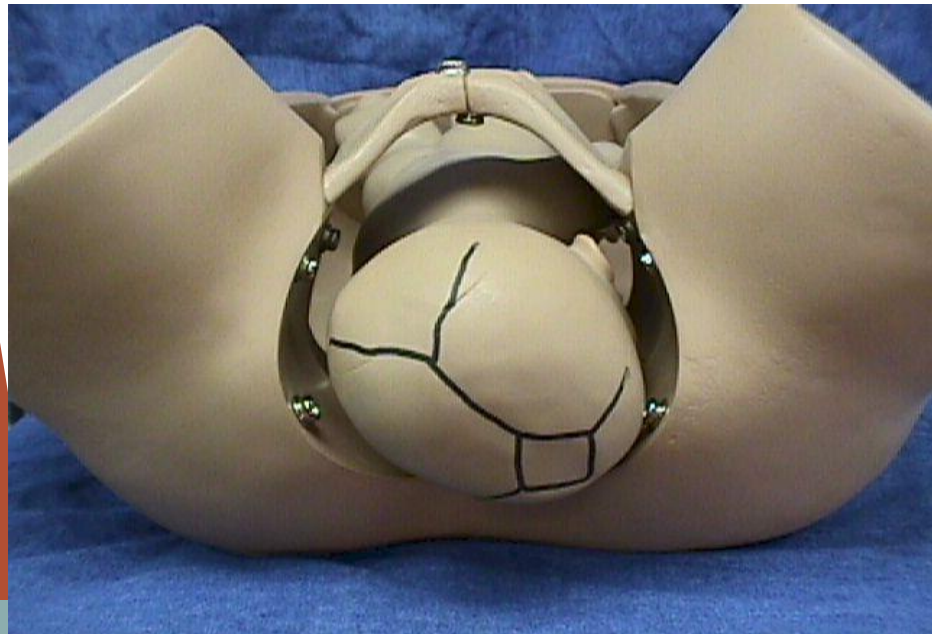
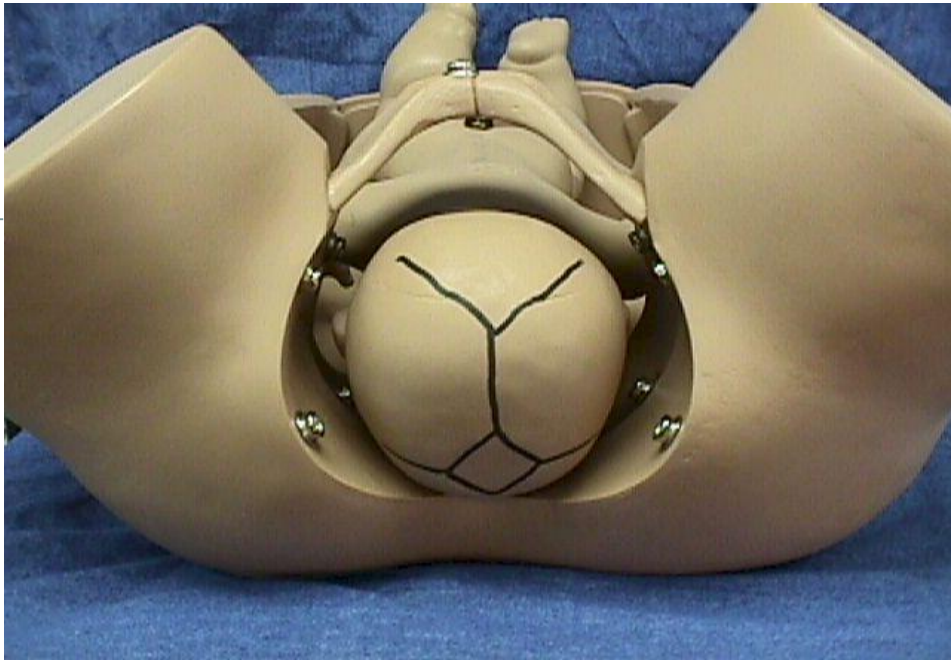


Position of Fetal Head

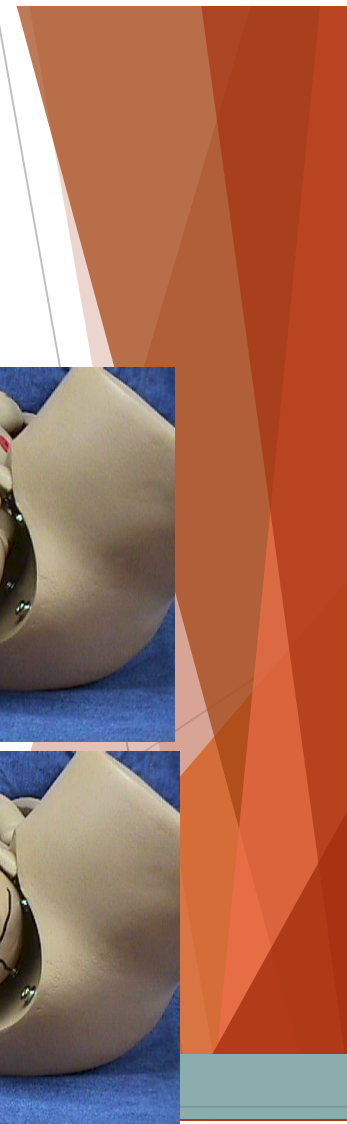
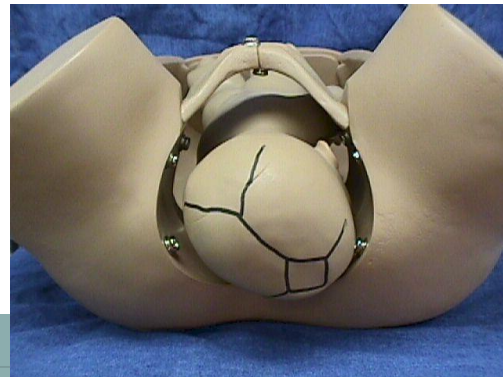
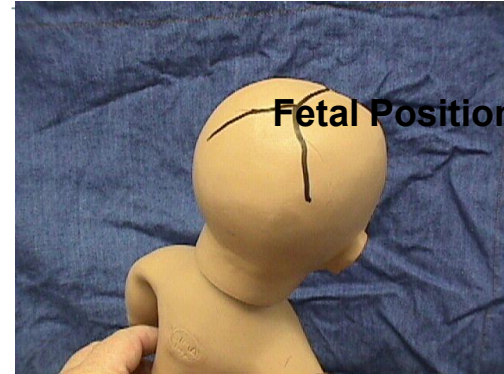


- ▶ Descent---Head enters pelvic inlet in the transverse
- ▶ Head Rotates to AP (Internal Rotation) in the Mid Plan
- ▶ Head is born by Extension





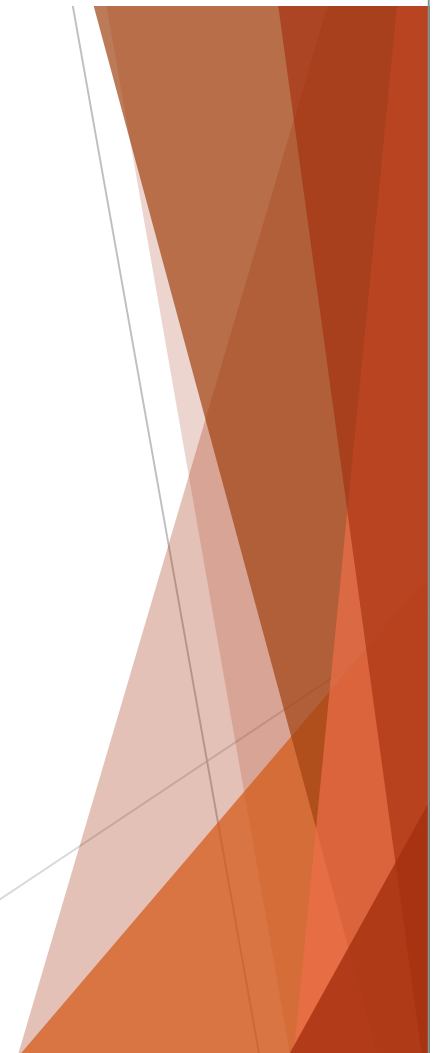
OP, LOP, ROP, ROT, LOT



Forceps



- ▶ Position
- ▶ BOW must be ruptured
- ▶ Station
 - ▶ High Forceps >0 station
 - ▶ Mid Forceps $> 0 - +2$
 - ▶ Low Forceps $+3$
 - ▶ Outlet Forceps



Forceps



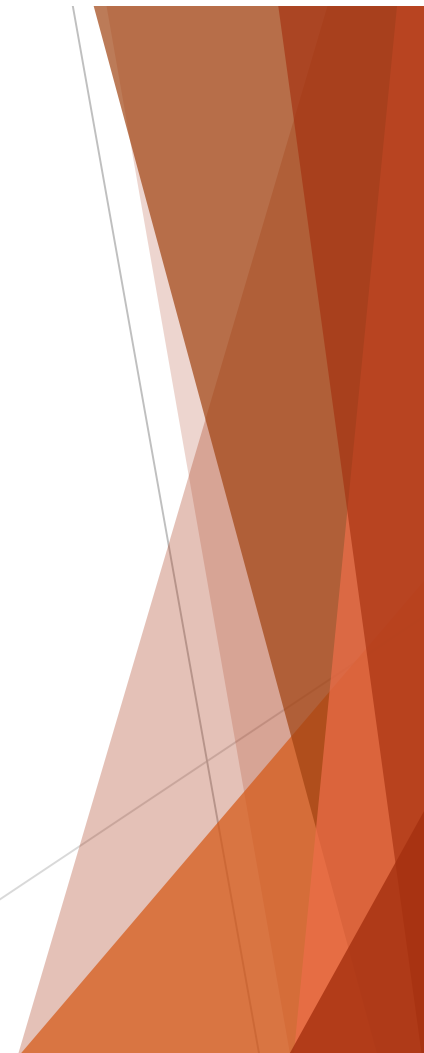
- ▶ Indications:
 - ▶ Prolonged 2nd stage of labor
 - ▶ Progress has stopped
 - ▶ Inability to push due to anesthesia/analgesia
 - ▶ Fatigue
 - ▶ Immanent delivery is desirable (FHT'S bleeding, etc.)

Go to Williams Obstetrics for forceps delivery video

Forceps



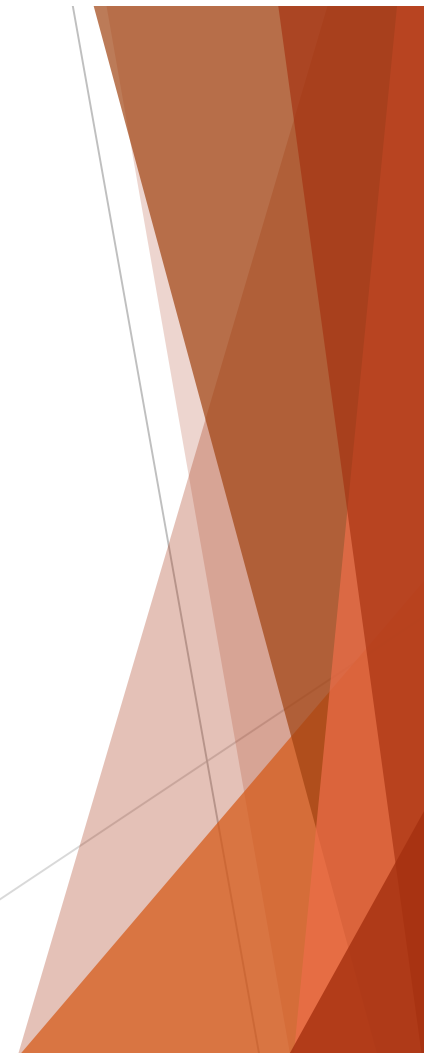
- ▶ Law of Forceps:
 - ▶ Complete cervical dilations
 - ▶ BOW has ruptured
 - ▶ Position is known
 - ▶ Vertex is engaged at +2 station or below



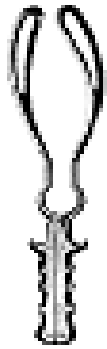
Forceps



- ▶ Trial of Forceps/Failed Forceps:
 - Anticipate difficult delivery with CS ready
 - ACOG states: clinical assessment is highly suggestive of successful outcome
 - ❖ Emphasize proper training



FORCEPS



73-0877



1/5

73-0878

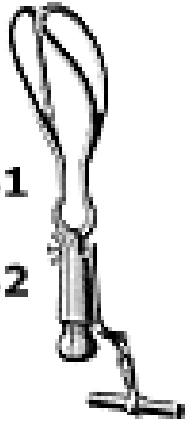


73-0879



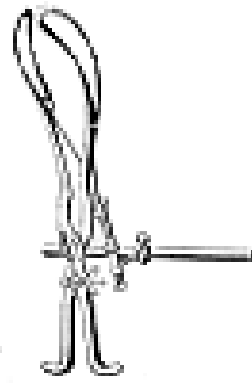
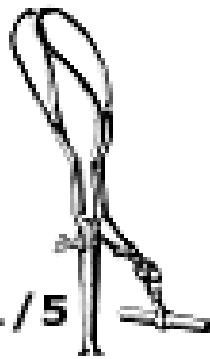
73-0880

**73-0881
to
73-0882**

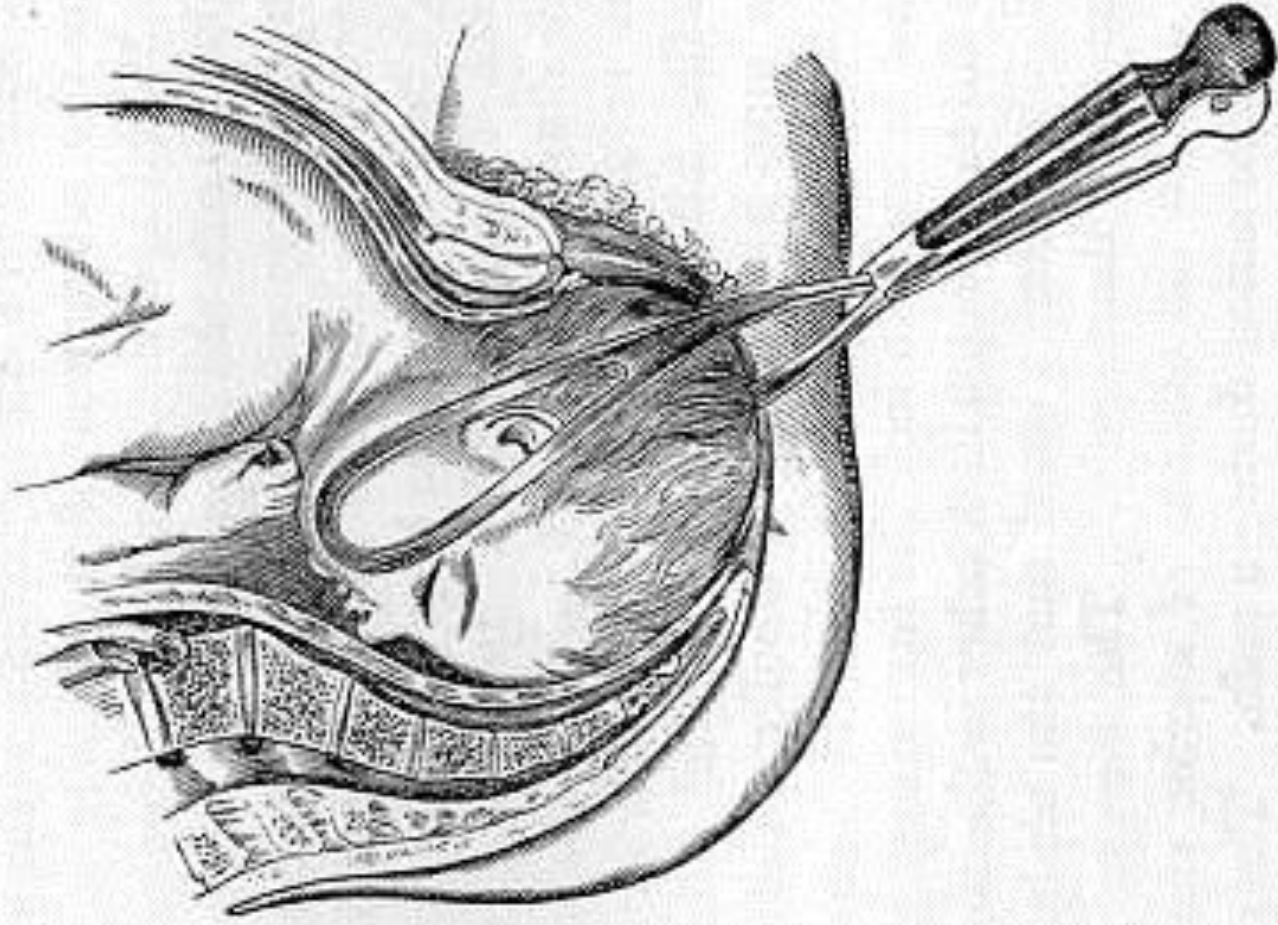


1/5

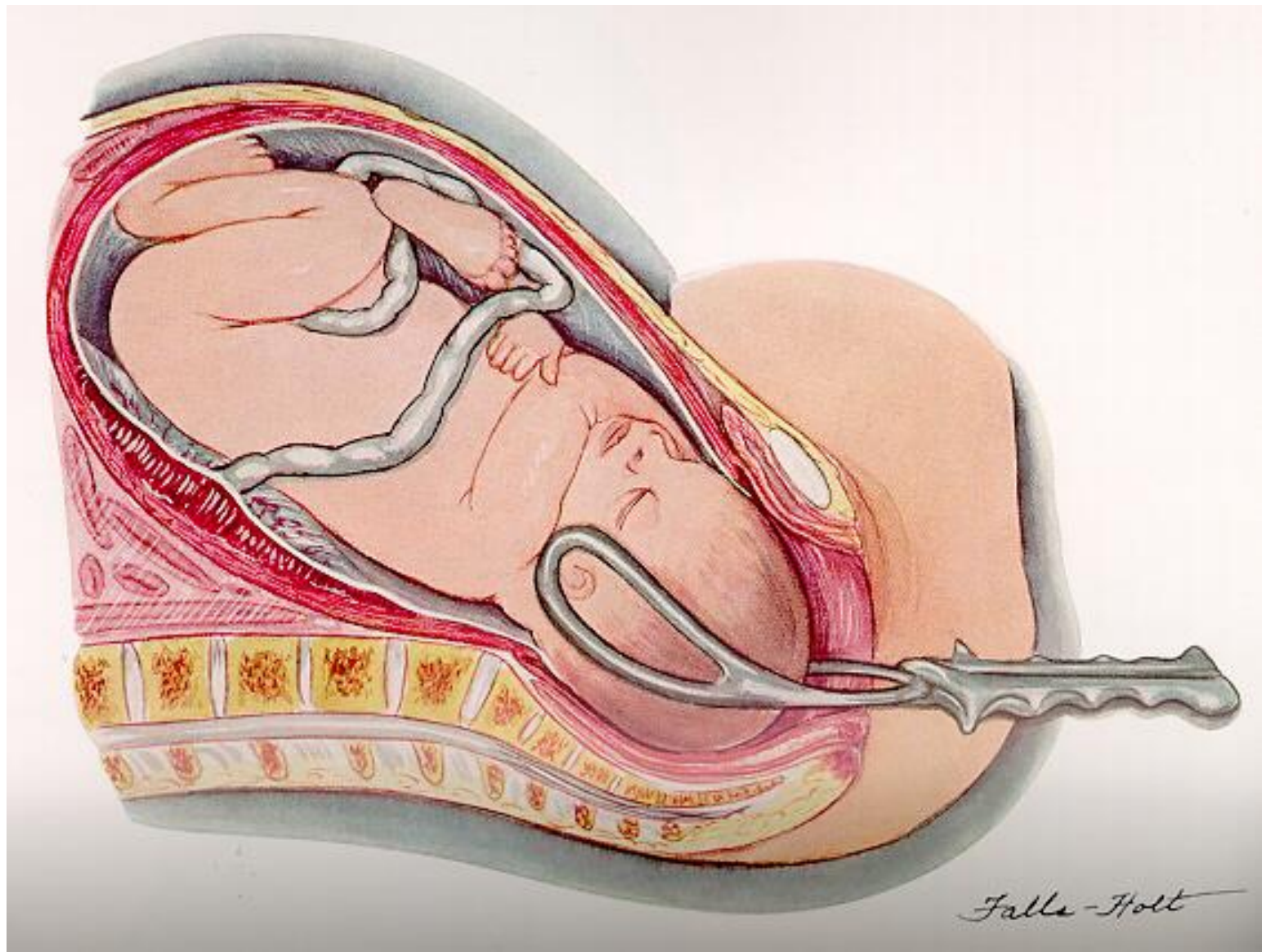
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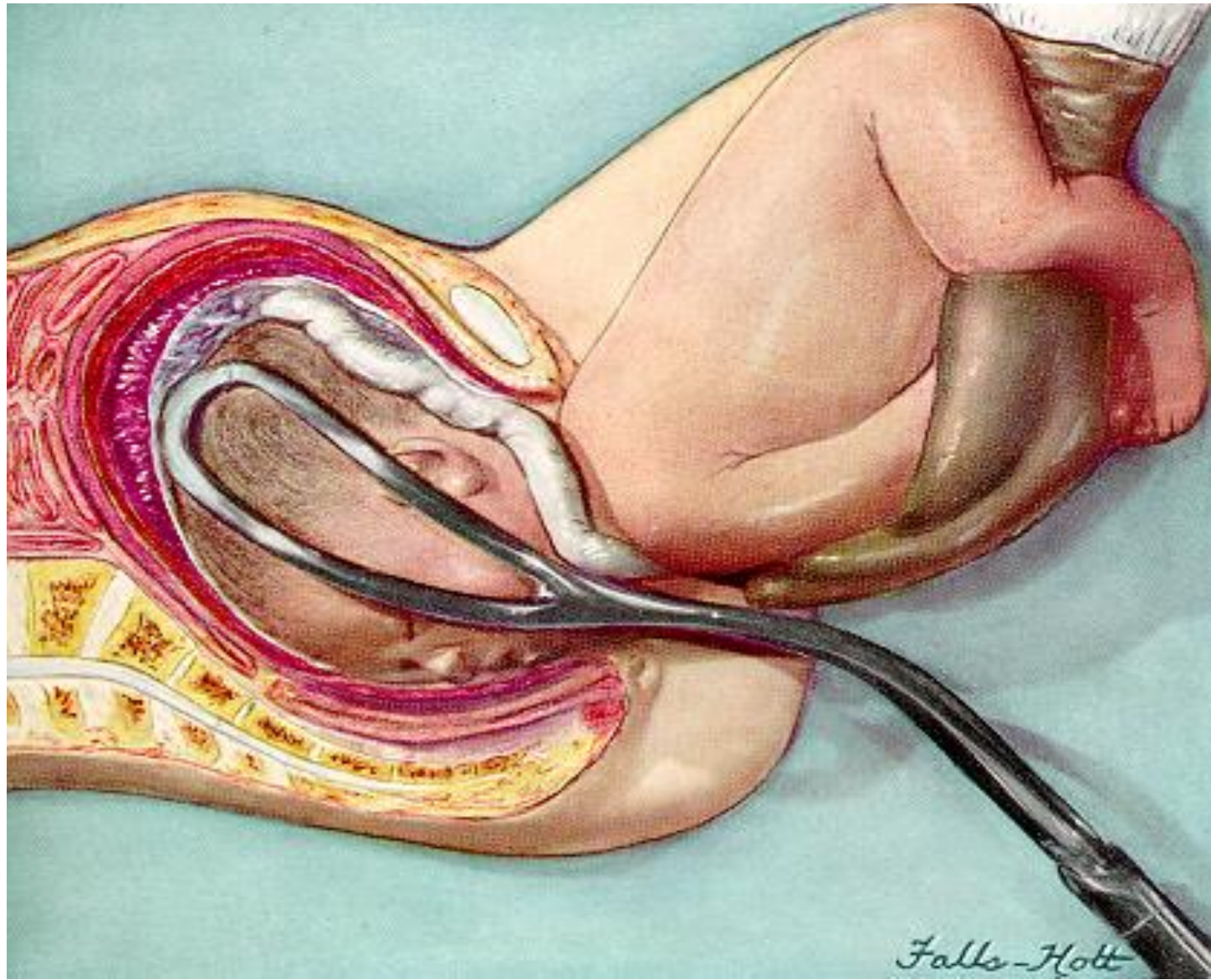
73-0884



Delivery by short forceps in first position.



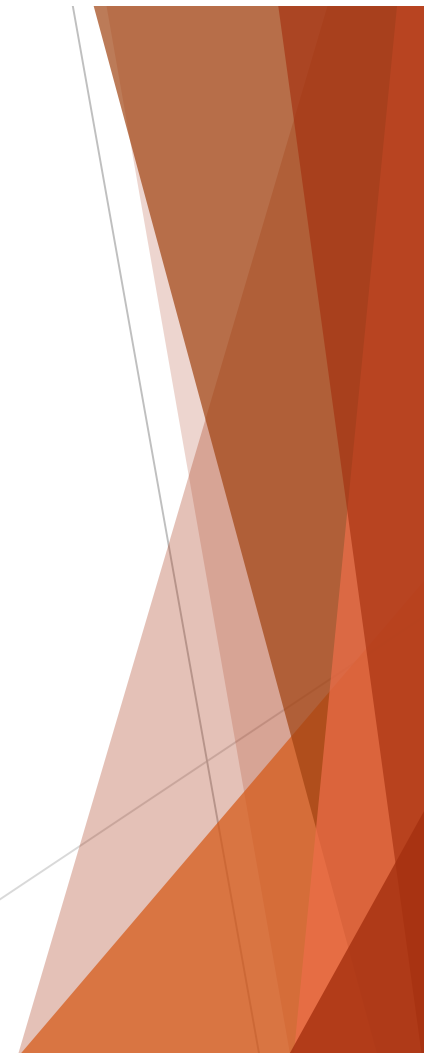
Falle-Holt



Vacuum Extraction



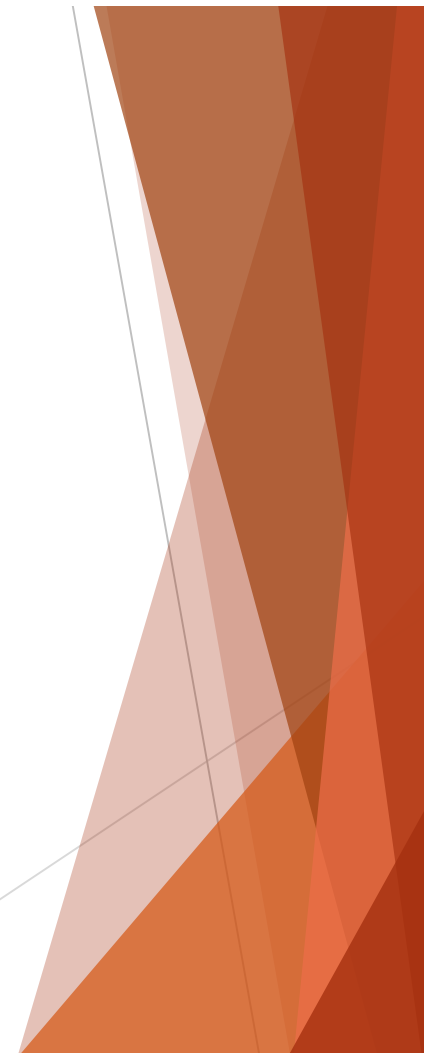
- ▶ Generally OK after 34 weeks gestation
- ▶ Indications same as forceps



Vacuum Extraction



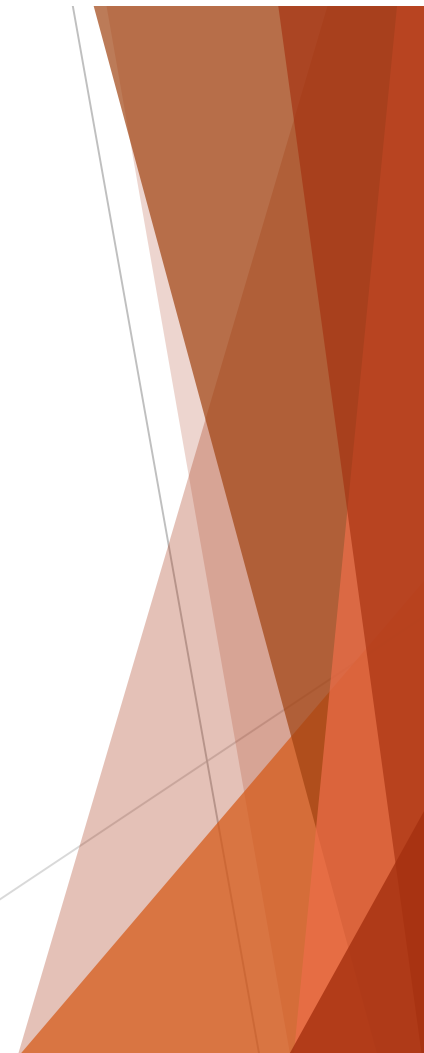
- ▶ Contraindications
 - ▶ Fetal Coagulopathy
 - ▶ Can't assess position
 - ▶ High station
 - ▶ Non vertex presentation
 - ▶ Suspect cephalic disproportion



Vacuum Extraction



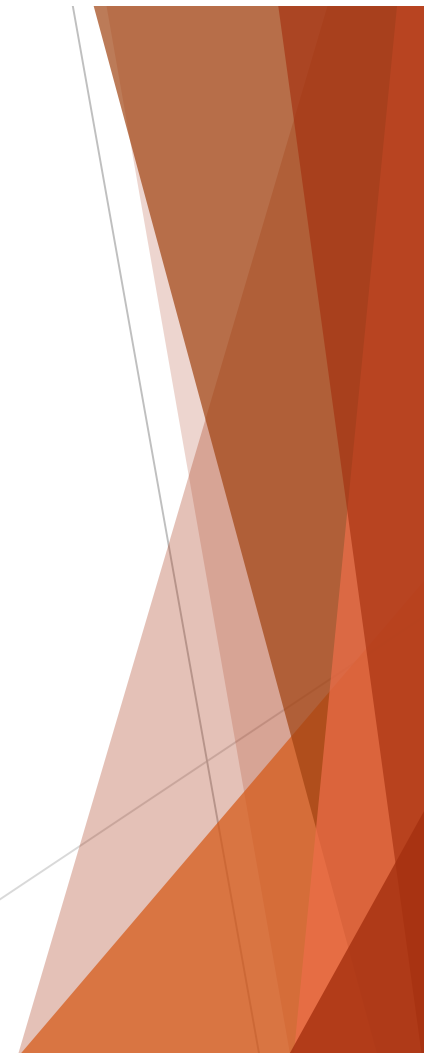
- ▶ Complications of vacuum extraction
 - ▶ Cephalohematoma
 - ▶ Scalp laceration
 - ▶ Intercranial hemorrhage
 - ▶ Neonatal jaundice
 - ▶ 6th and 7th intercranial nerve damage
 - ▶ Skull fracture



Vacuum Extraction



- ▶ Same rules apply as forceps
- ▶ Used properly, no more incidence of fetal or maternal complications than spontaneous delivery
- ▶ Abandon procedure if no progress after 3rd contraction or if cap dislodges > 3 times



Vacuum Extraction

- ▶ Contraindications
- ▶ Fetal coagulopathy
- ▶ Inability to assess position
- ▶ High station
- ▶ Non vertex presentation
- ▶ Suspect cephalo-pelvic disproportion







Comparison of Forceps/Vacuum

- ▶ IQ tested at age 17- no difference between spontaneous delivery, vacuum or forceps
- ▶ FDA showed 5% skull fracture in nulliparous woman with over 3 pulls or “pop-offs”.
- ▶ Forceps causes more 3rd and 4th degree lacerations
- ▶ Vacuum causes more retinal hemorrhages (no long term effects)
- ▶ Vacuum causes less maternal damage, more fetal trauma

C-Sections

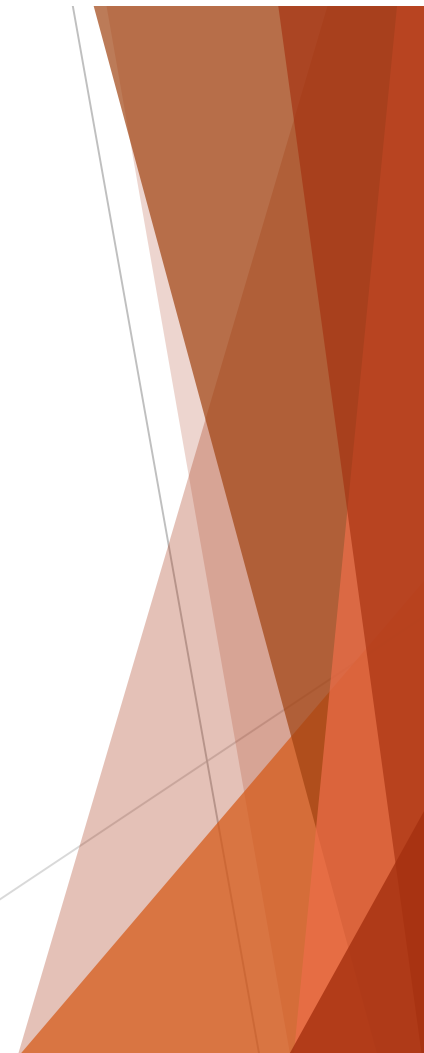


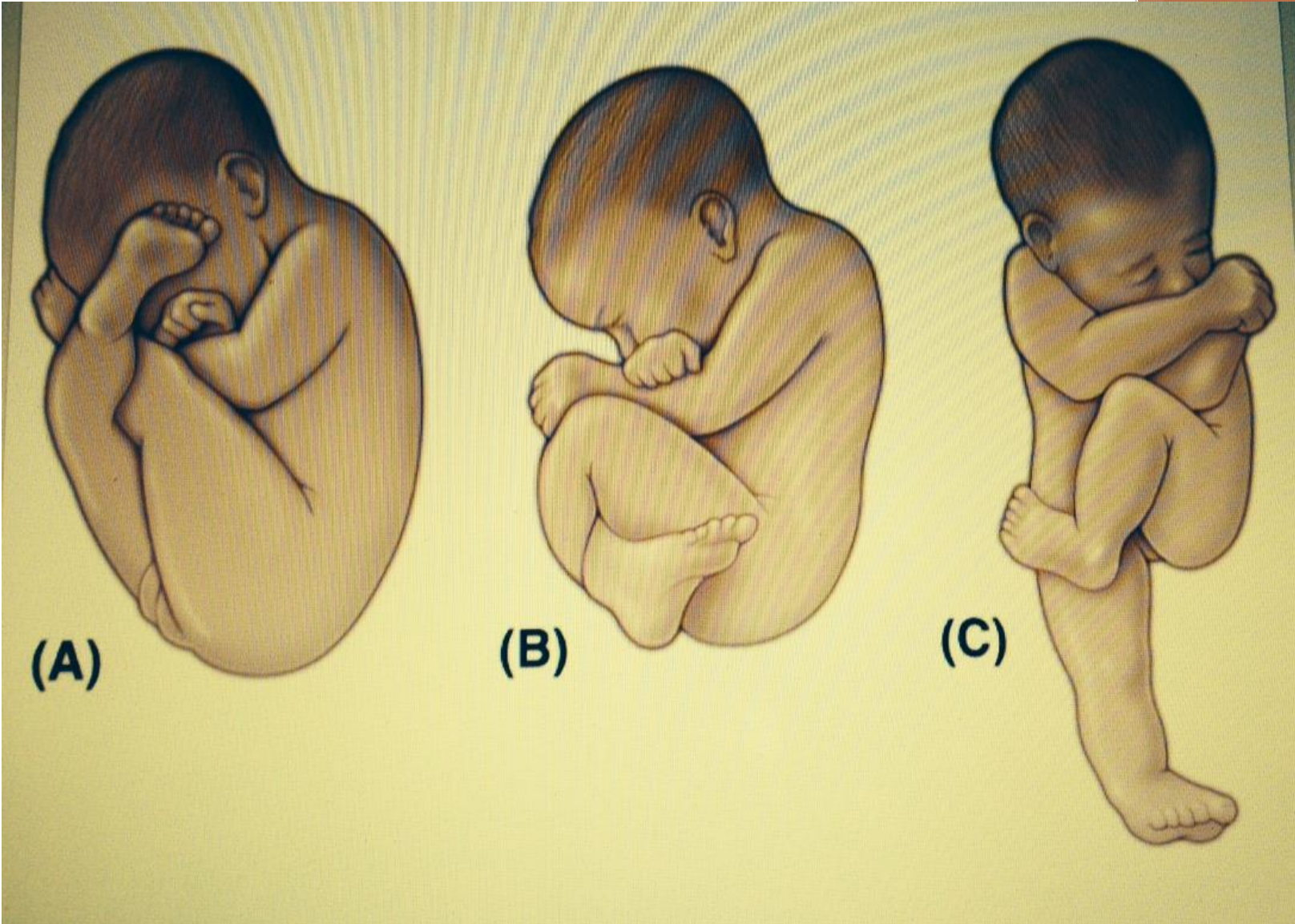
- ▶ Percentages of deliveries via C-Section
- ▶ 31% (15-16% primigravidas)
- ▶ Indications for section
 - ▶ Repeat C-Section
 - ▶ Cephalo pelvic Disproportion (CPD)
 - ▶ Failure to progress---due to fetal size, maternal soft tissues, power of uterine contractions (UC's), pelvic size
 - ▶ Nonreassuring fetal heart tones
 - ▶ Malpresentation
 - ▶ Shoulder dystocia
 - ▶ Pre eclampsia/Eclampsia
 - ▶ Obesity
 - ▶ Older age of parturients
 - ▶ Decrease in VBAC
 - ▶ Legal

C-Sections (cont)



- ▶ Additional Indications for a C Section
 - Medical problems—i.e. DM, Heart, Renal, Vascular
 - Decrease in VBAC (TOLAC=trial of labor after CS)
 - Cord prolapse
 - Valuable Baby syndrome
 - Elective
 - Legal considerations

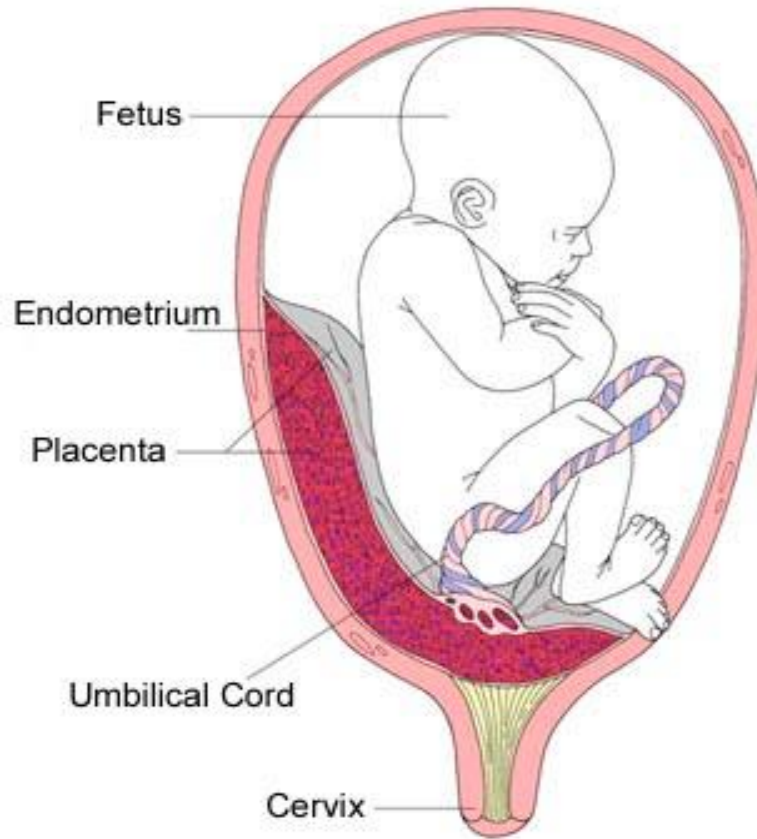




Placenta Previa



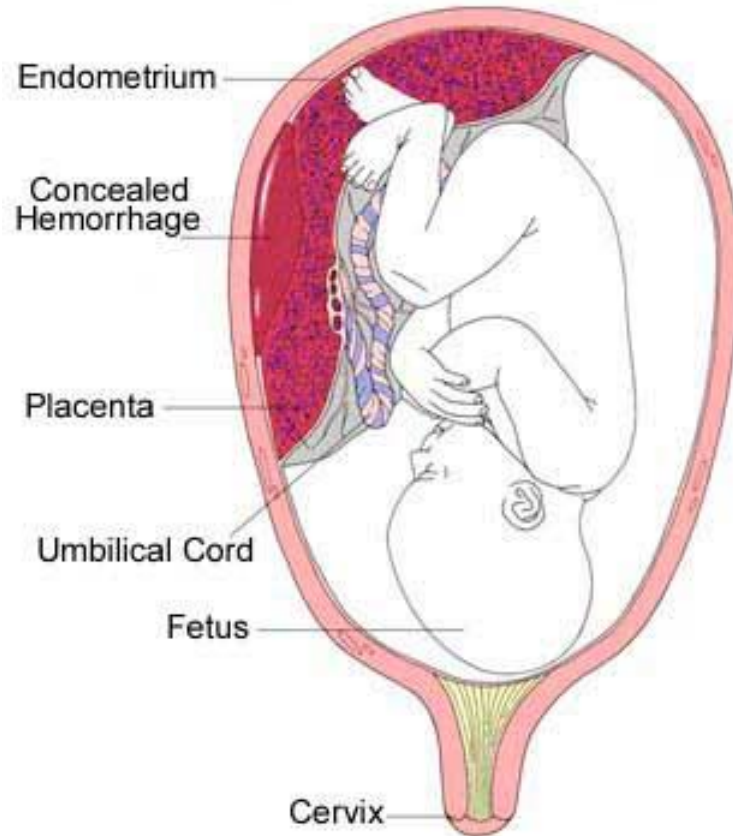
Total Placenta Previa



Abruptio Placenta



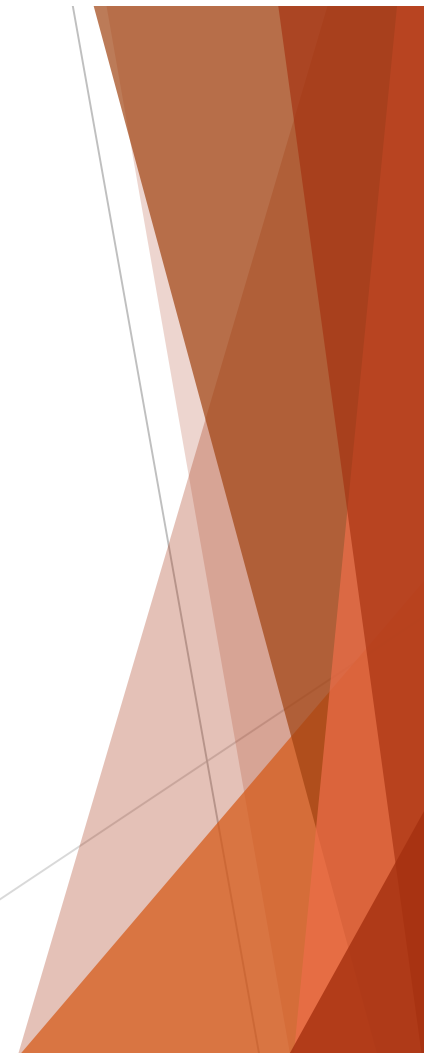
Concealed Bleeding



Types of C-Sections



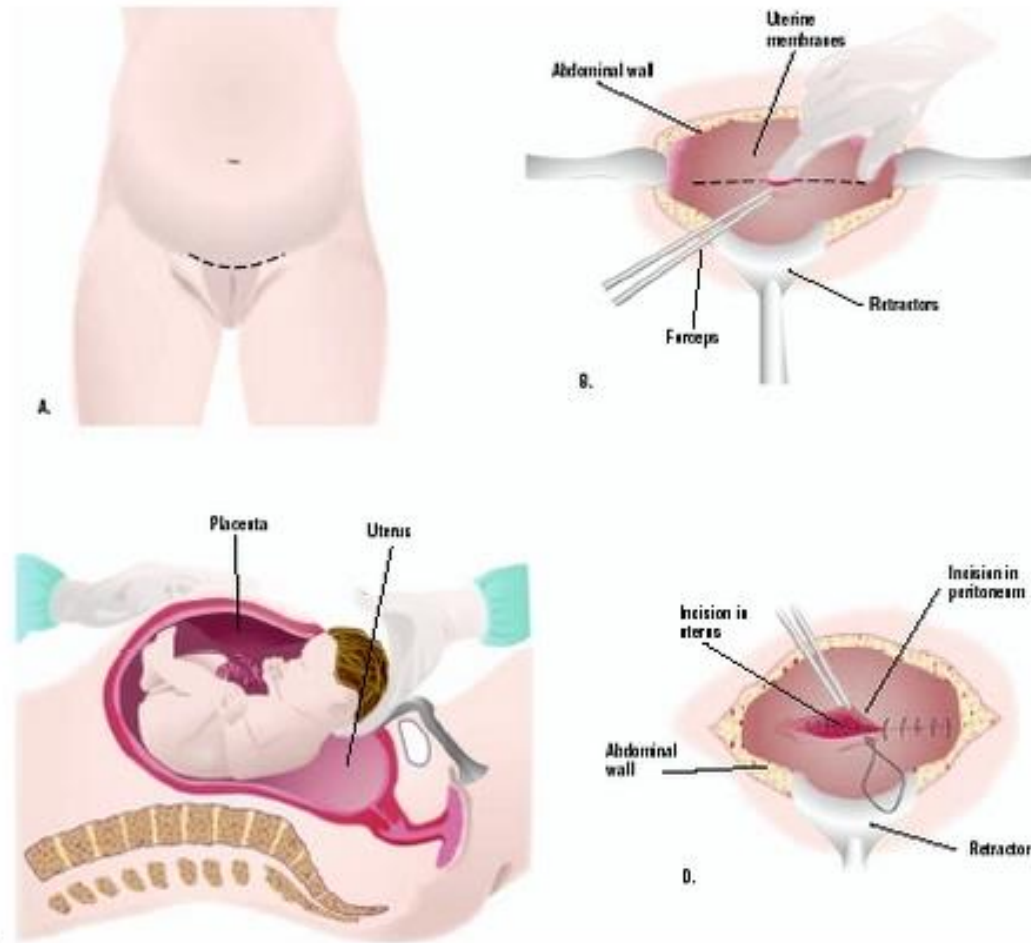
- ▶ Classical Incision
- ▶ Low Classical
- ▶ Low Transverse Incision



Caesarean section



Cesarean section



VBAC



- ▶ Vaginal Birth after C-Section (TOLAC)
- ▶ Success Rate:
 - After CPD
 - After Malpresentation
 - After Bleeding Disorder

 - Current Controversy (New Mexico 80% To 90% due to restrictions requiring fully equipped OR for immediate CS)
 - ACOG and ASA



