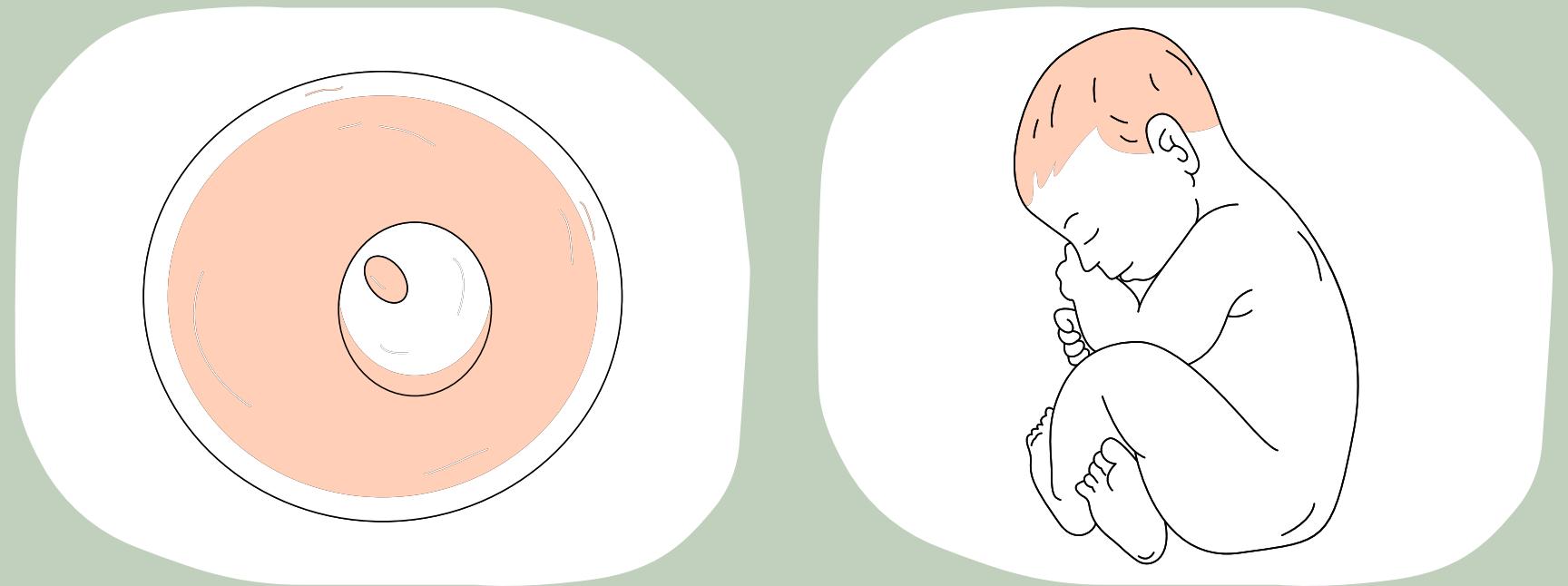


Normal Labor & Delivery

NRS200-90



Learning Objectives

1. Describe the stages of labor.
2. Distinguish between true labor and false labor.
3. Explain the factors that affect the labor process.
4. Summarize the cardinal movements of labor.
5. Describe ongoing assessment of maternal progress during the first, second, third, and fourth stages of labor.
6. Describe fetal assessment during labor.
7. Compare nonpharmacologic and pharmacologic pain management strategies for comfort in labor.
8. Describe the role of the nurse during the first, second, third, and fourth stages of labor.



Options Surrounding Birth

- Who can deliver a baby?
 - Obstetricians (OBGYNs)
 - Certified Nurse Midwives (CNMs)
 - Other professional midwives
 - Doulas
- Hospital births:
 - Labor, delivery, recovery rooms (LDRs)
 - Labor, delivery, recovery, postpartum rooms (LDRPs)
 - Operating room
- Alternative birthing environments:
 - Birth center
 - Home birth



Labor

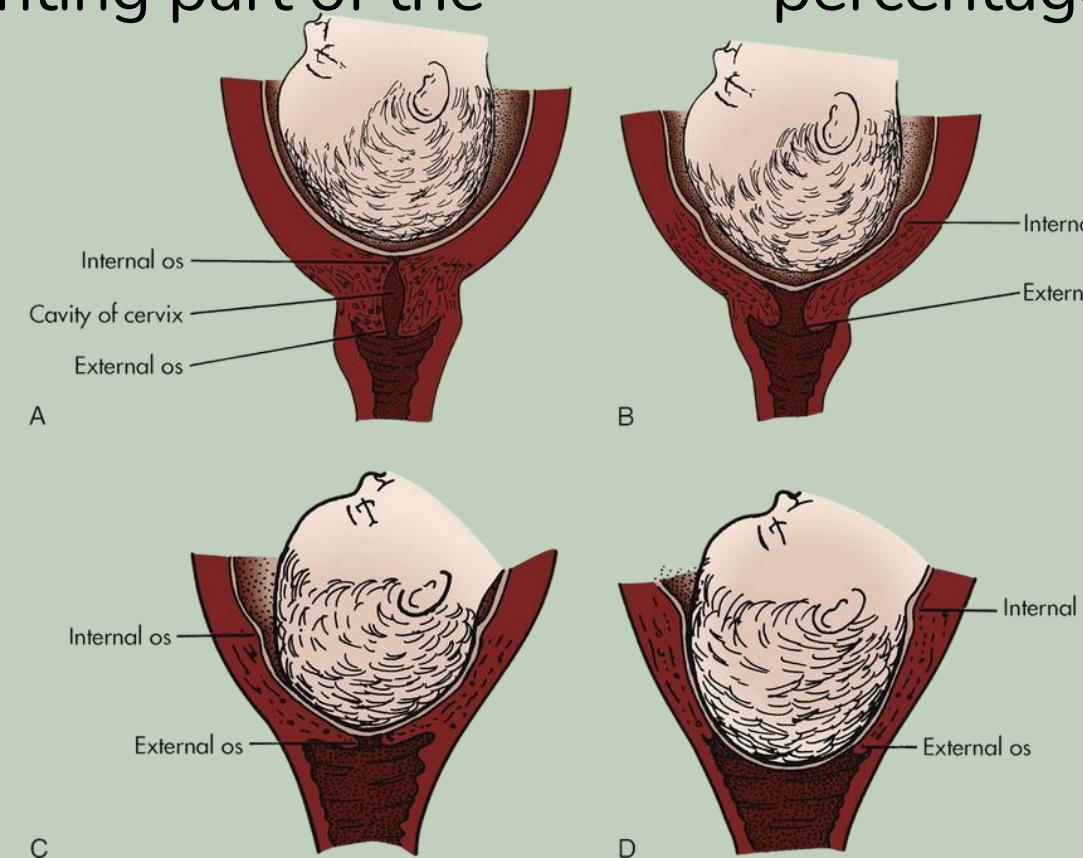
- Labor: process of moving fetus, placenta, and membranes out of the uterus through the birth canal
- Includes the following:
 - 1) Regular progression of uterine contractions
 - 2) Progressive effacement and dilation of the cervix
 - 3) Progressive descent of the presenting part.
- Onset of labor: single cause is unknown; believed to be caused by many factors coming together

Labor Progress

Dilation

Widening of cervical opening

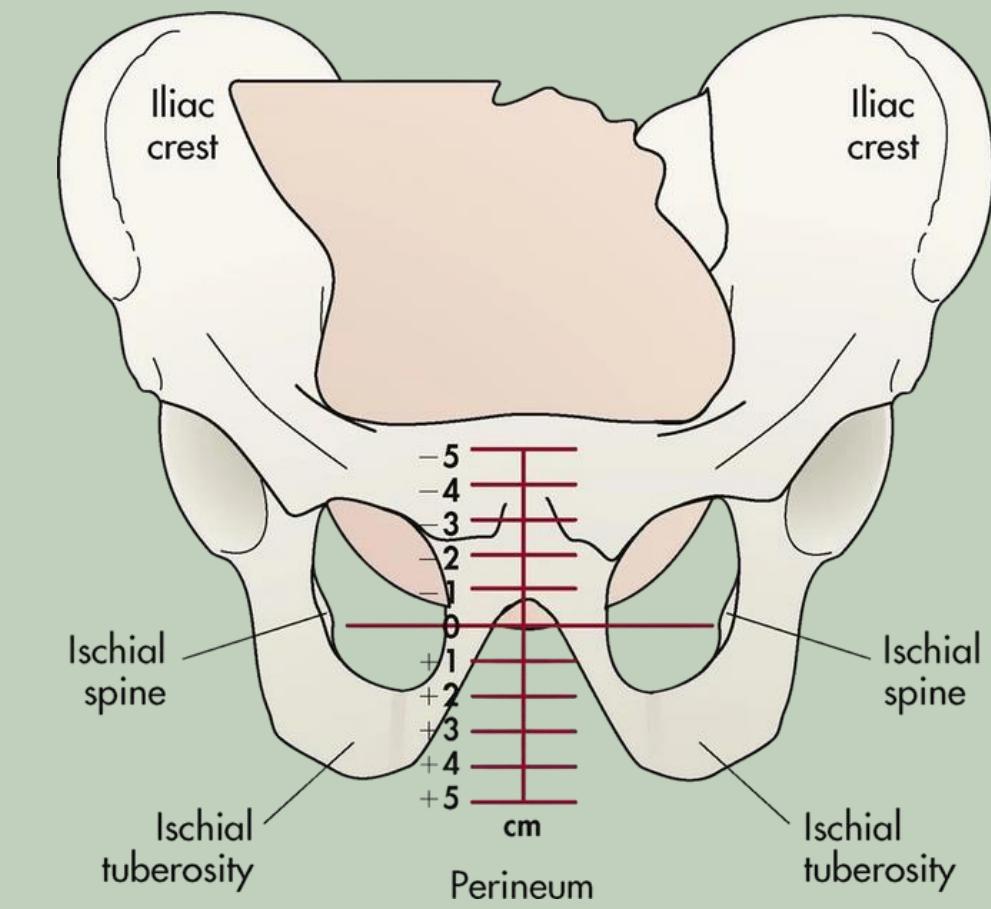
- 0-10 centimeters
- Caused by strong uterine contractions and the pressure of the presenting part of the fetus



Effacement

Shortening and thinning of cervix

- Usually progresses more quickly than dilation
- Degree expressed in percentages from 0%-100%



Engagement

Describes the position of the fetus within the maternal pelvis

Stages of Labor

First stage:

Onset of regular uterine contractions to full dilation of the cervix

- Latent phase (0-5cm)
 - Contractions are painful and cause cervical change
- Active phase (6-10cm)
 - Rapid cervical change

Third stage:

Birth of the infant through delivery of the placenta

Second stage:

Time the cervix is fully dilated to the birth of the infant

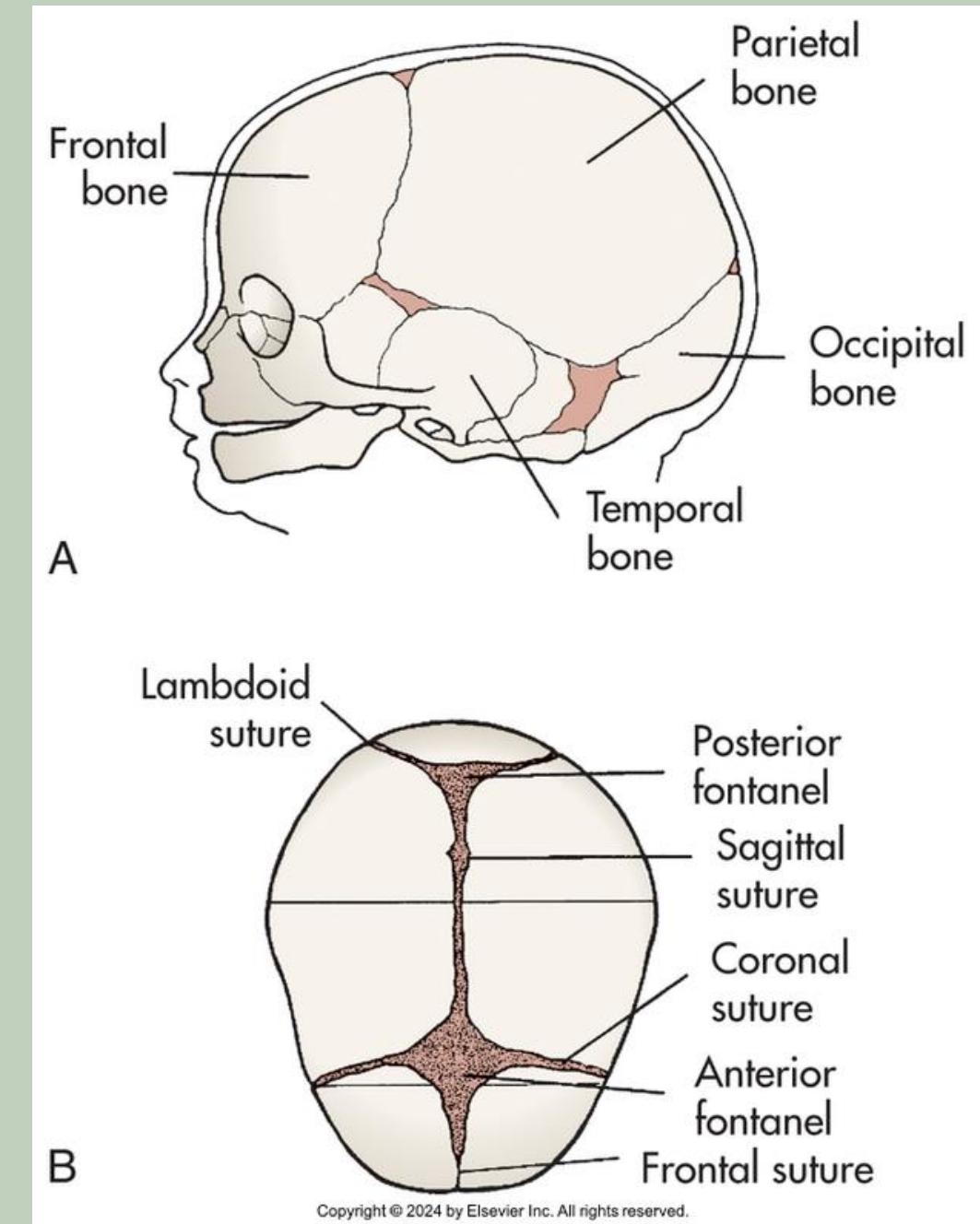
- Cervix is fully dilated and effaced
- Latent: passive fetal descent
- Active: pushing

Fourth stage:

Delivery of the placenta until woman's condition is stable (usually 1 hour after birth)

Factors Affecting Labor

- Labor & birth are affected by the 5 Ps:
 - Passenger(s)
 - Passageway
 - Powers
 - Position (of pregnant person)
 - Psychological response
- Fetal head is the major determining factor for course of birth



Is This Labor?

True labor

- Regular, intense contractions felt in back and/or abdomen
- Contractions become stronger, last longer, and occur closer together over time
- Cervical change

False Labor

- Irregular contractions felt in back or upper abdomen
- Contractions may come and go
- Pain/cramping is relieved with position changes or rest
- No associated cervical change

Is This Labor?

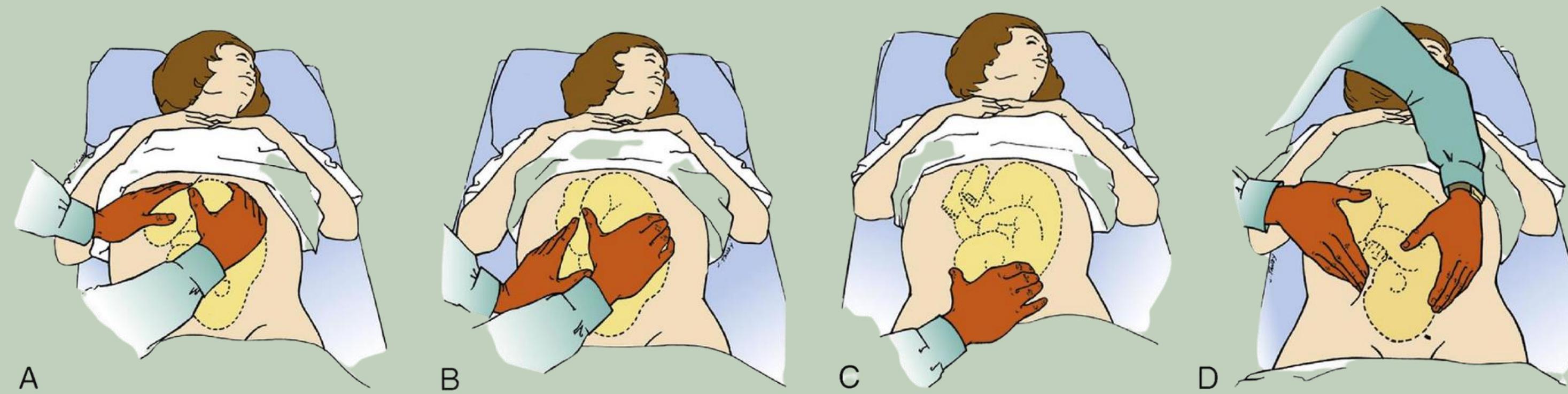
- Obstetric triage & EMTALA
- Signs of labor
 - Lightening/dropping of the fetus
 - Bloody show
- Determine if water has broken
 - Nitrazine test for pH
 - Test for ferning of fluid



Admission to Labor & Delivery

- History
 - Pregnancy history
 - Symptoms of labor
- Physical examination
 - Vital signs
 - Leopold's maneuver
 - Contraction pattern
 - FHR & pattern
 - Vaginal exam
- Labs
 - UA
 - CBC, type & screen
 - GBS testing (if needed)
 - Amniotic fluid
- Birth preferences
 - Birth plan
 - Desired pain management
 - Advanced directives

Leopold Maneuvers



Fetal Presentation

- Aka the part of the fetus that enters the pelvic inlet first and leads through the birth canal during labor
- Three types:
 - Cephalic
 - Breech
 - Shoulder
- **Fetal lie:** relation of the fetal spine to the maternal spine (either longitudinal or vertical)
- **Fetal position:** relationship of a reference point on the presenting part to the four quadrants of the mother's pelvis

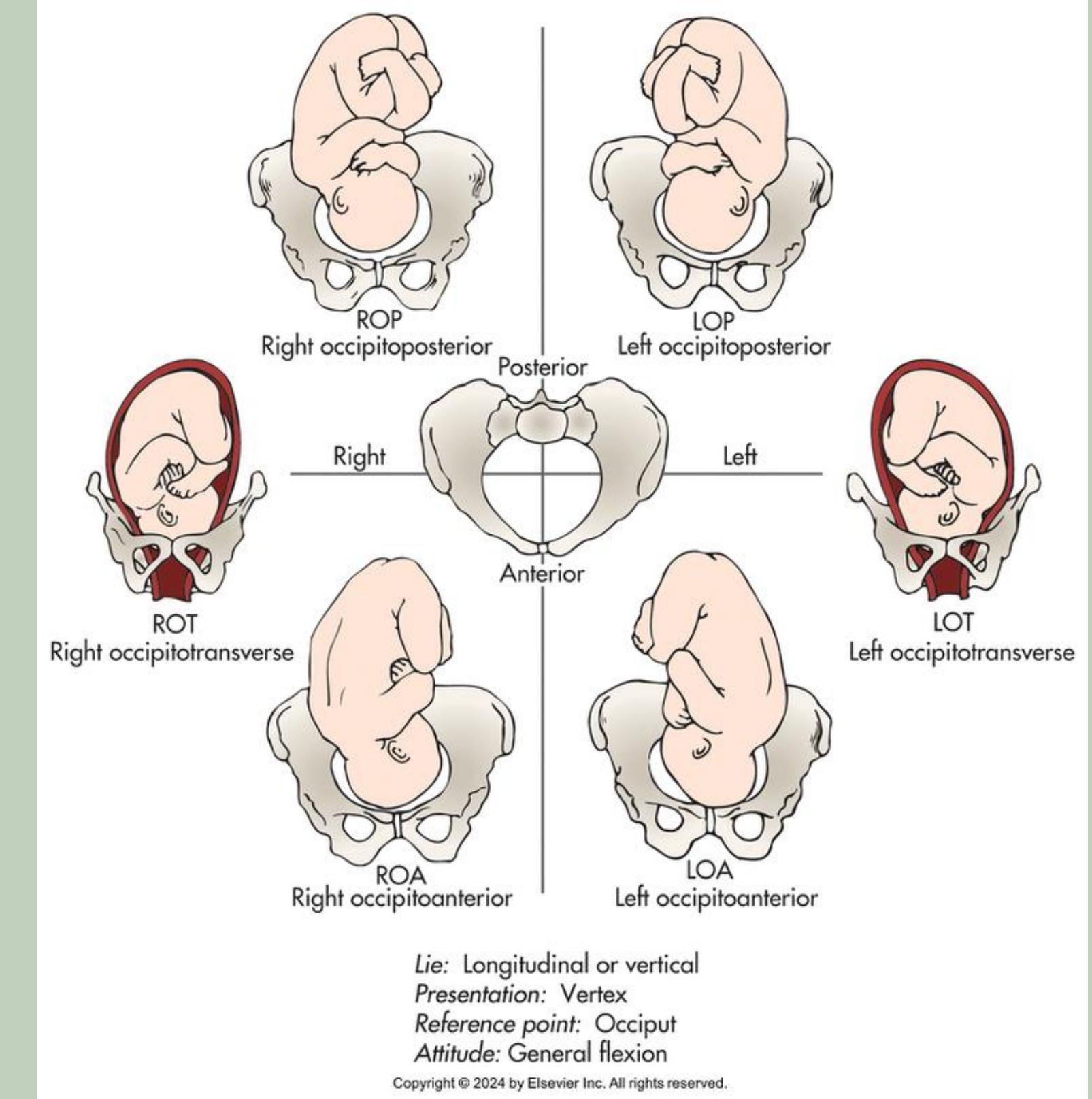


Figure 16.02, Lowdermilk et al. (2024)

Fetal Presentation

- **Fetal attitude:** relation of the fetal body parts to one another
- **Fetal station:** measure of the degree of descent of the presenting part of the fetus through the birth canal (“engagement”)
- **Engagement:** usually corresponds to 0 (zero) station

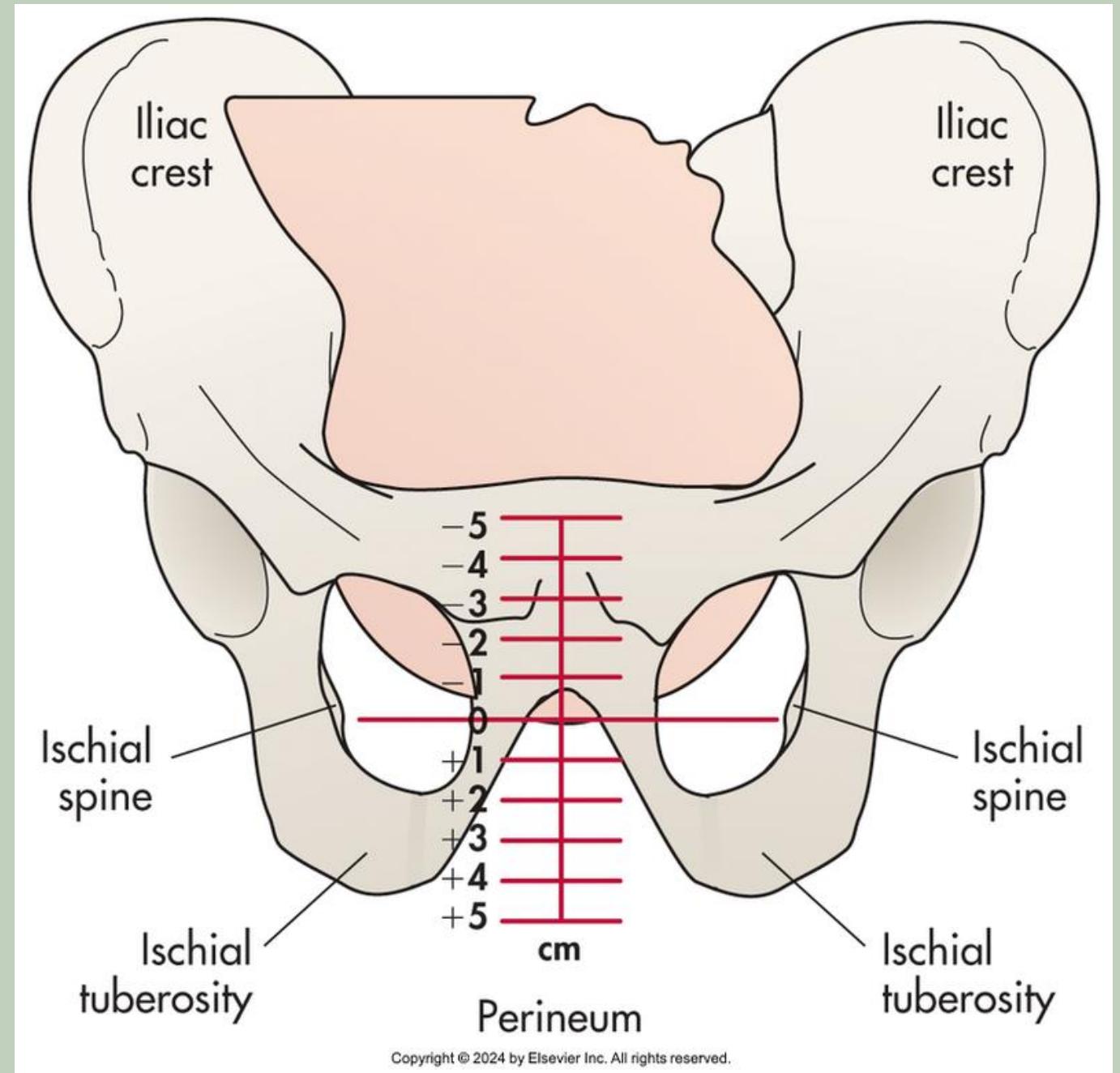


Figure 16.06, Lowdermilk et al. (2024)

Cardinal Movements

Engagement & descent

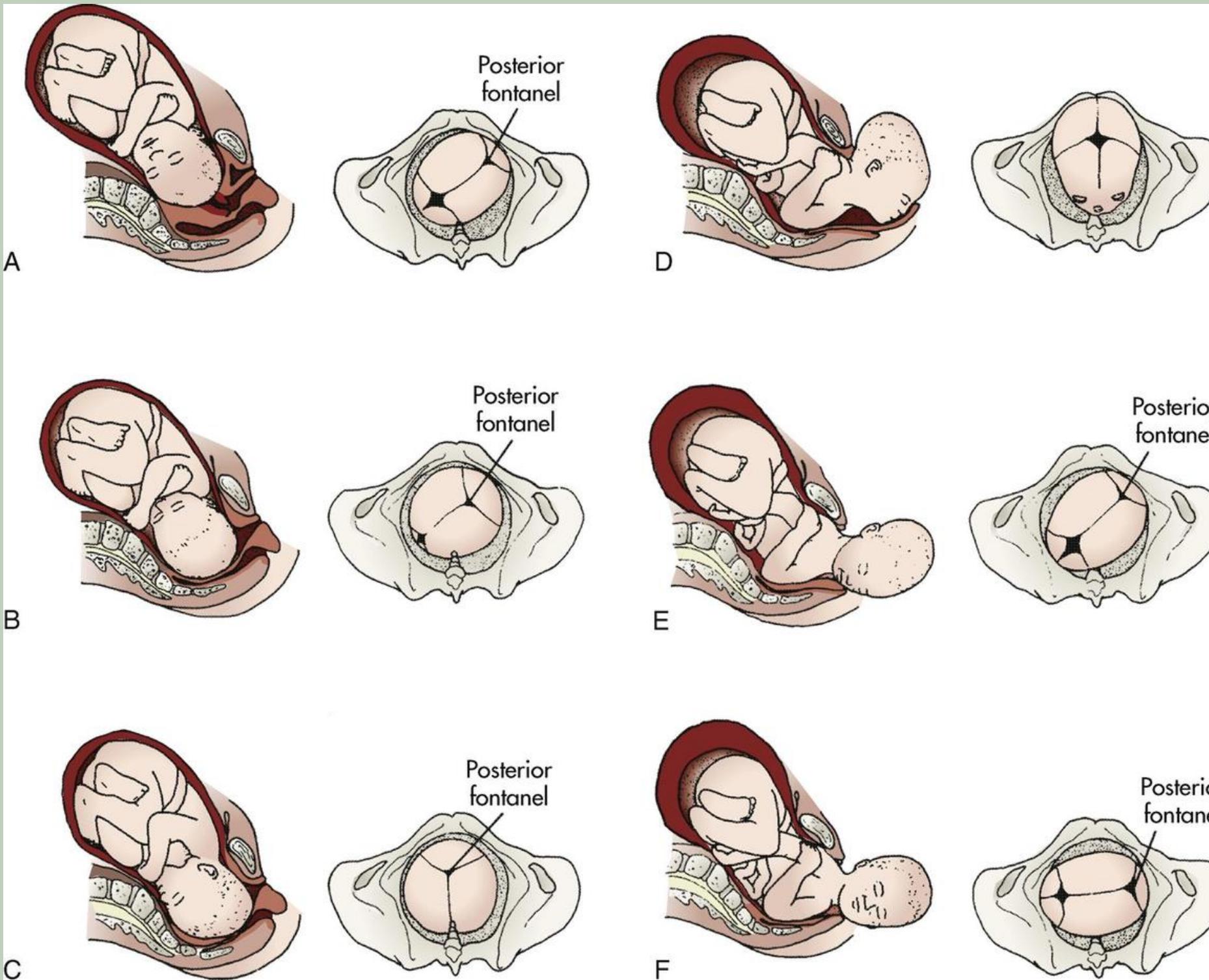


Figure 16.12, Lowdermilk et al. (2024)

Extension

Flexion

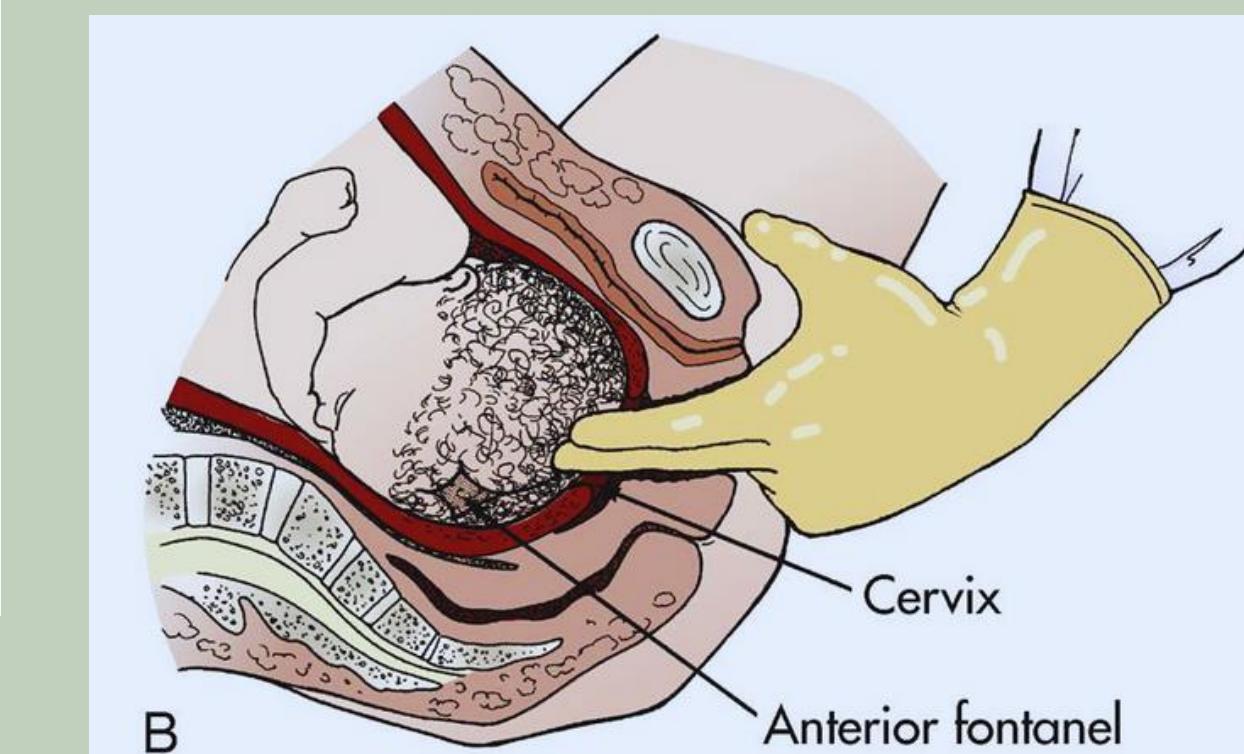
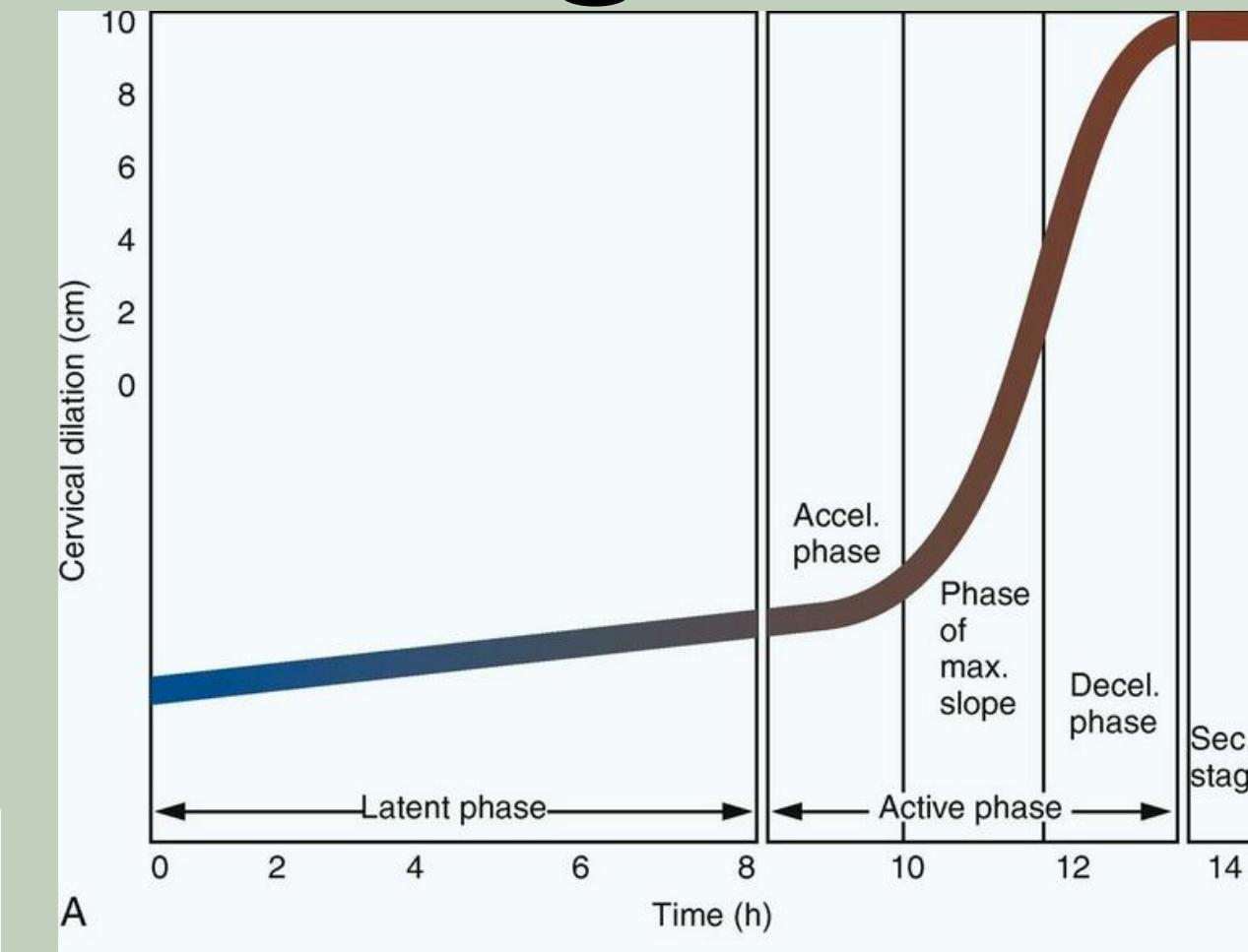
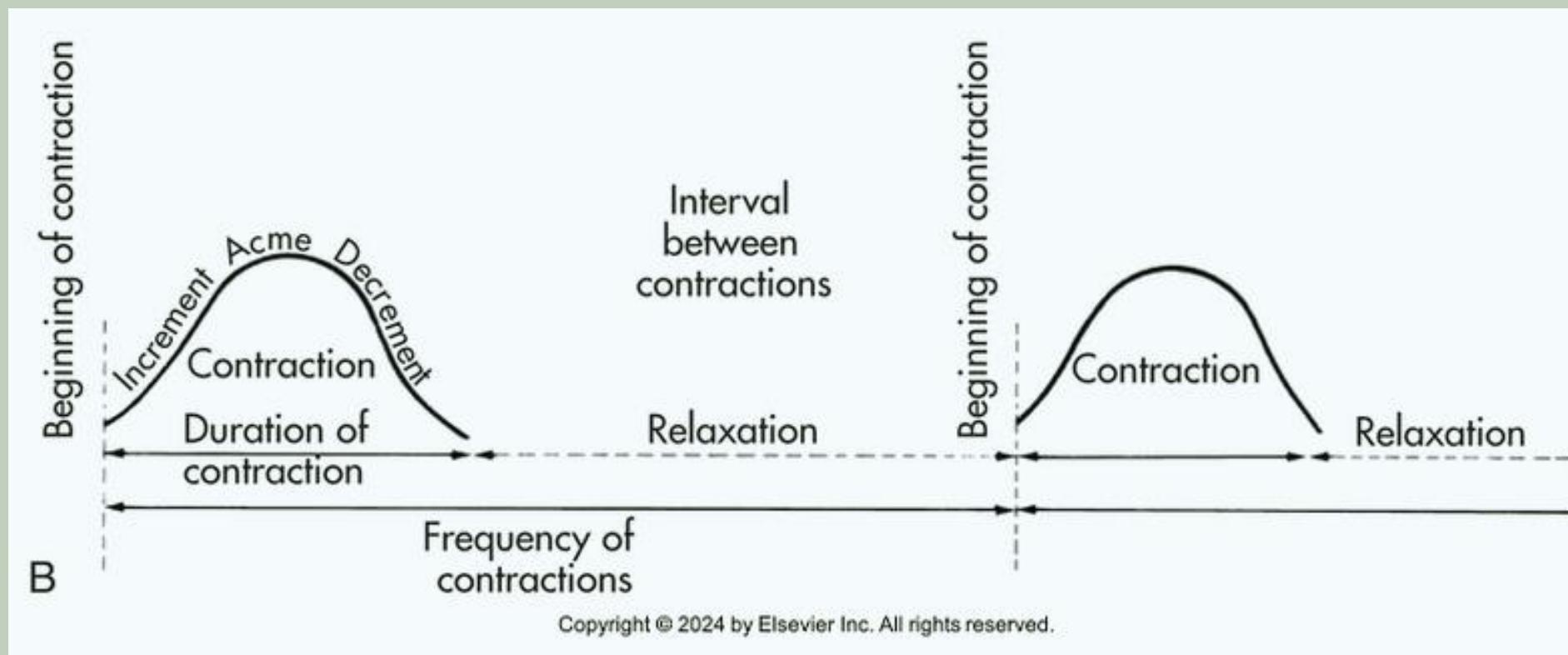
Internal rotation

Expulsion

External rotation

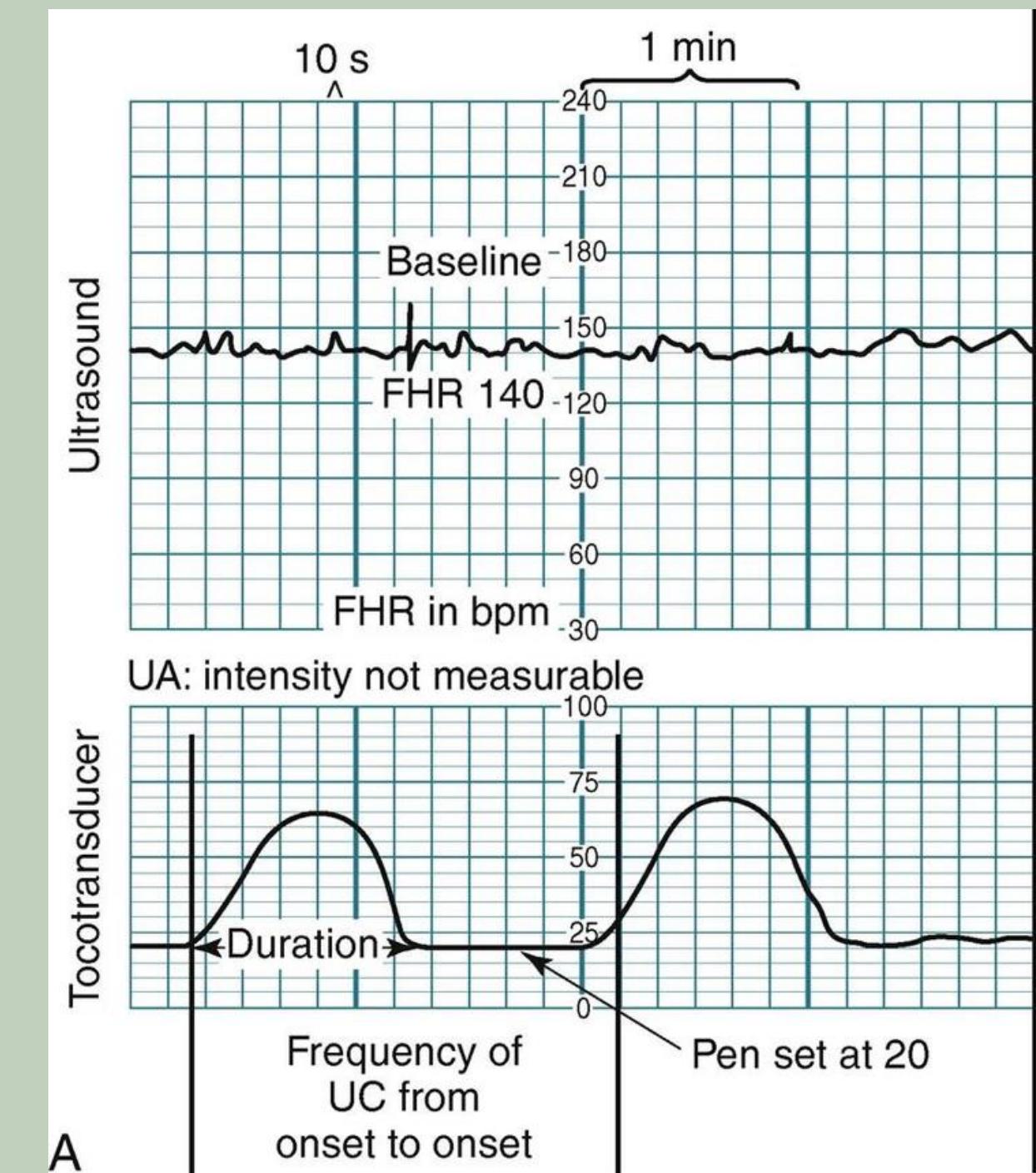
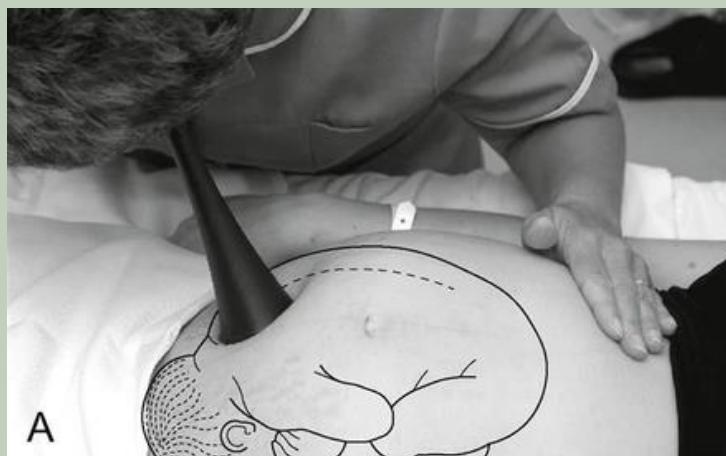
Maternal Assessments During Labor

- Cervical changes
- Vital signs
- Uterine activity/pattern



Fetal Assessments During Labor

- Fetal heart rate (FHR) tracing
 - Baseline rate, variability, trends over time
 - External or internal monitoring
- Auscultation
- Doppler ultrasound



Pain

- Experience of pain is unique to each individual
- Gate-Control Theory of Pain:
 - Pain sensations follow nerve pathways to the brain
 - Only a limited number of sensations can travel at once
 - “Distractions” close down a “gate” in the spinal cord and prevent signal transmission
- Establish an appropriate pain goal

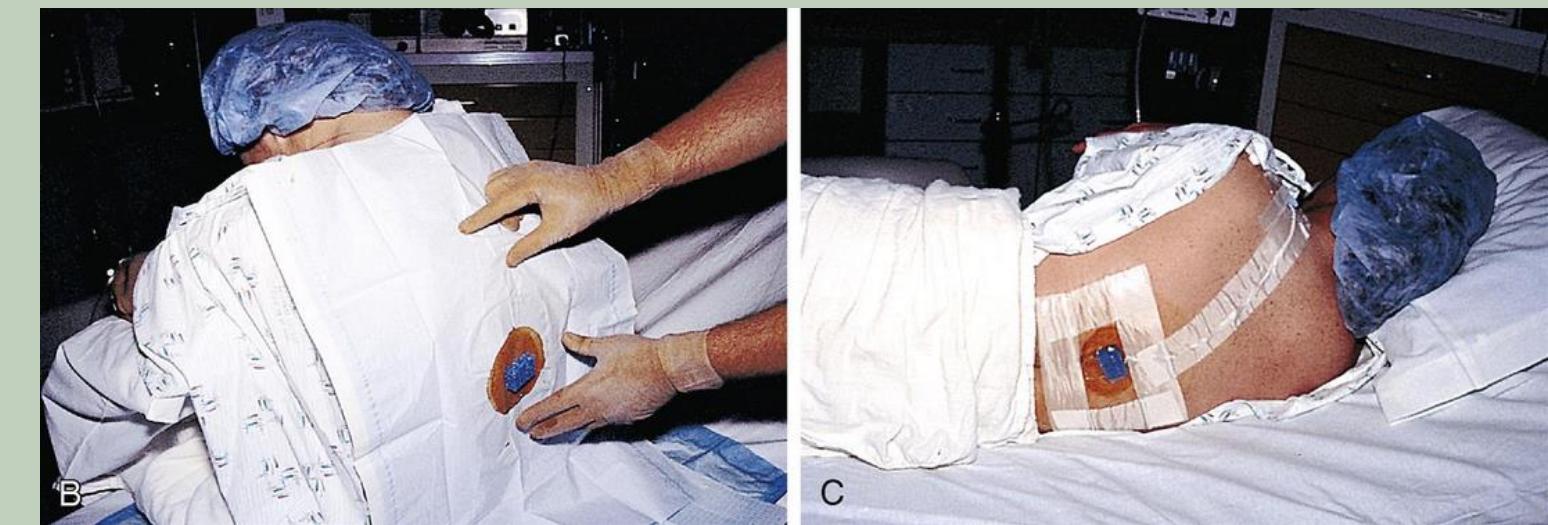
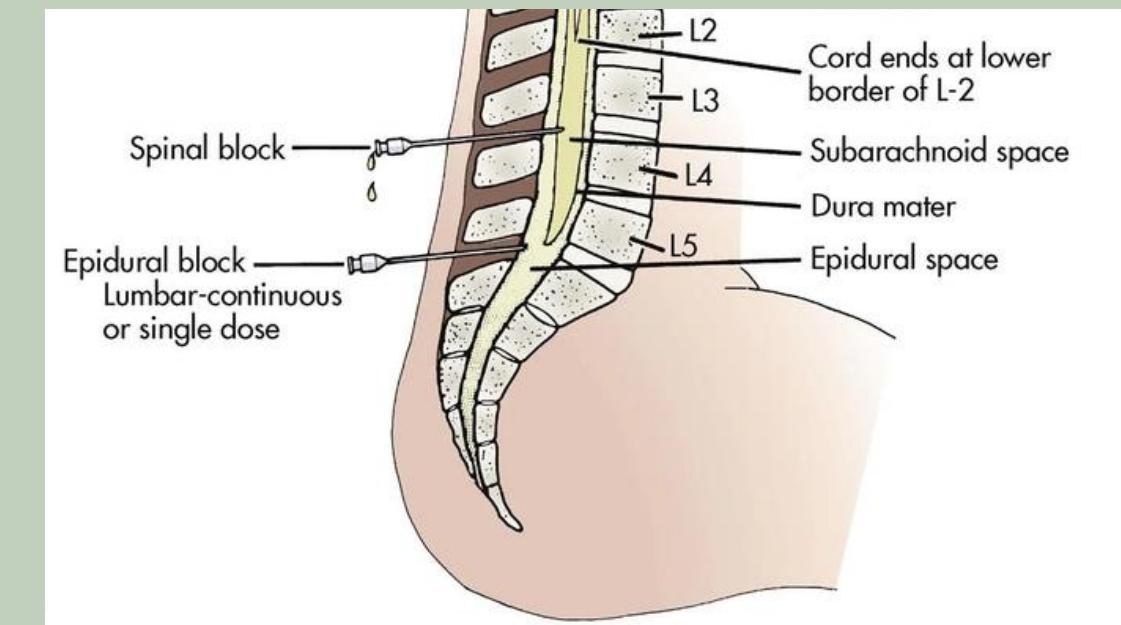
Nonpharmacologic Pain Management

- Relaxation and breathing techniques
- Counterpressure
- Touch/massage
- Heat/cold application
- Hydrotherapy
- Aromatherapy
- TENS unit
- Hypnosis



Pharmacologic Pain Management

- Opioid medications:
 - Fentanyl – 50-100mcg q1hr
 - Caution: can inhibit contractions in early labor
 - Remifentanil – PCA administration only
- Epidural anesthesia
 - Positioning for placement
 - Risk of maternal hypotension
- Nitrous oxide:
 - Delivered via facemask PRN
 - 50/50 nitrous oxide and oxygen
 - Rapid onset, rapid clearance



All anesthesia administration requires informed consent and IV access

Nursing Care During Labor & Delivery

First stage of labor

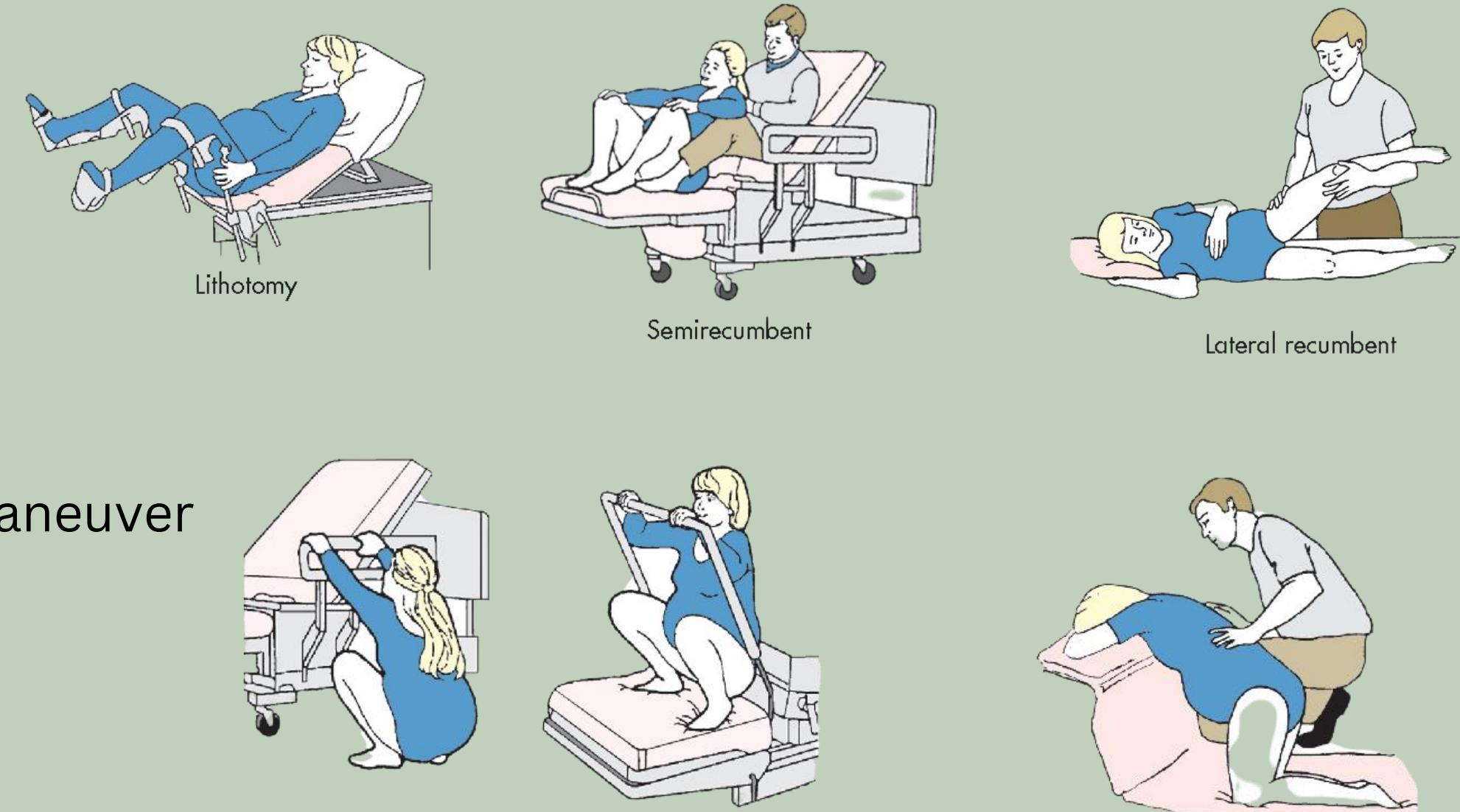
- Basic body functions: fluid status, nutrition, elimination
- Move that mom!
- Promote a therapeutic environment
- Labor support - can be done by nurse or chosen support person
- Partner support
- Pain management
- Involve the woman in decision making regarding her care



Nursing Care During Labor & Delivery

Second stage of labor

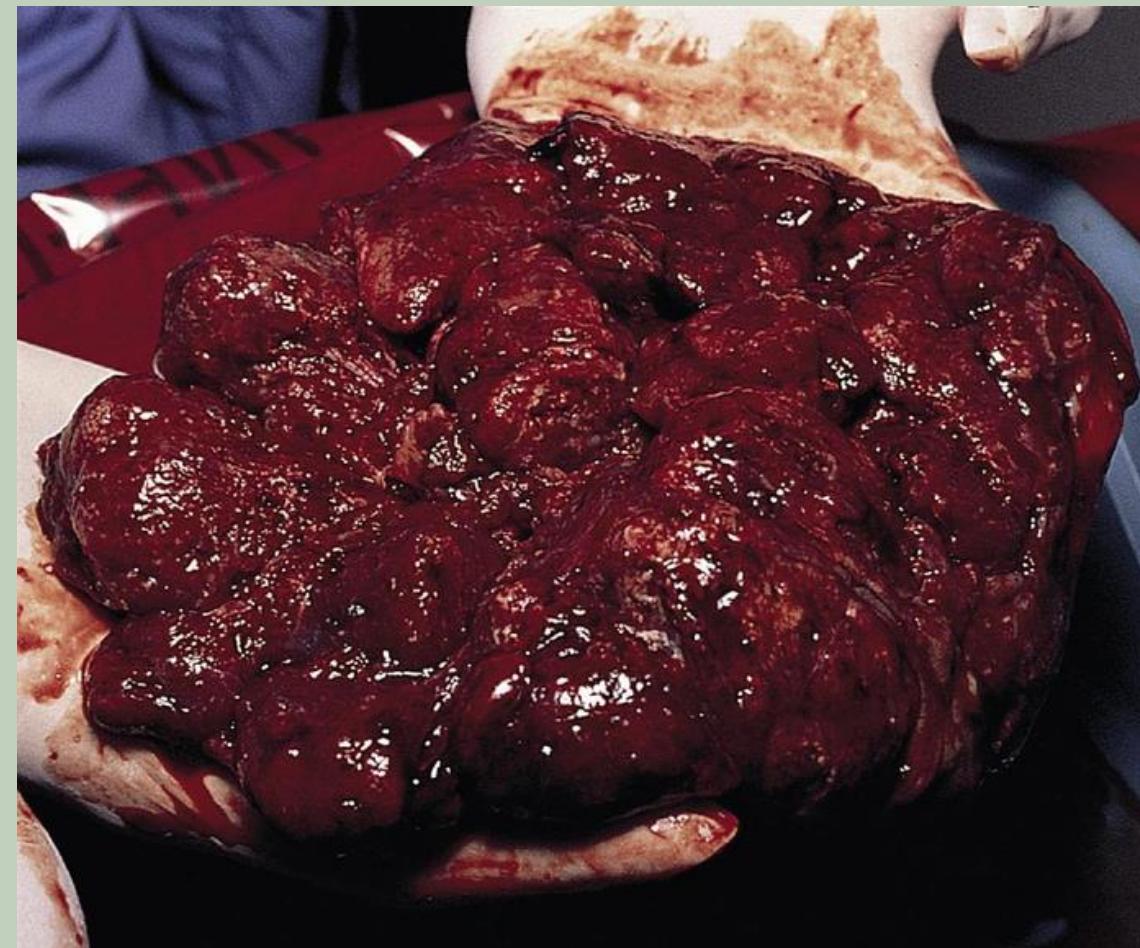
- Facilitate maternal position
 - Lithotomy
 - Semi-recumbent
 - Lateral
 - Upright
 - Hands and knees
- Labor support
- Guide bearing down efforts - Valsalva maneuver
- Monitoring
 - Fetal heart rate & pattern
 - Contraction pattern
 - Maternal vital signs
- Immediate assessment and care of newborn



Nursing Care During Labor & Delivery

Third stage of labor

- Placenta usually delivered within 15 minutes
- Signs of placental separation:
 - Firmly contracting fundus
 - Lengthening of the umbilical cord
 - Gush of blood from vagina
- Q15 min VS (or PRN)
- Administer oxytocin
- Encourage breastfeeding



Nursing Care During Labor & Delivery

Fourth stage of labor

- First 1-2 hours after birth - **bonding time**
- Q15min VS for the first 2 hours; temp at least q4hr
- Massage the fundus - look for bleeding
 - Goal is for fundus to be firm and midline
 - If boggy, massage to promote uterine contraction until firm
- Signs of problems:
 - Excessive blood loss
 - Alterations in vital signs/level of consciousness

References

Lowdermilk, D. L., Cashion, K., Alden, K. R., Olshansky, E. F., & Perry, S. E. (2024). Maternity and women's healthcare (13th ed.). St. Louis: Elsevier.