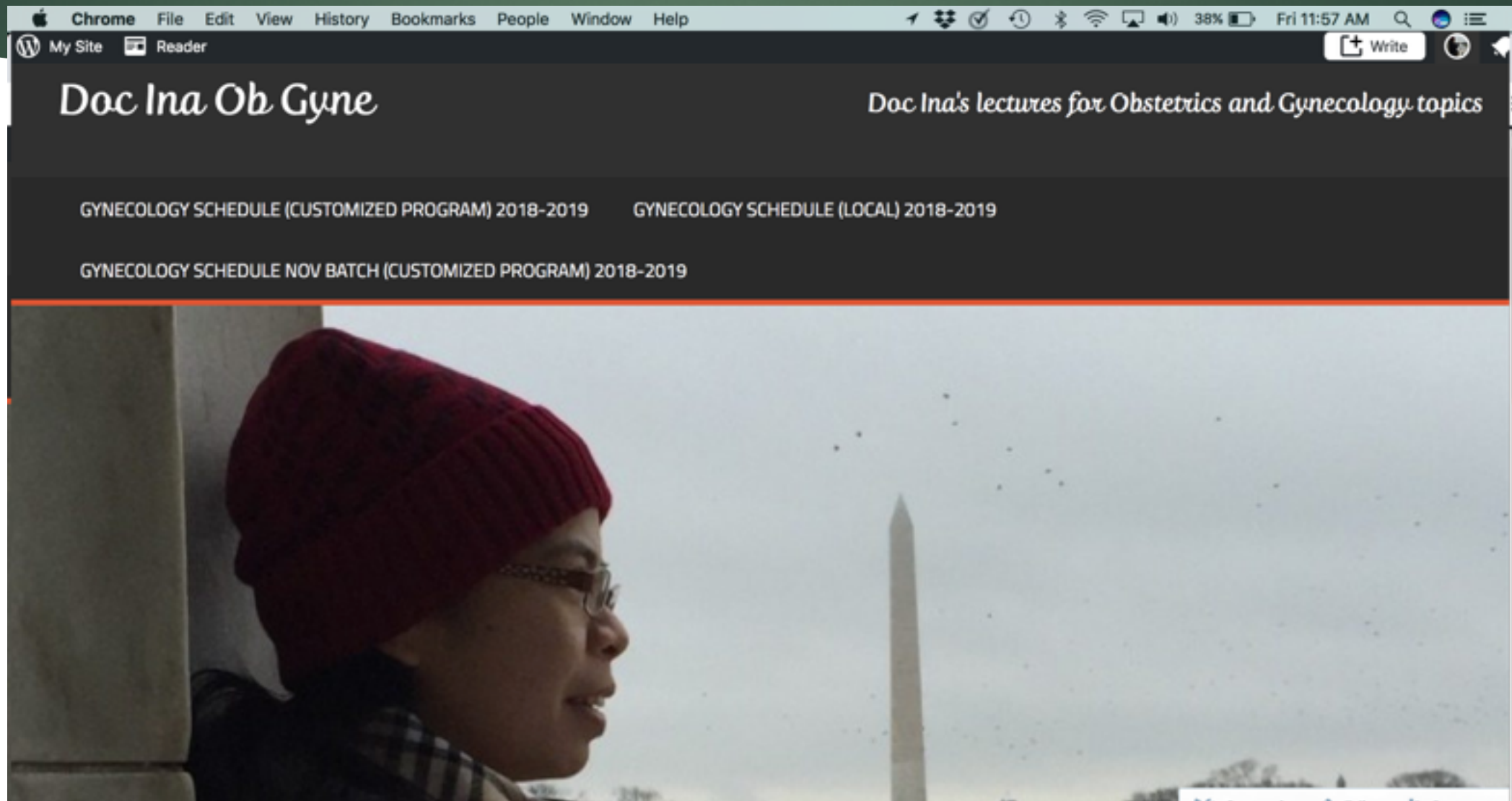




# CARDINAL MOVEMENTS OF LABOR (VIDEO DEMO)

Ina S. Irabon, MD, FPOGS, FPSRM, FPSGE  
Obstetrics and Gynecology  
Reproductive Endocrinology and Infertility  
Laparoscopy and Hysteroscopy

# To download lecture deck:



# Reference

- ▶ Cunningham FG, Leveno KJ, Bloom SL, Spong CY, Dashe JS, Hoffman BL, Casey BM, Sheffield JS (eds). William's Obstetrics 25<sup>th</sup> edition; chapter 22 Normal Labor

# 7 Cardinal movements of labor

- ▶ the cardinal movements of labor are engagement, descent, flexion, internal rotation, extension, external rotation, and expulsion
- ▶ During labor, these movements not only are sequential but also show great temporal overlap.

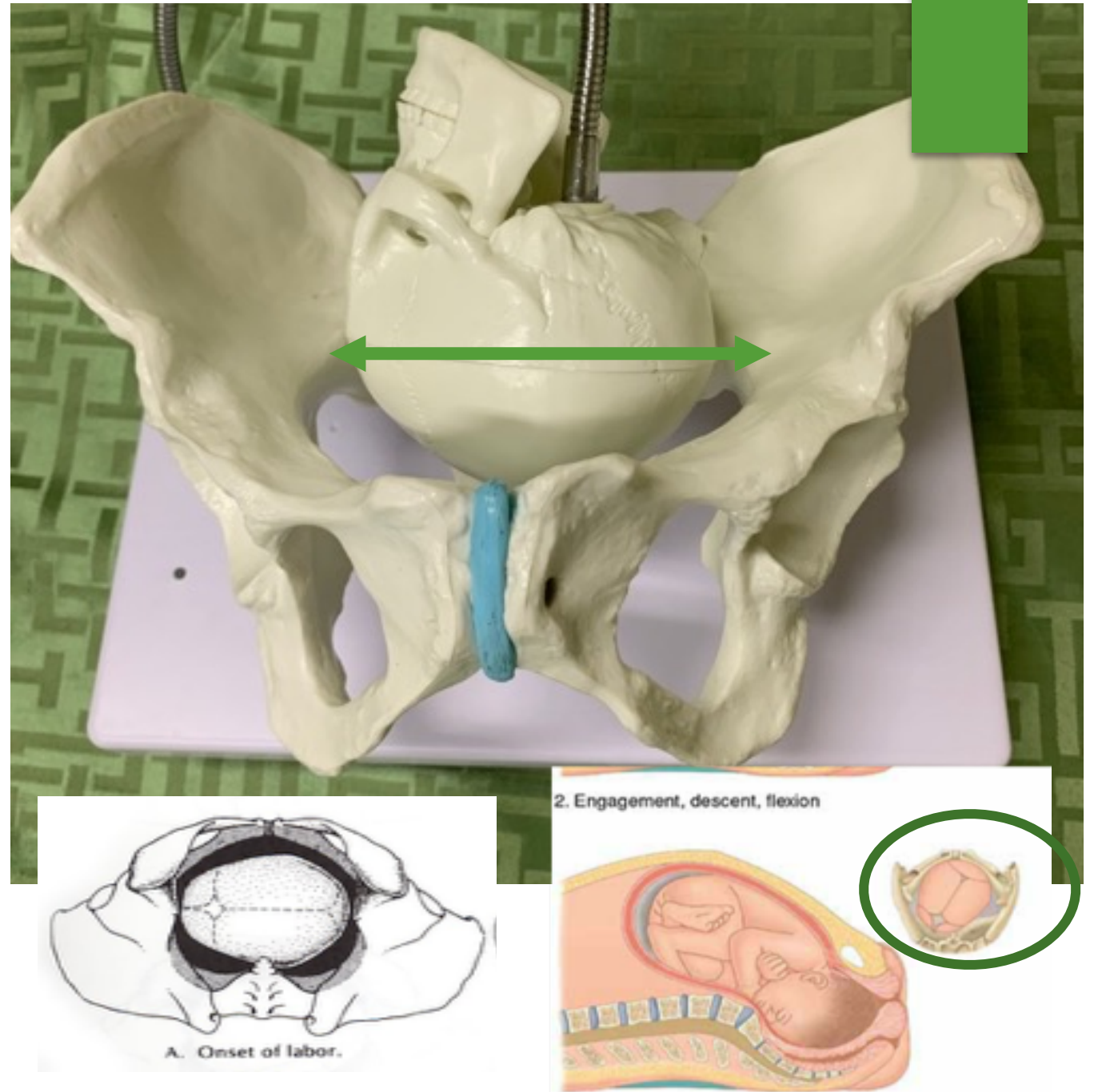


Source: Tachman EF: Emergency Medicine Procedures, Second Edition: www.accessmedicine.com  
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# At labor onset...

- ▶ the fetal head is freely movable above the pelvic inlet at labor onset (“floating”)
- ▶ A normal-sized head usually does not engage with its sagittal suture directed anteroposteriorly → Instead, the fetal head usually enters transversely (occiput transverse) or sometimes, obliquely.

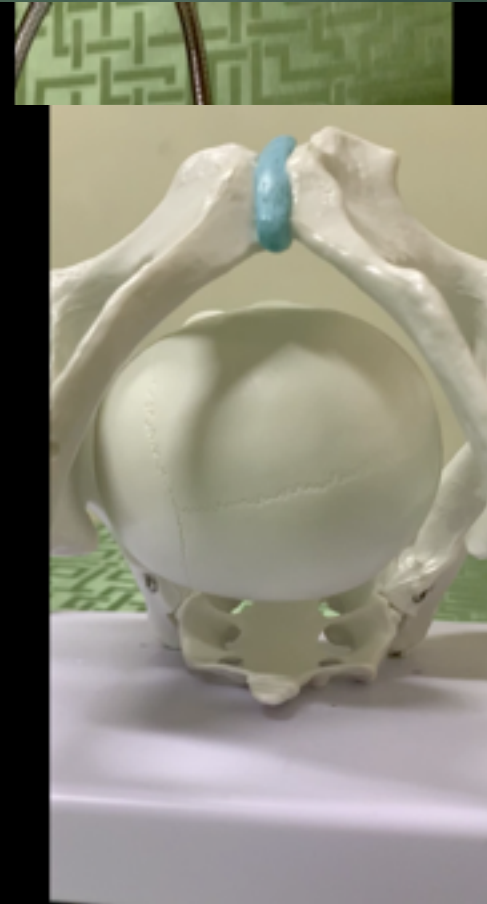


# 1. Engagement

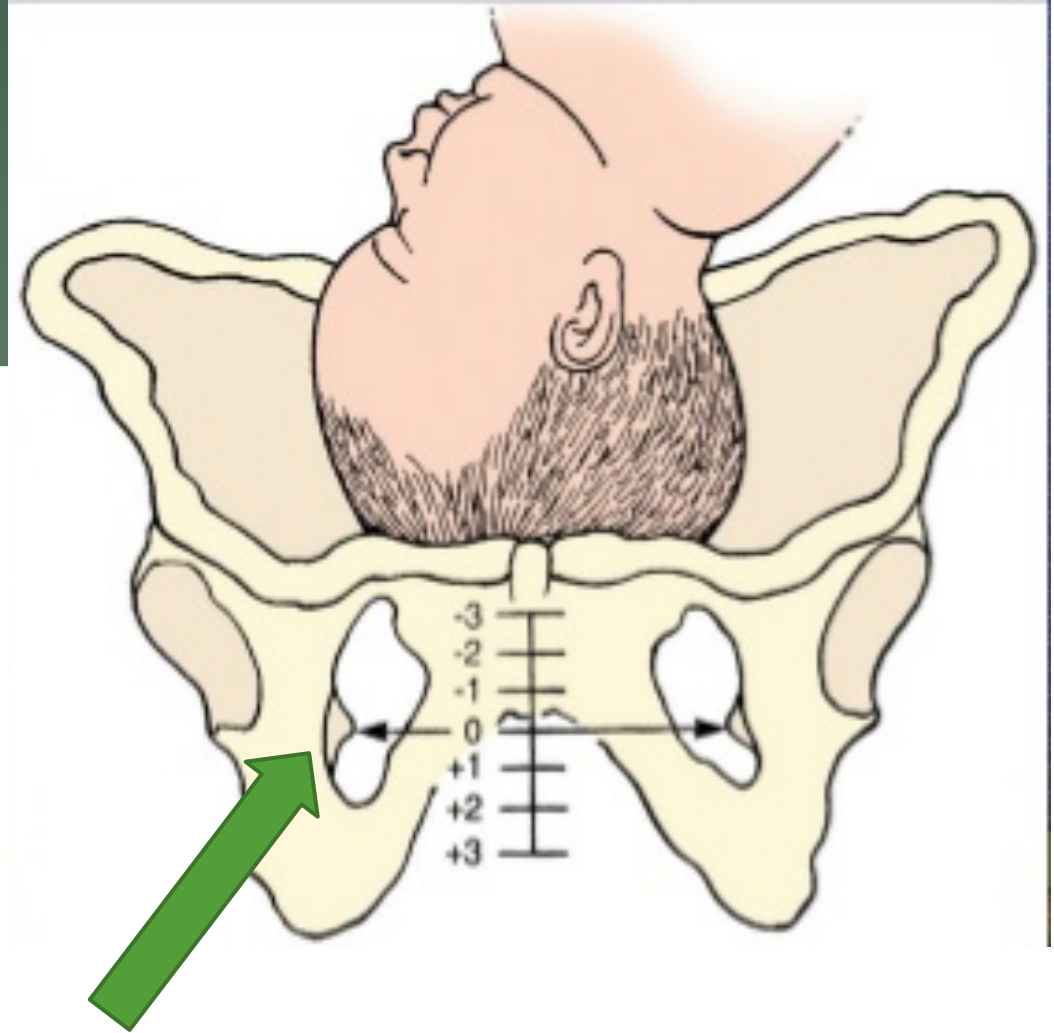
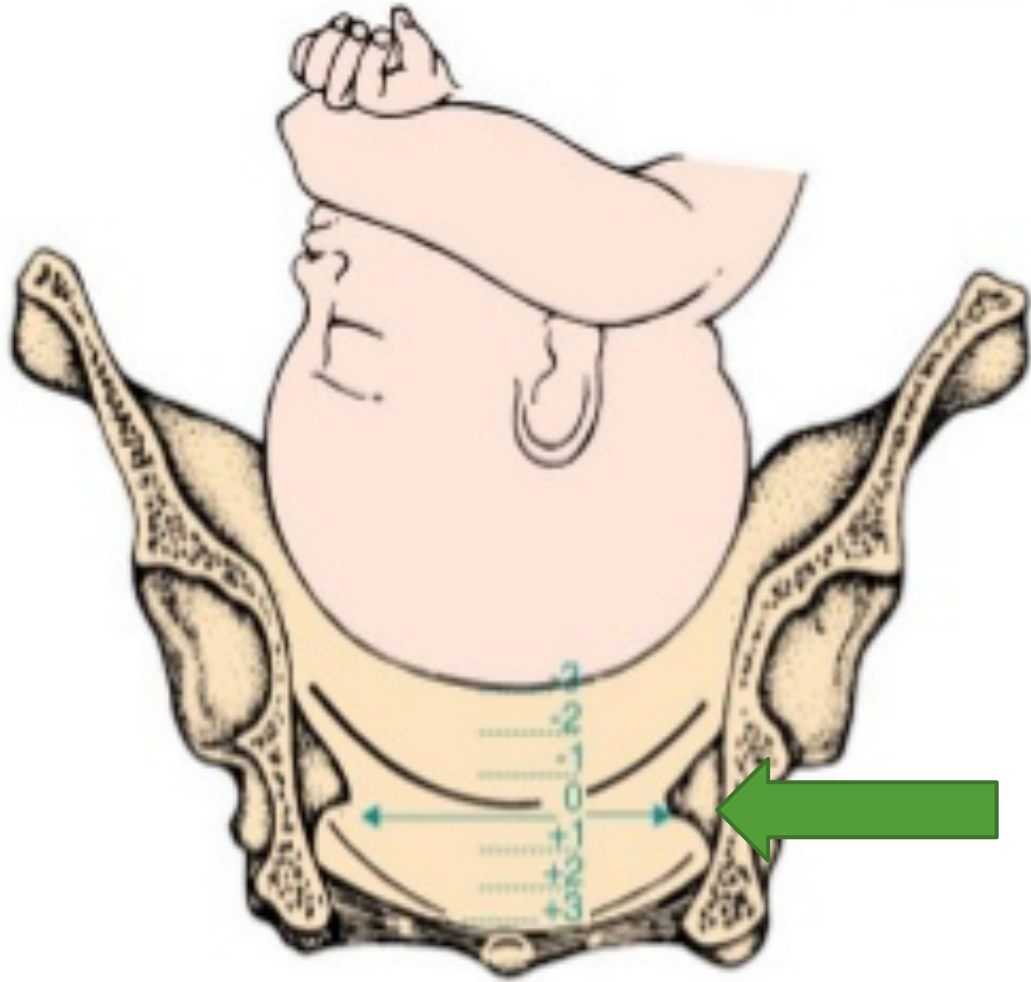
- ▶ mechanism by which the **biparietal diameter**—the greatest transverse diameter in an occiput presentation—**passes through the pelvic inlet (station 0)**
- ▶ A normal-sized head engages with its sagittal suture usually directed transversely or sometimes, obliquely.



2. Engagement, descent, flexion



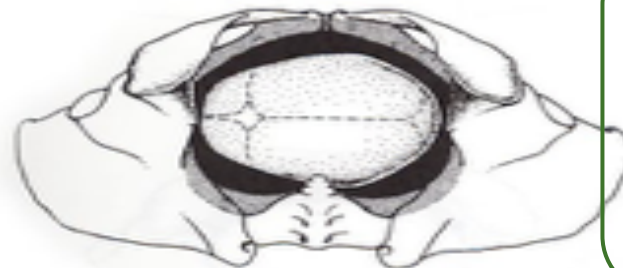
# Engagement



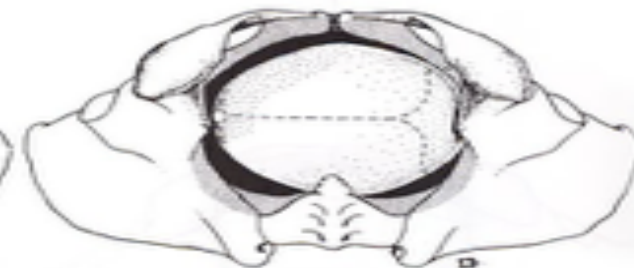
Station 0 = level of ischial spines



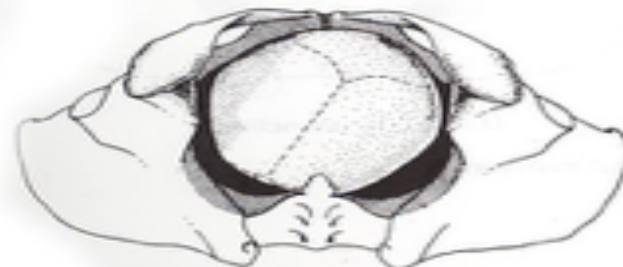
# Engagement: fetal position



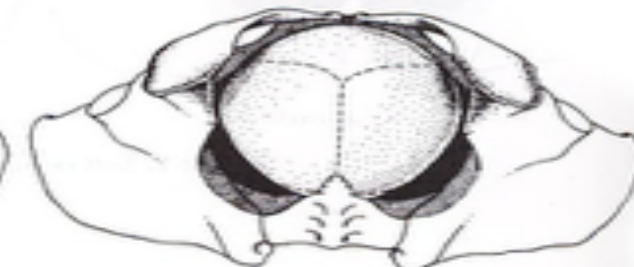
A. Onset of labor.



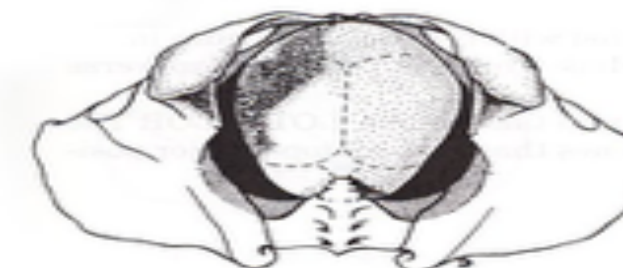
B. Descent and flexion.



C. Internal rotation: LOT to LOA.



D. Internal rotation: LOA to OA.



E. Extension beginning.



F. Extension complete.

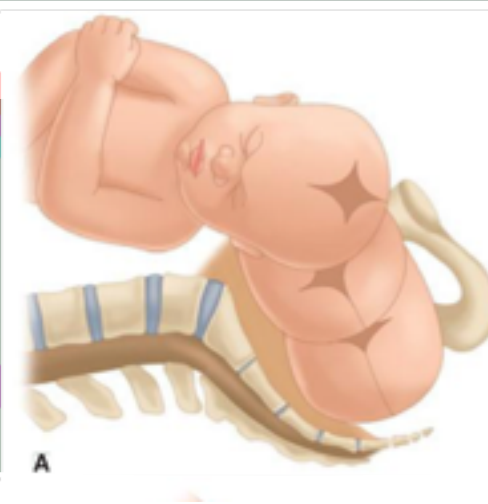


G. Restitution: OA to LOA.



H. External rotation: LOA to LOT.

## 2. Descent



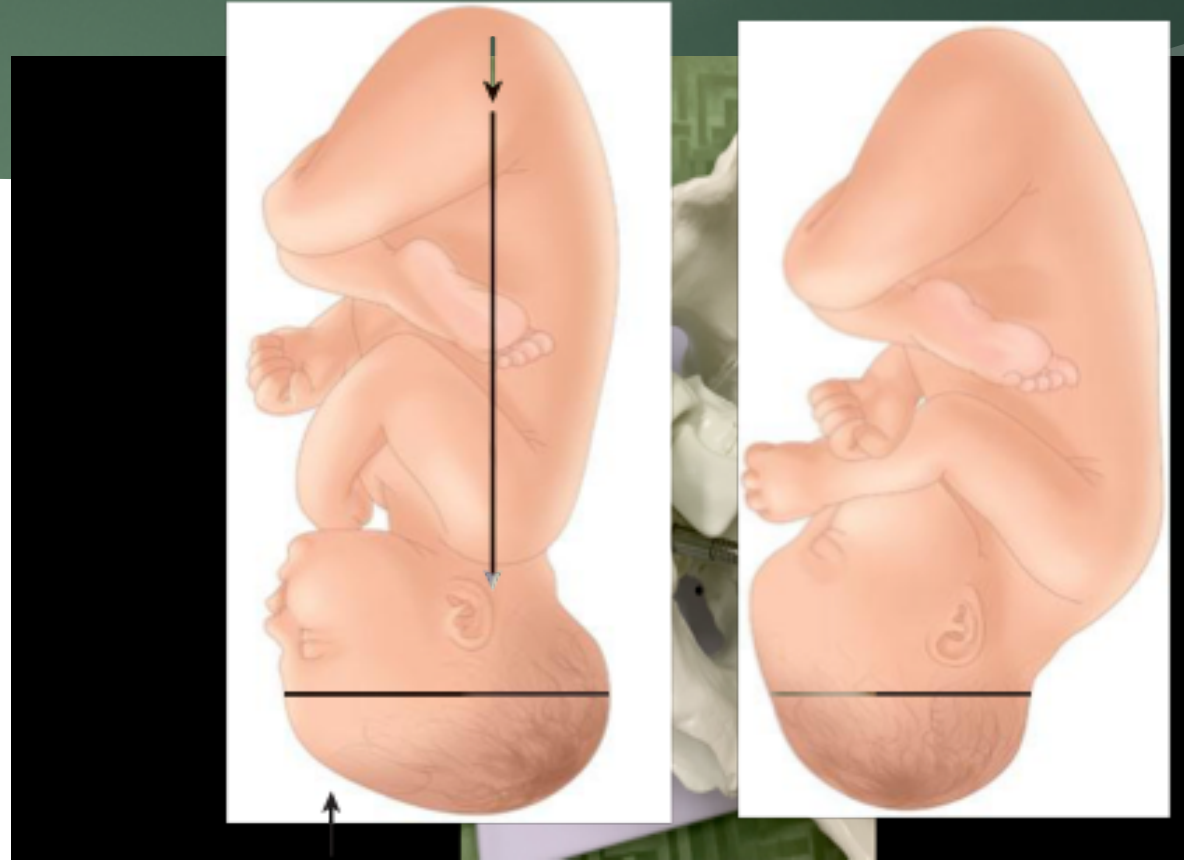
- ▶ this movement is the first requisite for birth of the newborn.
- ▶ Descent is brought about by one or more of four forces:
  - ▶ (1) pressure of the amnionic fluid
  - ▶ (2) direct pressure of the fundus upon the breech with contractions
  - ▶ (3) bearing-down efforts of maternal abdominal muscles
  - ▶ (4) extension and straightening of the fetal body.





### 3. Flexion

- ▶ *As soon as the descending head meets resistance*, whether from the cervix, pelvic walls, or pelvic floor, *it normally flexes*.
- ▶ With this movement, the chin is brought into more intimate contact with the fetal thorax, and the appreciably shorter *suboccipitobregmatic diameter* is substituted for the longer occipitofrontal diameter



**FIGURE 22-13** Lever action produces flexion of the head. Conversion from occipitofrontal to suboccipitobregmatic diameter typically reduces the anteroposterior diameter from nearly 12 to 9.5 cm.

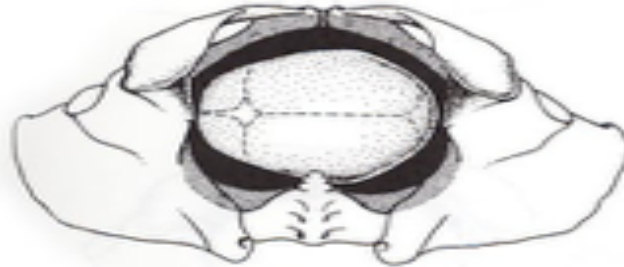
## 4. Internal Rotation

- ▶ this movement consists of turning of the head in such a manner that the occiput gradually moves toward the symphysis pubis anteriorly from its original position or, less commonly, posteriorly toward the hollow of the sacrum

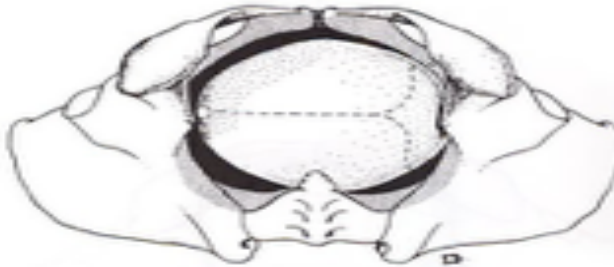


FIGURE 22-16 Mechanism of labor for left occiput anterior position.

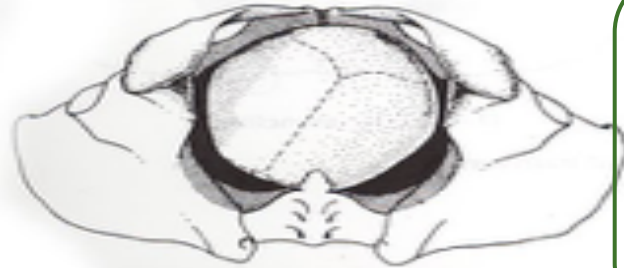
# Internal rotation: fetal position



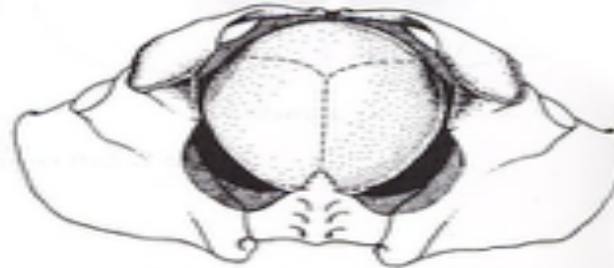
A. Onset of labor.



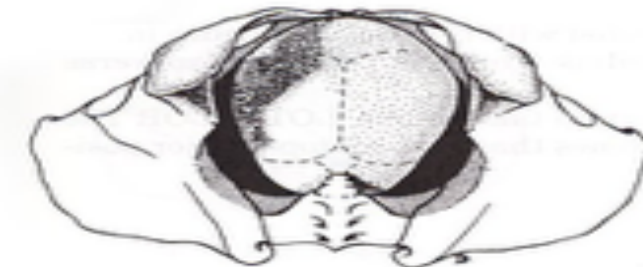
B. Descent and flexion.



C. Internal rotation: LOT to LOA.



D. Internal rotation: LOA to OA.



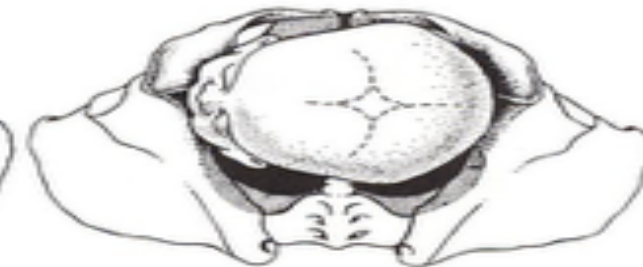
E. Extension beginning.



F. Extension complete.



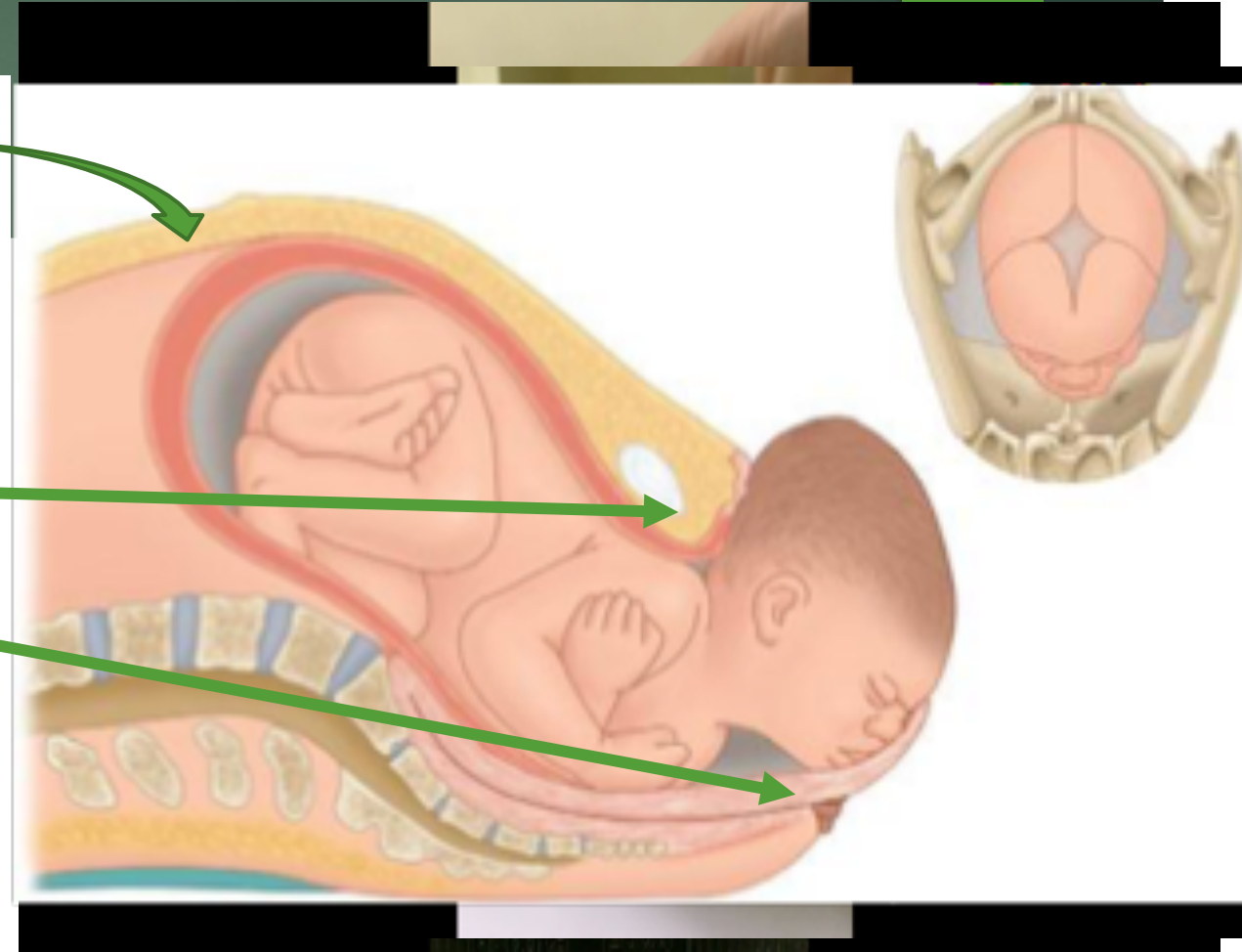
G. Restitution: OA to LOA.



H. External rotation: LOA to LOT.

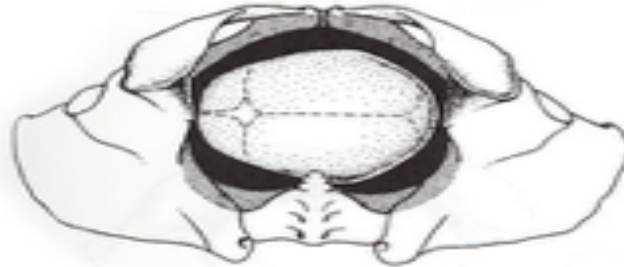
## 5. Extension

- ▶ When the head presses on the pelvic floor, 2 forces come into play:
  1. first force is exerted by the uterus and acts more posteriorly
  2. Second force is supplied by the resistant pelvic floor and the symphysis, and acts more anteriorly.
- ▶ the resultant vector force is in the direction of the vulvar opening, thereby causing head extension.
- ▶ this brings the base of the occiput into direct contact with the inferior margin of the symphysis pubis
- ▶ Immediately after its delivery, the head drops downward so that the chin lies over the maternal anus.

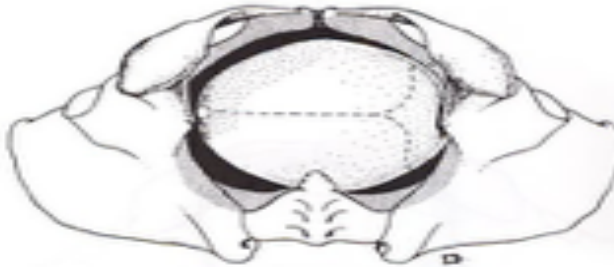




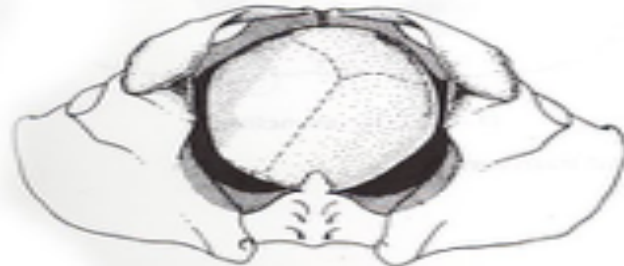
# Extension: fetal position



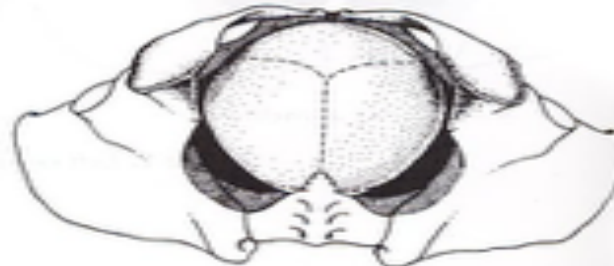
A. Onset of labor.



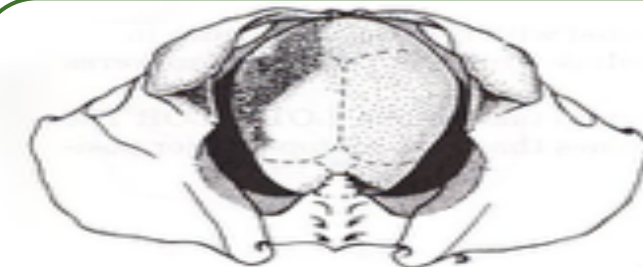
B. Descent and flexion.



C. Internal rotation: LOT to LOA.



D. Internal rotation: LOA to OA.



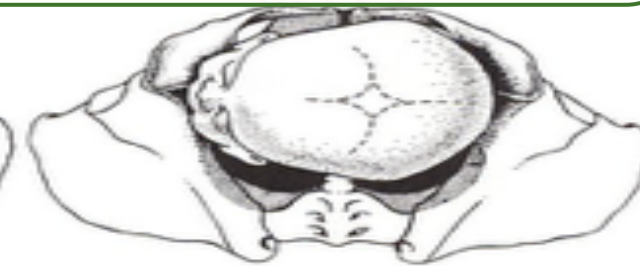
E. Extension beginning.



F. Extension complete.



G. Restitution: OA to LOA.

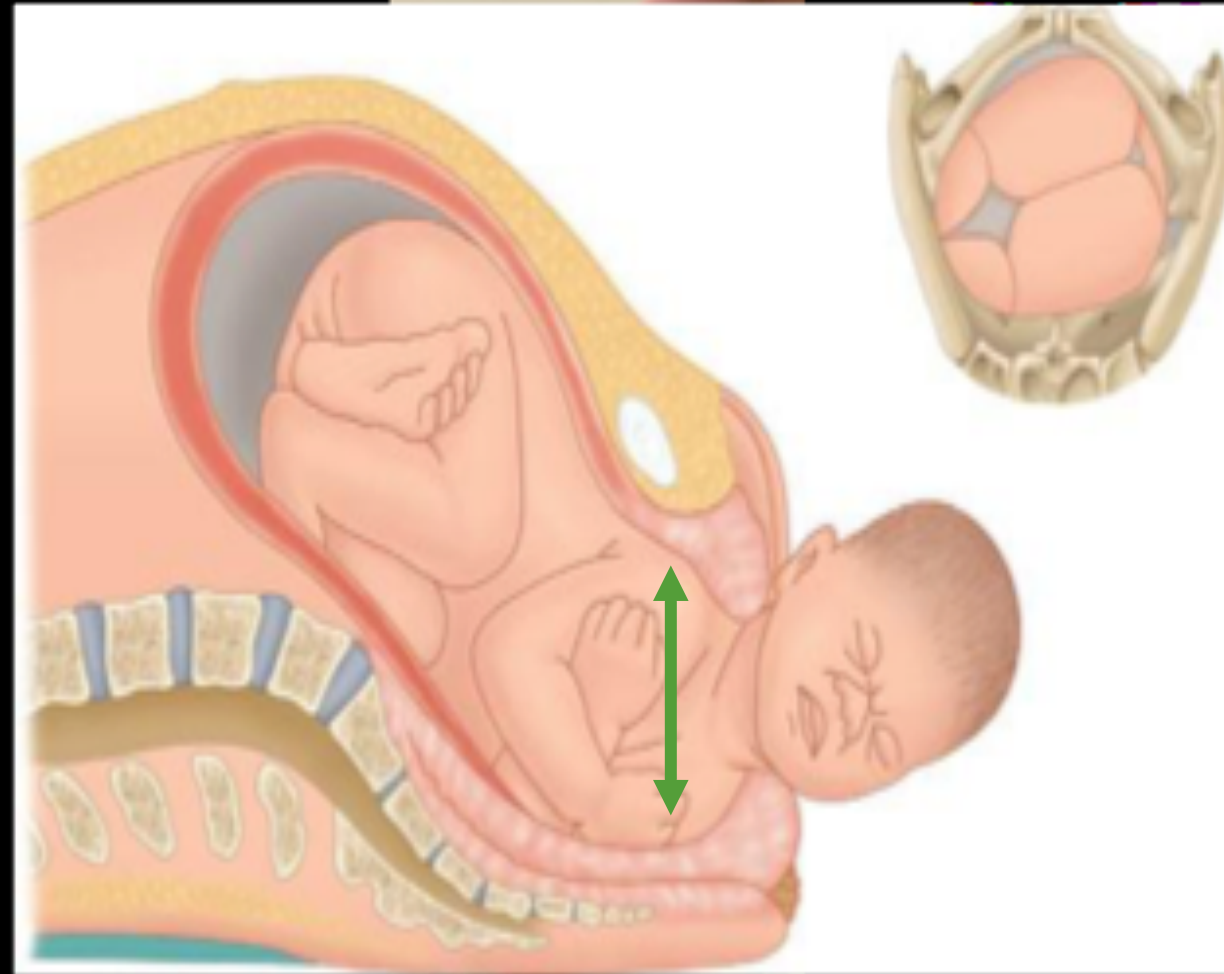


H. External rotation: LOA to LOT.

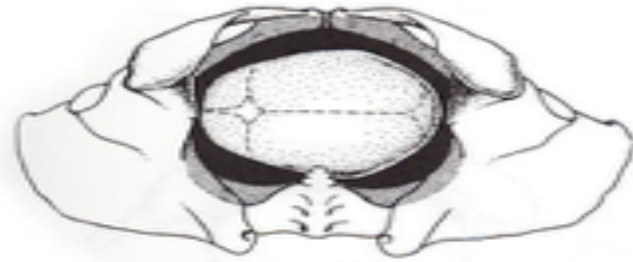


## 6. External Rotation (Restitution)

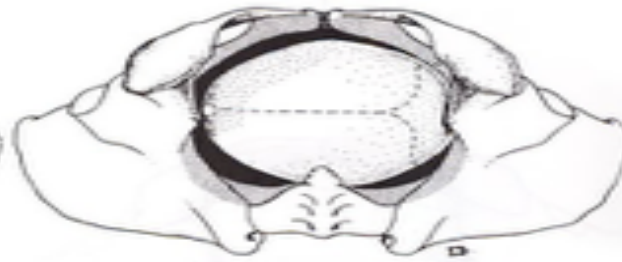
- ▶ If the occiput was originally directed toward the left, it rotates toward the left ischial tuberosity. If it was originally directed toward the right, the occiput rotates to the right.
- ▶ this movement corresponds to rotation of the fetal body to bring its bisacromial diameter into relation with the anteroposterior diameter of the pelvic outlet.
- ▶ thus, one shoulder is anterior behind the symphysis and the other is posterior.



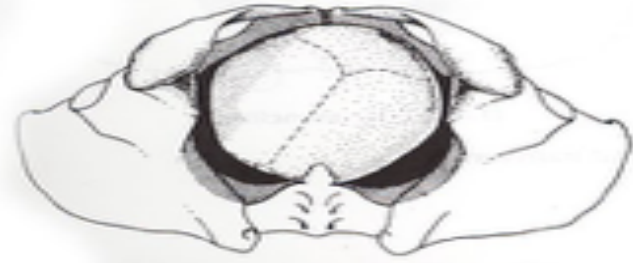
# External rotation: fetal position



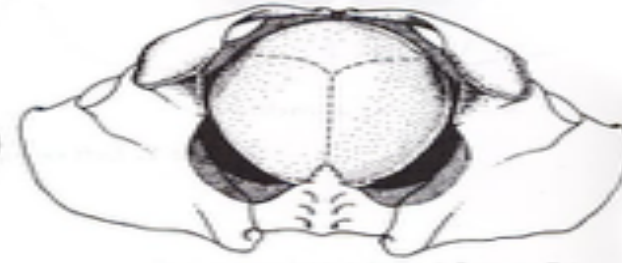
A. Onset of labor.



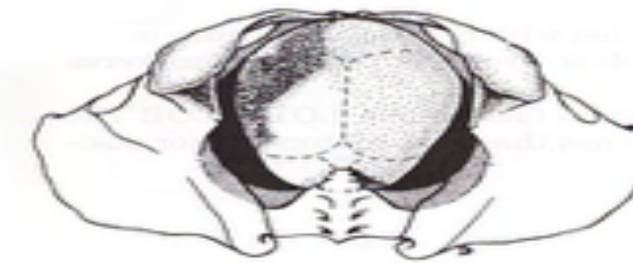
B. Descent and flexion.



C. Internal rotation: LOT to LOA.



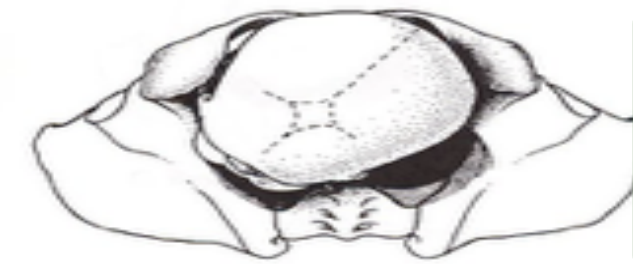
D. Internal rotation: LOA to OA.



E. Extension beginning.



F. Extension complete.



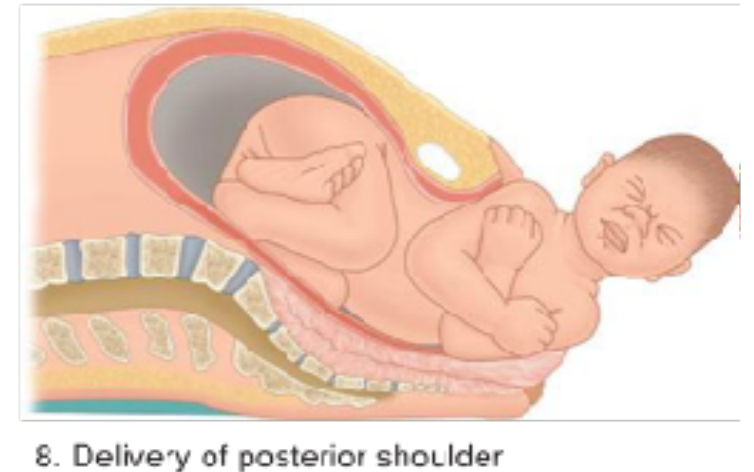
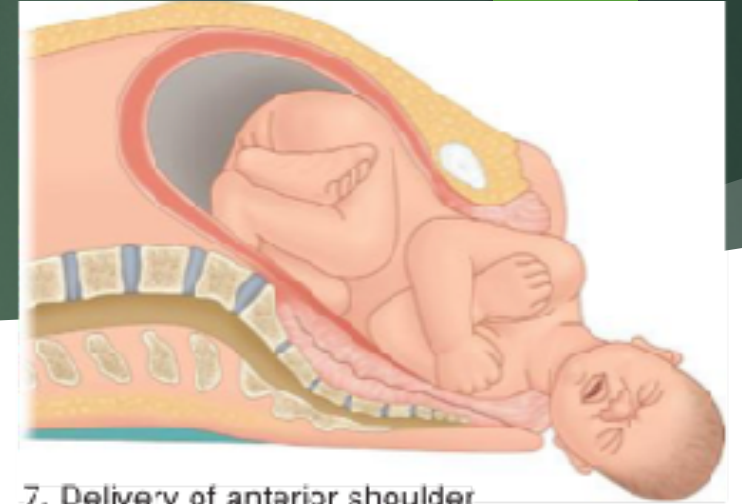
G. Restitution: OA to LOA.



H. External rotation: LOA to LOT.

## 7. Expulsion

- ▶ Almost immediately after external rotation, the anterior shoulder appears under the symphysis pubis, and the perineum soon becomes distended by the posterior shoulder.
- ▶ After delivery of the shoulders, the rest of the body quickly passes.



# Cardinal Movements of labor





# RX PRESCRIPTION

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

DATE \_\_\_\_\_

AGE \_\_\_\_\_

*Thank you!*

*youtube channel: Ina Irabon*

*www.wordpress.com: Doc Ina OB Gyne*