


Female Anatomy: Structure & Function

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STRUCTURE & FUNCTION

- Uterus
 - Anatomy & Function
- Bony pelvis shape
 - Baby
 - Internal rotation
 - Labor progress
- Pelvic floor
 - Relationship b/w
 - Labor mismanagement & pelvic floor trauma
 - Crowning
 - Control head

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External genitalia

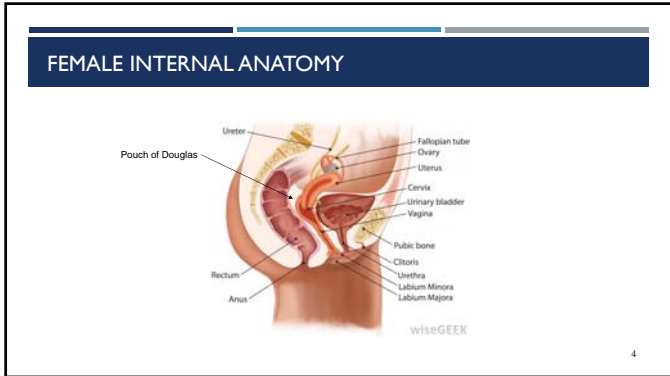
Perineum

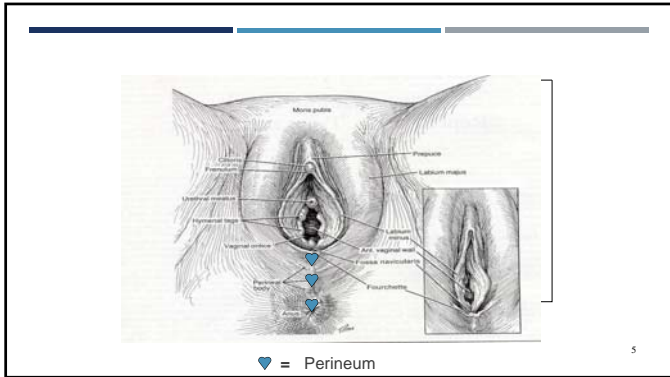
Internal genitalia & organs

Pelvis

ANATOMICAL AREAS

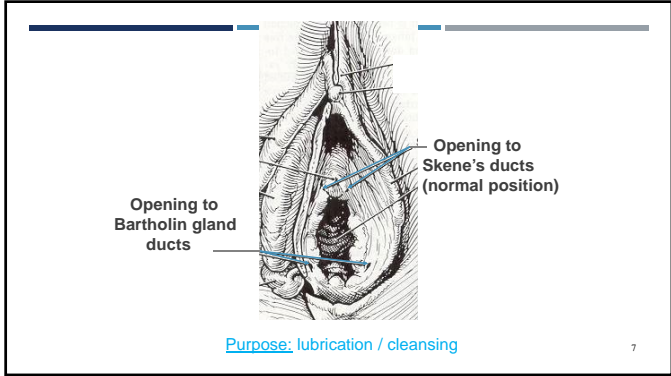
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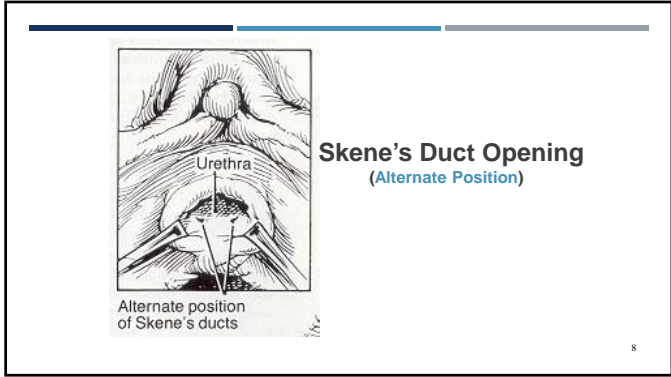


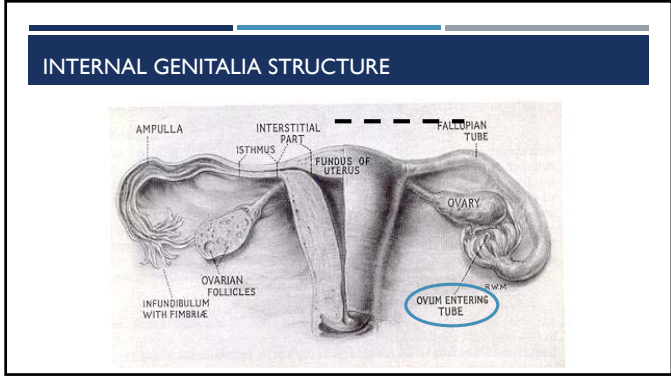


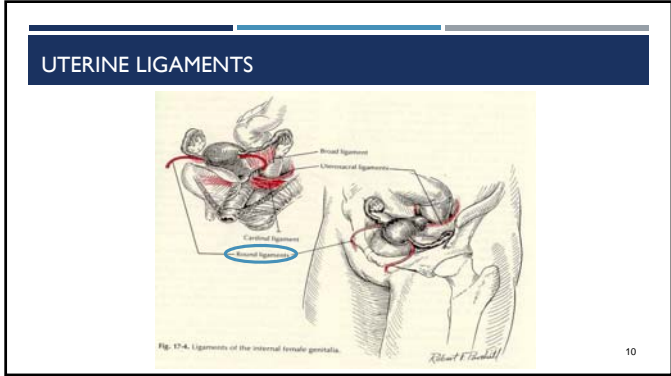
SKENE'S GLANDS (AKA: PARAURETHRAL GLANDS)

- Skenes Glands
 - Non-palpable
 - Located on either side of urethra
 - Very small
 - Infection (GC/CT)
 - Mucopurulent discharge





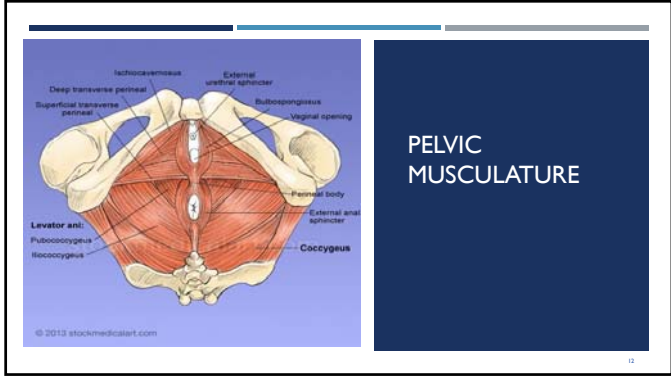




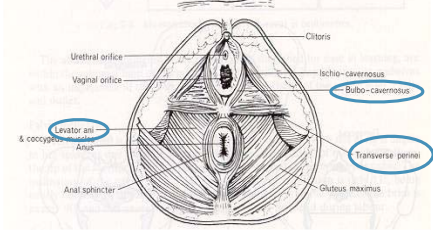
VAGINA

- Vaginal Canal**
 - Musculo-membranous
 - Elastic
 - Ruggae
- Highly acidic**
 - Resistant to infection
- Vaginal discharge**
 - Increased in pregnancy
 - Healthy bacteria: Lactobacillus

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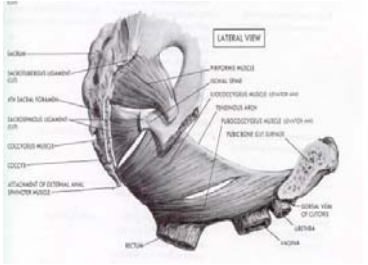


PELVIC FLOOR MUSCLES

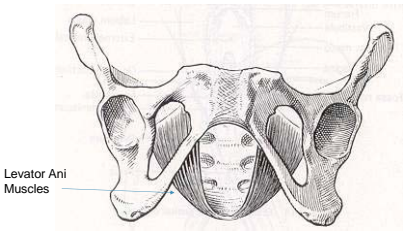


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LATERAL VIEW



MUSCULAR SLING



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PELVIC FLOOR FUNCTIONS

- Pelvic Floor Functions:
 - Supports pelvic organs
 - During birth: controls presenting part
 - Continence of feces & urine
 - Sexual pleasure


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PERINEAL FUNCTION DURING BIRTH

Muscles
"Crowning"



Notice
extensive
perineal stretching
Controls Head



KEGEL EXERCISE



- 1 Commonly prescribed to improve many conditions.
- 2 Lift pelvic floor and contract muscles.
- 3 They can be done at any location: at home, office, or in the car.
- 4 They have been proven effective in reducing urinary incontinence.

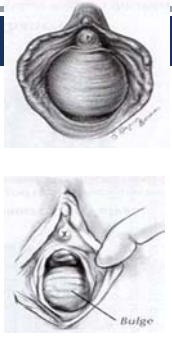
KEGEL EXERCISE

ASSIST IN
CHILDBIRTH AND
POSTPARTUM
PERIOD

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PELVIC MUSCLE TRAUMA

- Pelvic muscle trauma may lead to:
 - Cystocele = Bladder prolapse
 - Rectocele = Rectal prolapse
 - Urinary, fecal, & flatus incontinence



Cystocele

Rectocele

Bulge

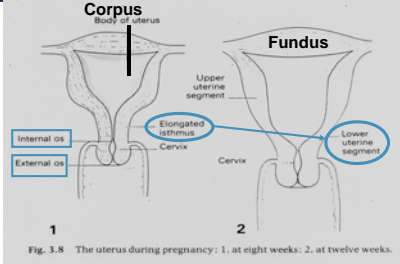
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“CELE” ETIOLOGY

- Trauma during labor
 - RN role: proper pushing techniques
 - Active vs. passive descent (laboring down)
 - Station & maternal posturing
 - Instrumental delivery
- Parity (# of children)
- Patient's Anatomy
- Age

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UTERINE ANATOMY



Corpus
Body of uterus

Fundus

Internal os

External os

Cervix

Upper uterine segment

Elongated isthmus

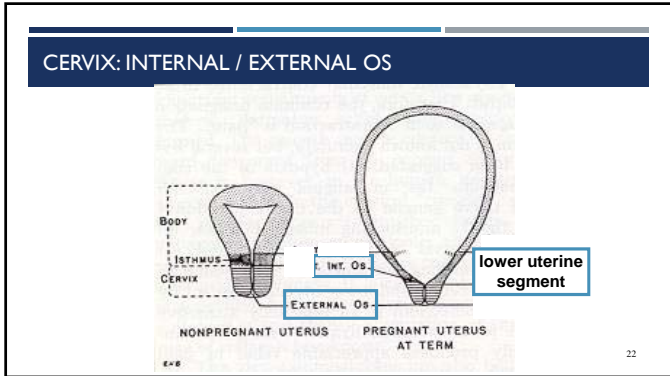
Lower uterine segment

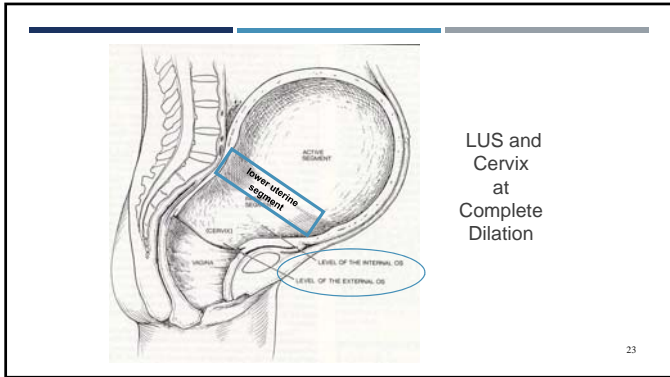
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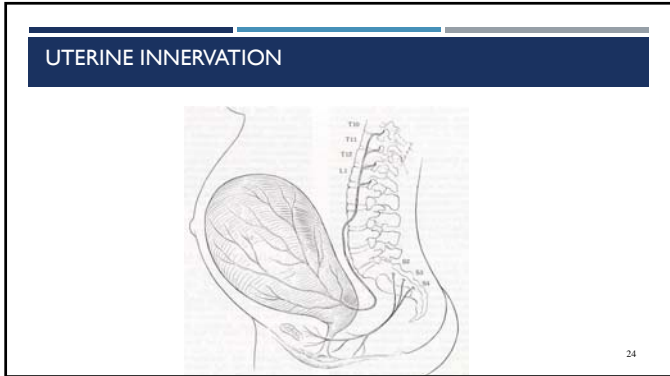
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Fig. 3.8 The uterus during pregnancy: 1. at eight weeks; 2. at twelve weeks.

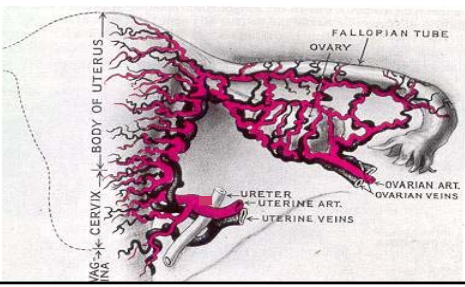
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VASCULATURE



UTERINE STRUCTURE

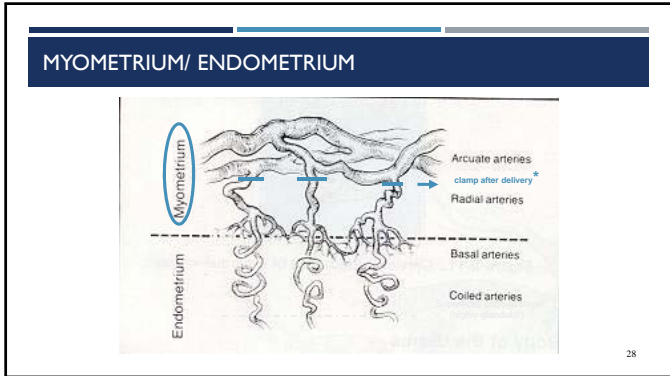
- Perimetrium
 - Outer serous peritoneal layer
- Myometrium *
 - 3 sets of muscle layers
 - Outer, middle & inner
- Endometrium
 - 3 functional layers

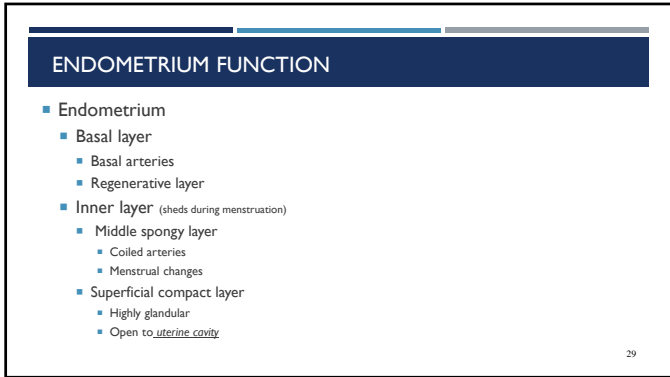
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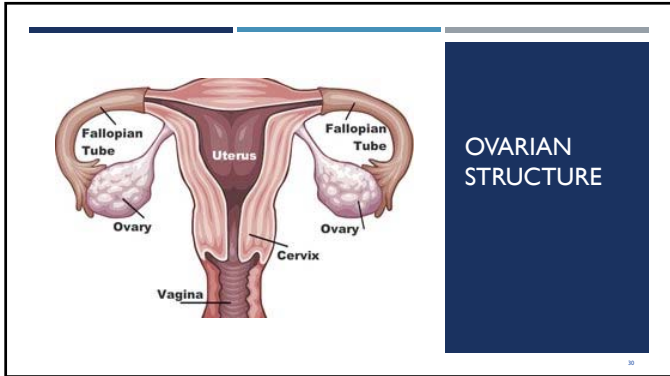
MYOMETRIUM FUNCTION

- Labor**
 - Contracts & retracts
 - Expels baby, then expels the placenta
- Third stage (after delivery of placenta)**
 - Clamps & constricts blood vessels
 - Controls postpartum bleeding

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OVARIAN FUNCTION

Ovarian Function:
1. Produce ova
2. Produce hormones

The diagram illustrates the ovarian cycle with various stages of follicle development. The **Follicular phase** is highlighted in green, showing the progression from Primordial follicles to Antralum, Developing follicles, and Mature antral follicle. The **Luteal phase** is highlighted in orange, showing the transition from Ovulation to Developing corpus luteum and Corpus luteum. The **menses** (menstruation) is indicated in red. Other labeled structures include Granulosa cells, Theca cells, Follicular fluid, Corpus albicans, and Primary follicle.

OVARIAN CYCLE HORMONES

- CNS
 - Hypothalamus
 - GnRH
 - Anterior Pituitary
 - FSH
 - LH
- Ovary response
 - FSH
 - Follicular phase
 - LH
 - Luteal phase

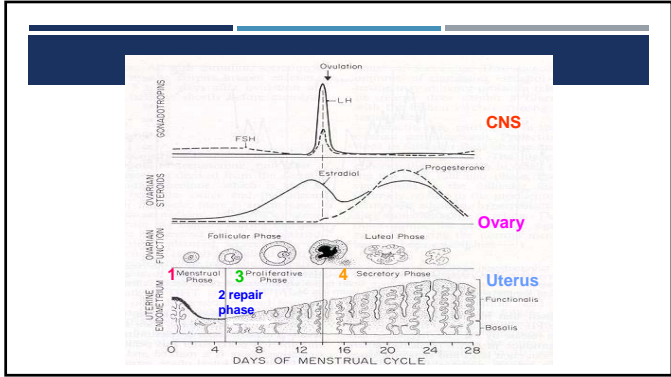
UTERINE RESPONSE (ENDOMETRIAL RESPONSE)

- FSH
 - Menstrual phase of ovarian cycle
 - Proliferative phase = uterine response
- LH
 - Luteal phase of ovarian cycle
 - Secretory phase = uterine response

MENSTRUAL CYCLE

- Cyclic changes** Affect the endometrium
- Duration** 28 days (range = 23 – 35 days)
- 4 phases** Mirror the ovarian cycle

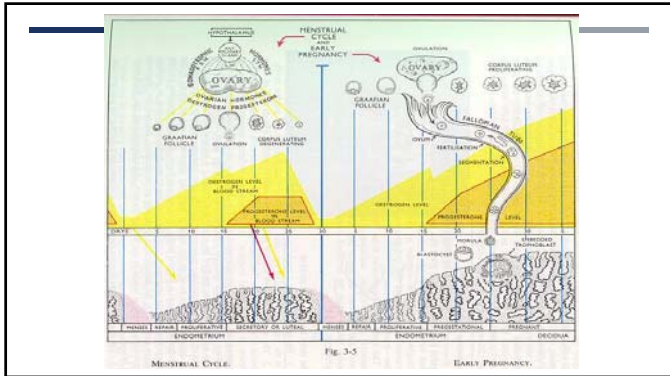
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MENSTRUAL CYCLE PHASES

- Menstrual phase**
 - Sloughing of endometrium with no implantation
 - FSH begins to rise
- Repair phase**
 - Estrogen rises
 - FSH slow rise
 - Follicles develop
- Proliferative phase**
 - Estrogen peaks
 - Variation in 28 days occurs here
- Ovulation**
 - LH & FSH peak
- Secretory phase**
 - Progesterone rises
 - Prepares endometrium for implantation

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ENDOMETRIAL OPTIONS

- **Ischemic phase**
 - 10 – 12 days after ovulation with no implantation
 - Corpus luteum becomes corpus albicans
 - Hormones drop drastically
 - Spiral arteries constrict
 - Endometrium becomes ischemic
 - Menses ensues
- OR -
- **Implantation/pregnancy**
 - Corpus luteum
 - Progesterone secretion to maintain pregnancy until placenta takes over

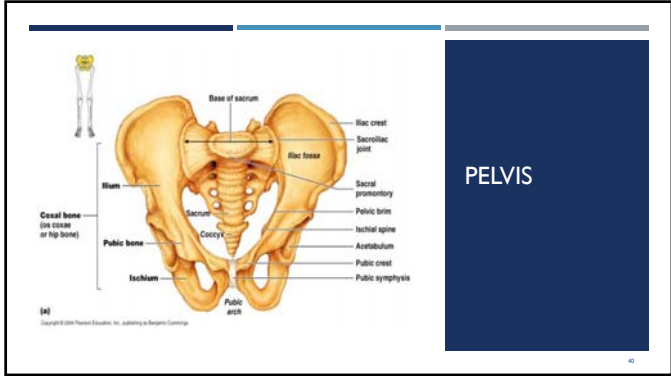
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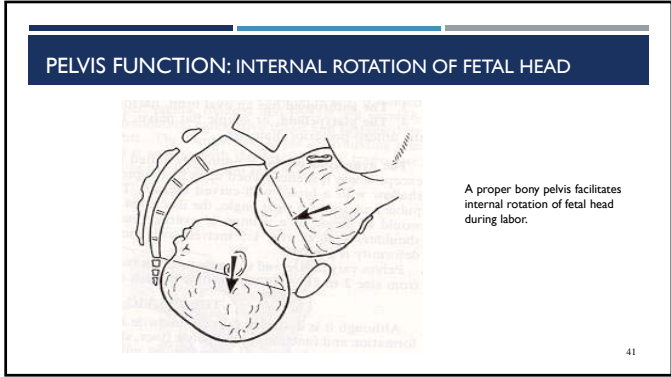
NORMAL PELVIC STRUCTURE

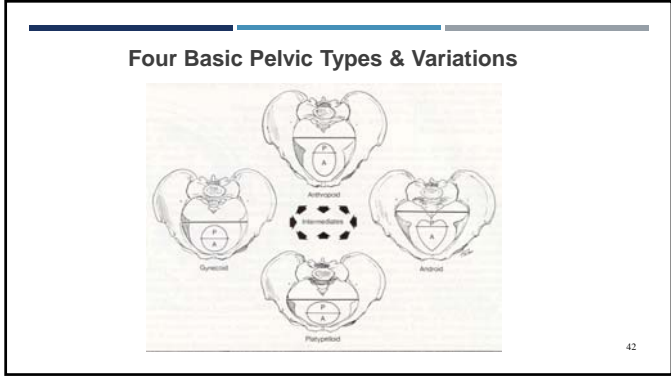
- 7 bones
 - Ischium (2) -- sacrum (1)
 - pubic (2) [- coccyx (1)]
 - Ilium (2)

- 3 joint types
 - 2 sacro-iliac
 - Symphysis pubis
 - Sacro-coccygeal joint

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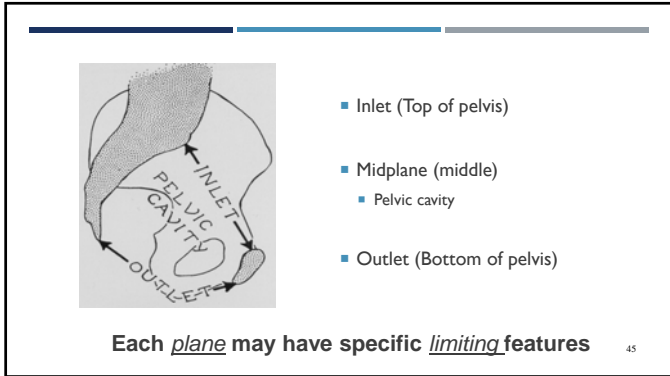




...Remember...
"Structure determines Function"
so
Limiting features of the Bony pelvis
may impact
labor processes & birth success

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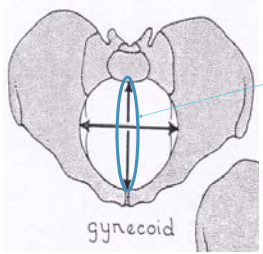




LIMITING FEATURES PER PELVIC PLANE

- Inlet**
 - AP diameter
 - Sacral promontory
- Midplane**
 - Sacrum/coccyx
 - Spines
 - Sidewalls
- Outlet**
 - Pubic arch
 - Ischial tuberosity diameter


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gynecoid

- AP diameter (anterio-posterior) = 11.5 centimeters
- Engagement
- Descent
- Flexion of head

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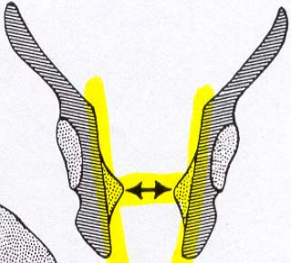
INLET

PELVIC CAVITY

OUTLET

- Sacral promontory to the
- Symphysis pubis

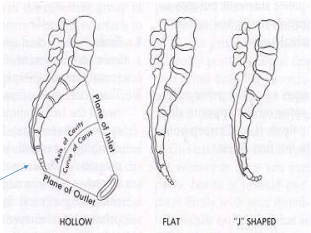
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- Mid-pelvis limiting issues:
 - Encroaching or prominent spines
 - Converging sidewalls
 - These limit internal rotation of fetal head

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MIDPLANE LIMITING FEATURES: SACRUM/COCCYX



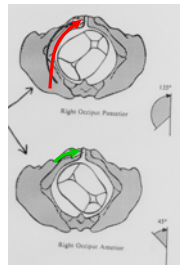
Hollow = ideal for childbirth

Limiting:
• "J" shaped or flat sacral shape

FIGURE 47-7. Sacral shapes.

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ROTATIONS TO OCCIPUT ANTERIOR (OA) POSITION FOR OPTIMAL BIRTH



- Occiput Posterior (OP) 135 degrees
 - From OP to....
 - Direct OA
- Only 45 degrees of rotation
 - From OA to....
 - Direct OA
- Helpful hint:
 - Triangle shape = posterior fontanelle
 - Diamond shape = anterior fontanelle
 - "baby likes to look at diamonds"

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