

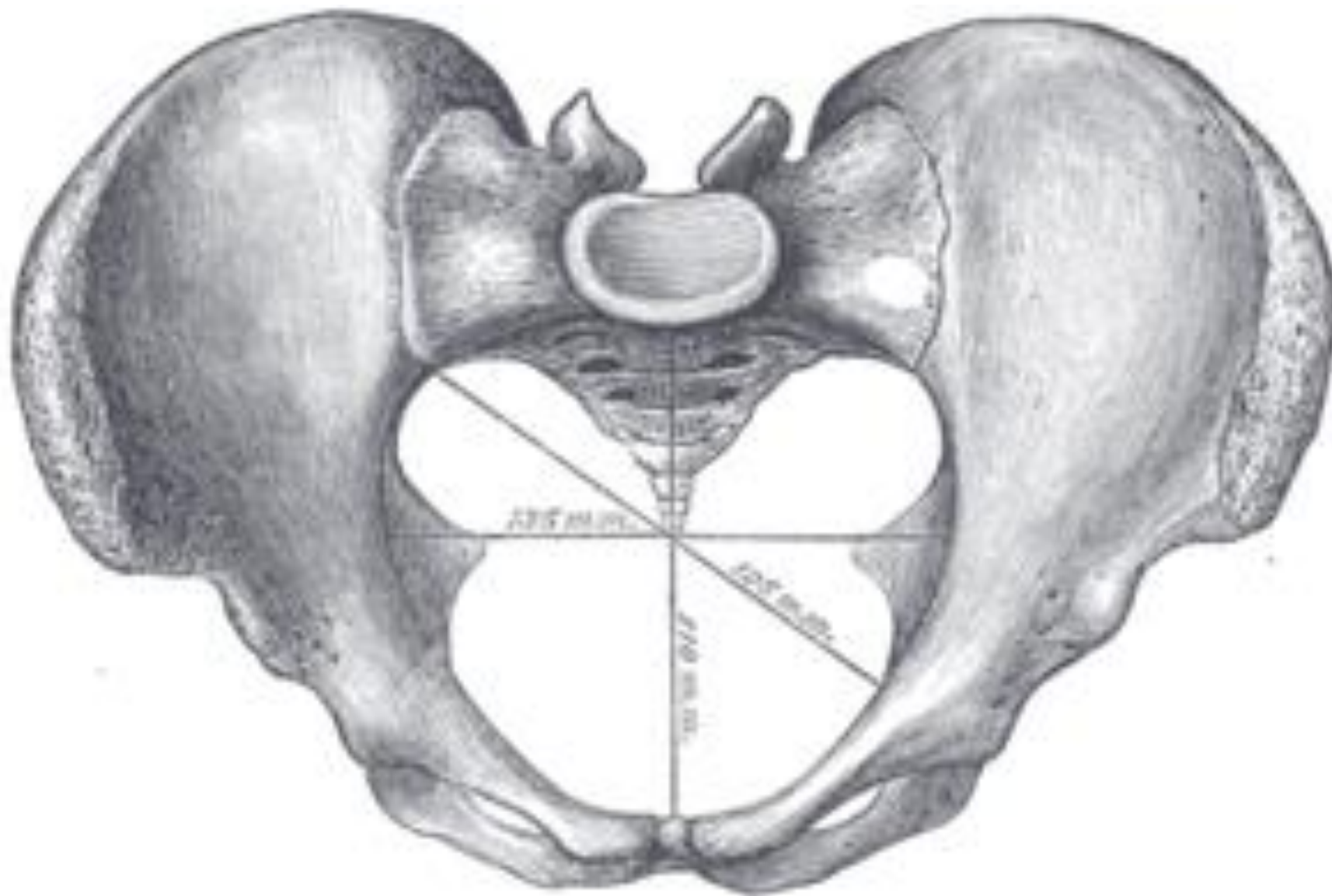
Female anatomy from gynecologist's point of view

MUDr. Jan Dvořák

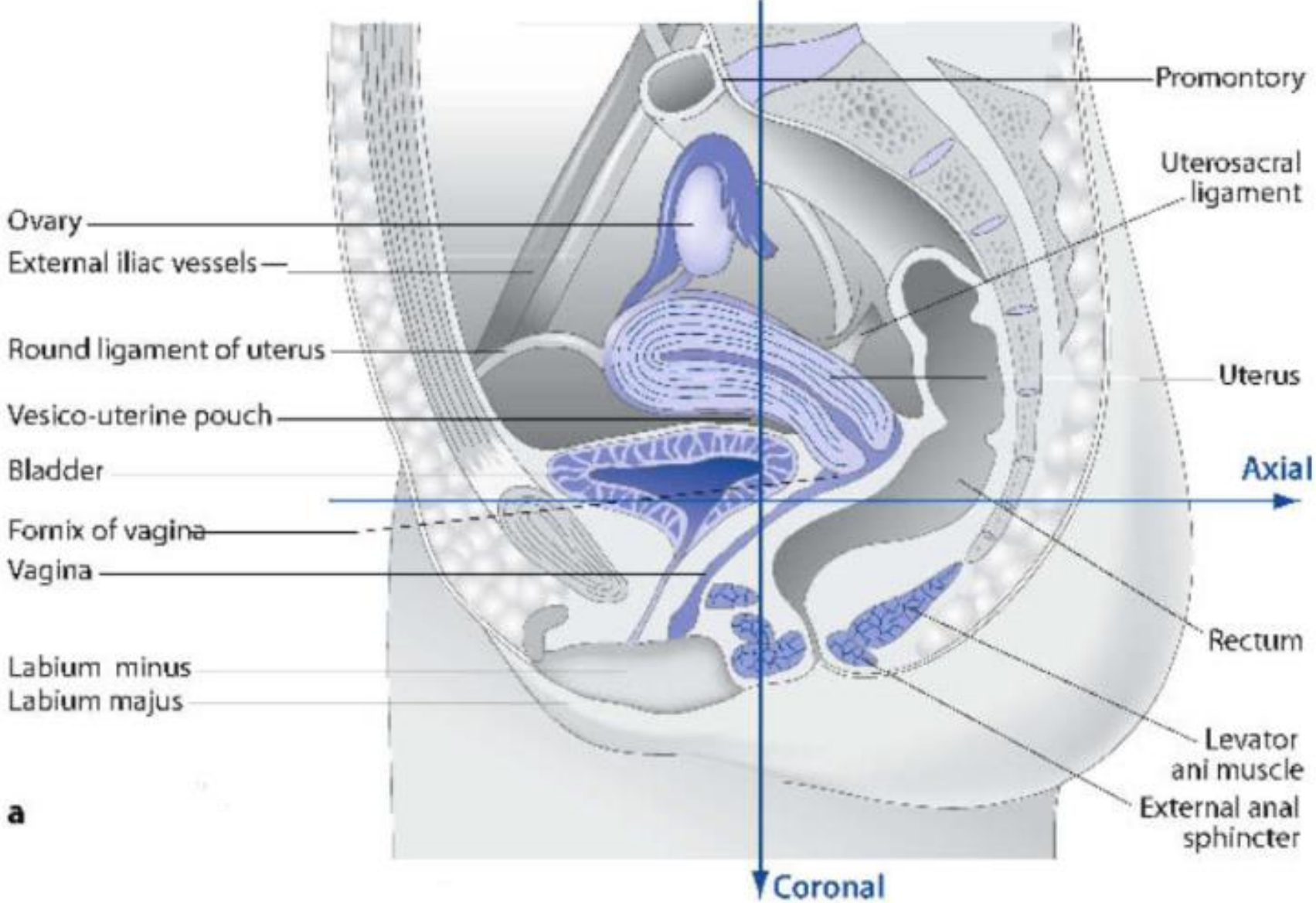
Ob/Gyn department

First faculty of medicine Charles University

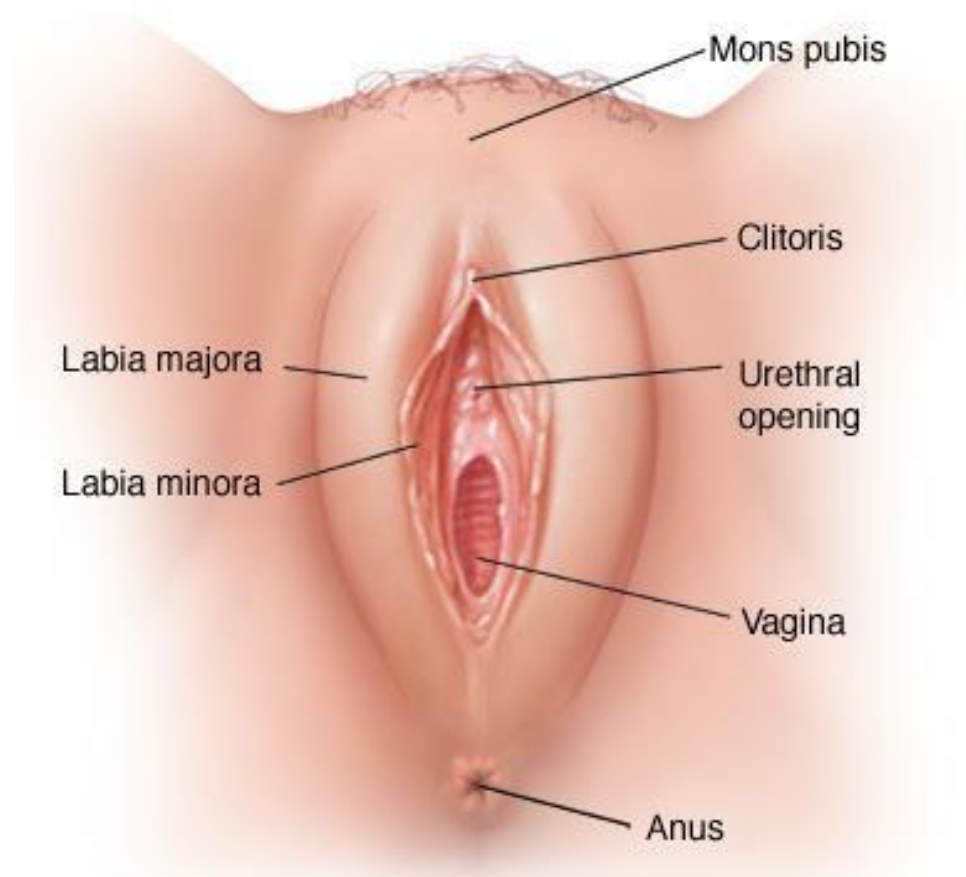
Pelvic bones



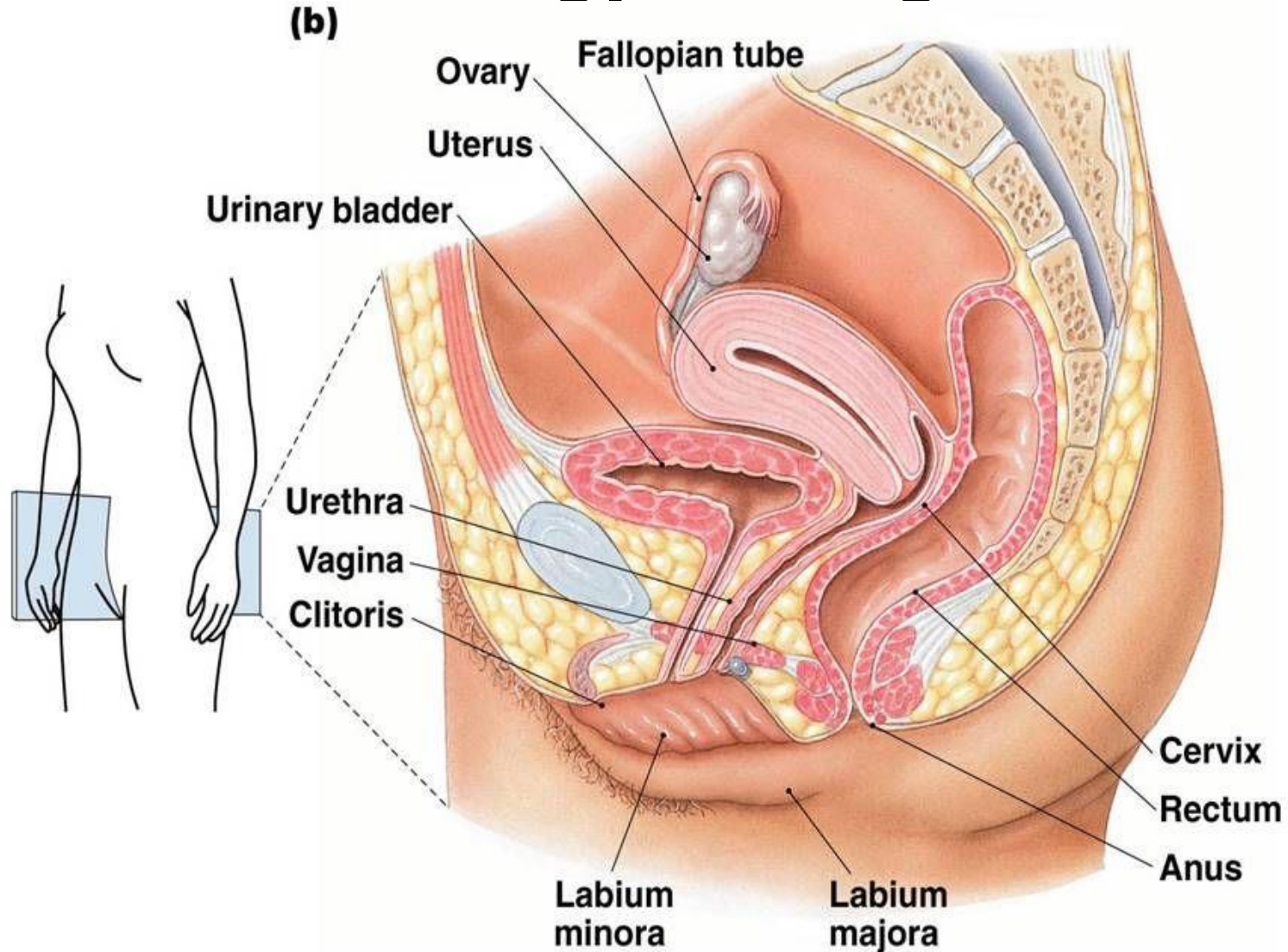
Area - Compartments



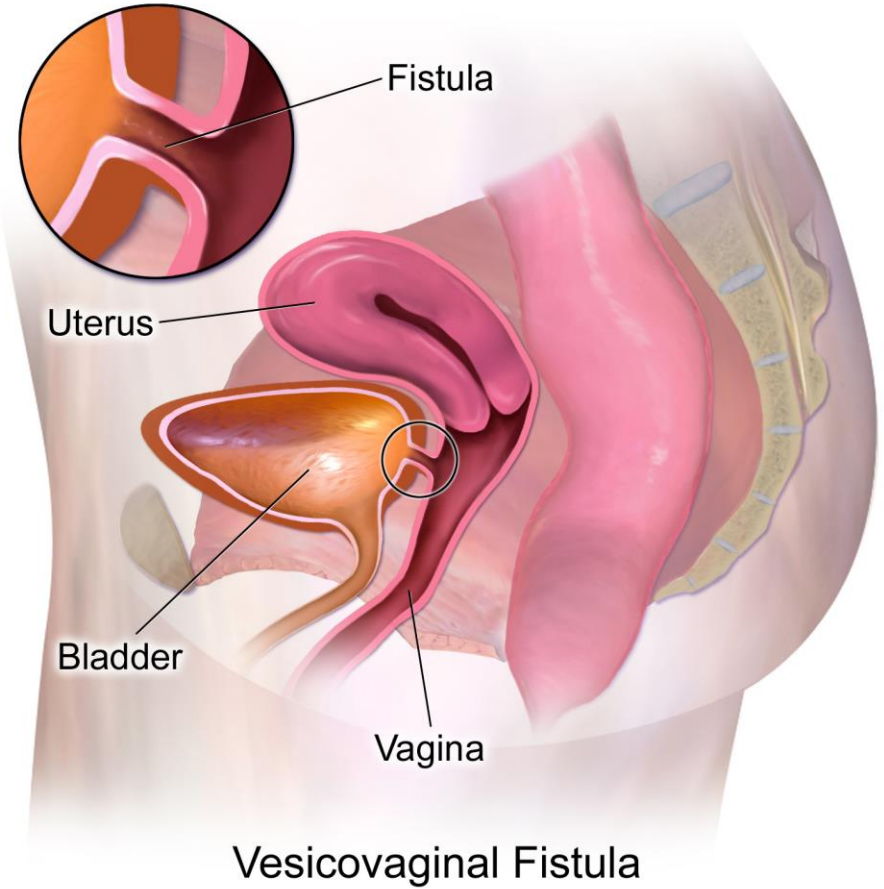
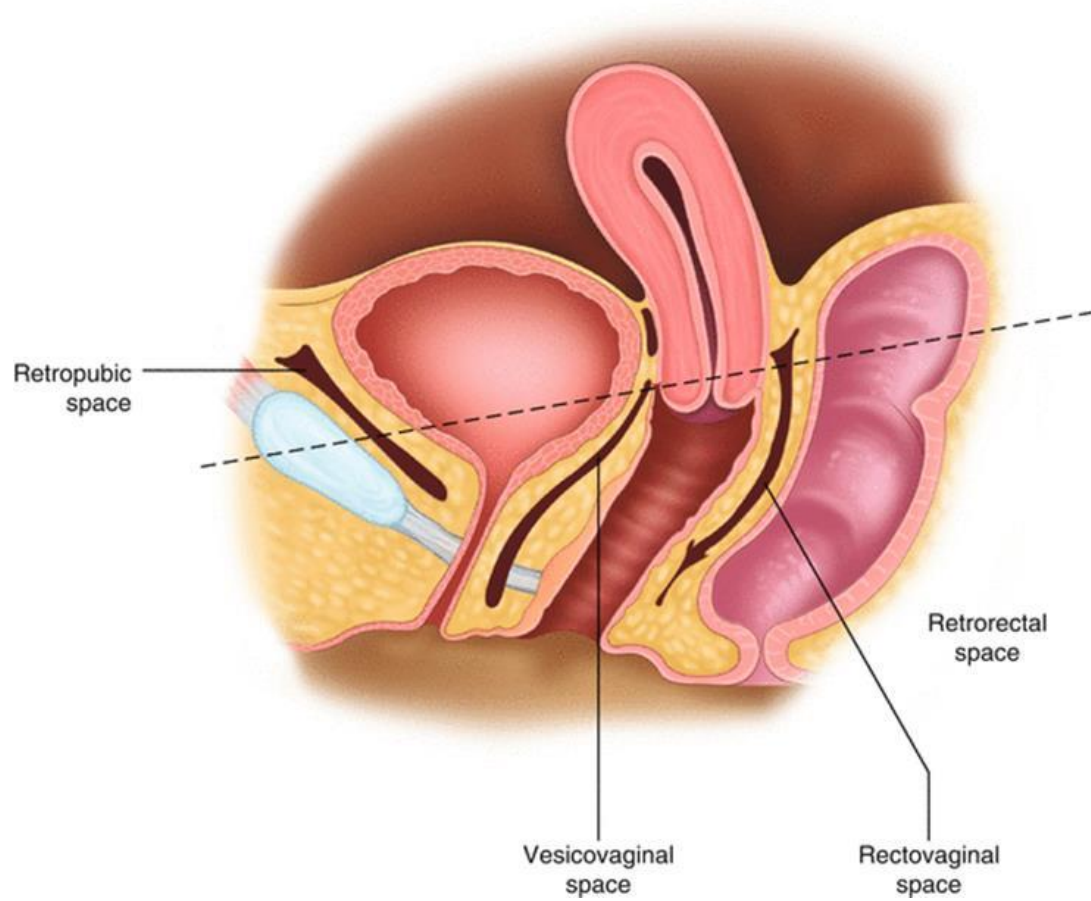
The external genital organs



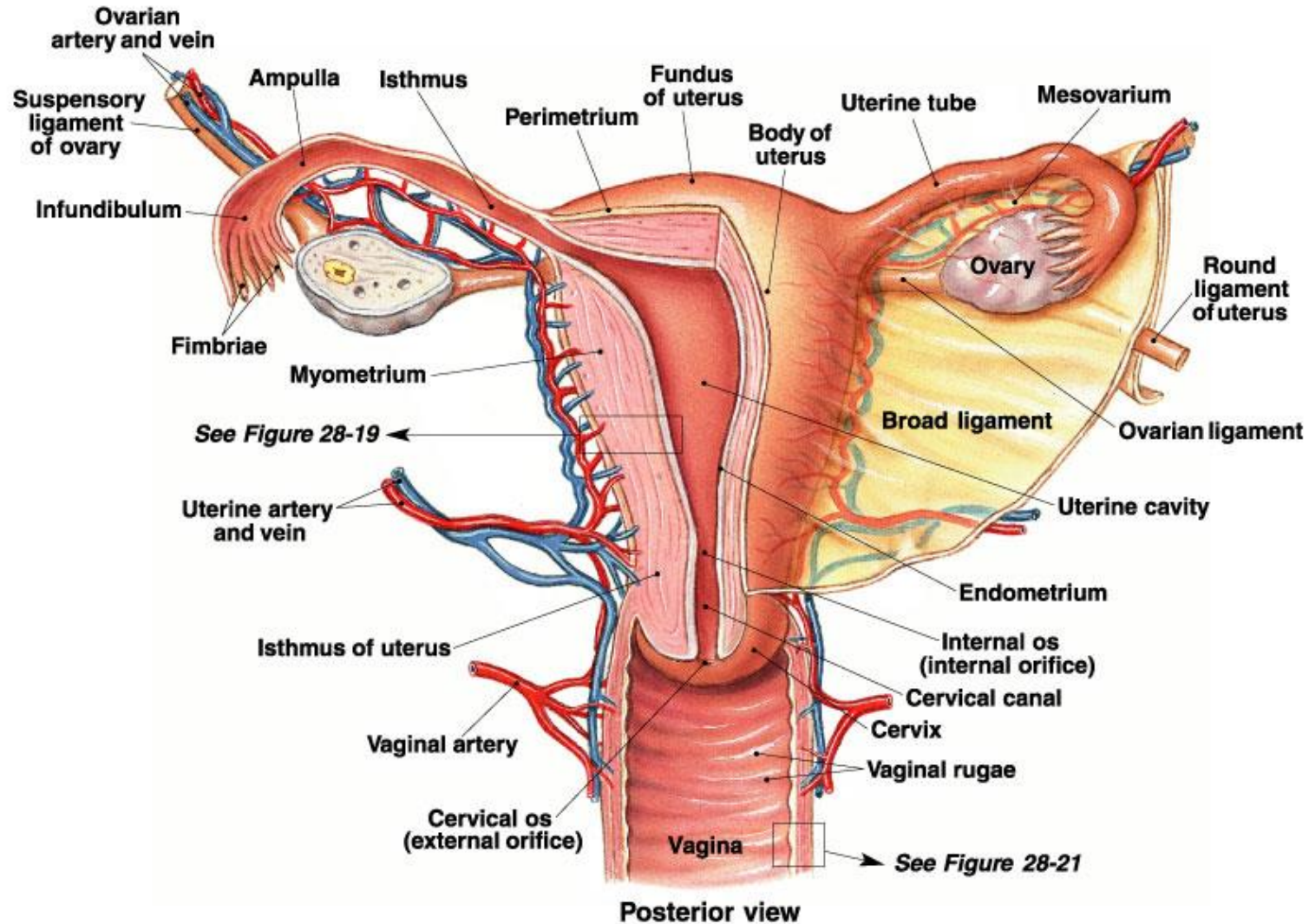
The internal organs Area for gynecologist?



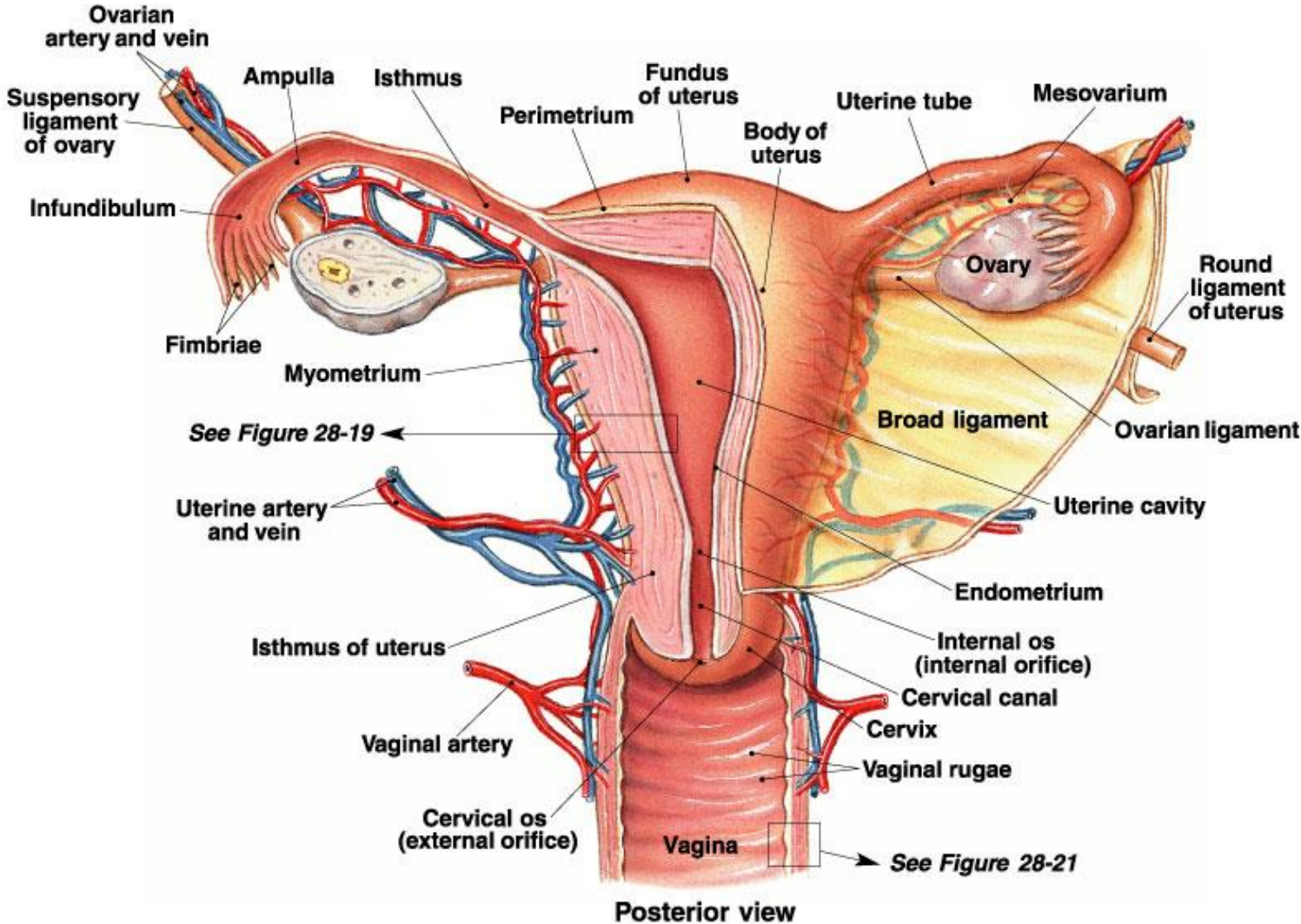
Internal organs



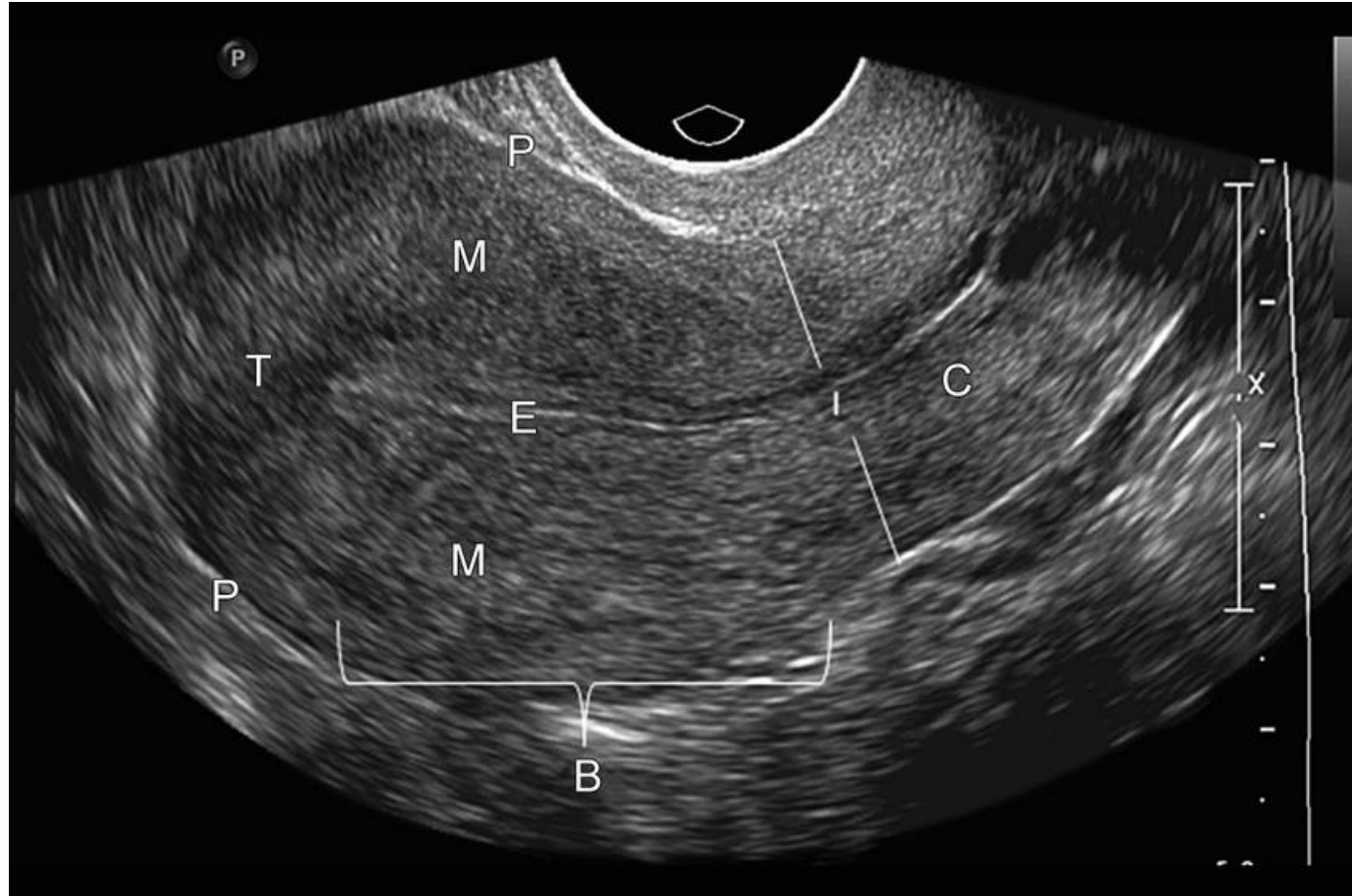
The internal genital organs



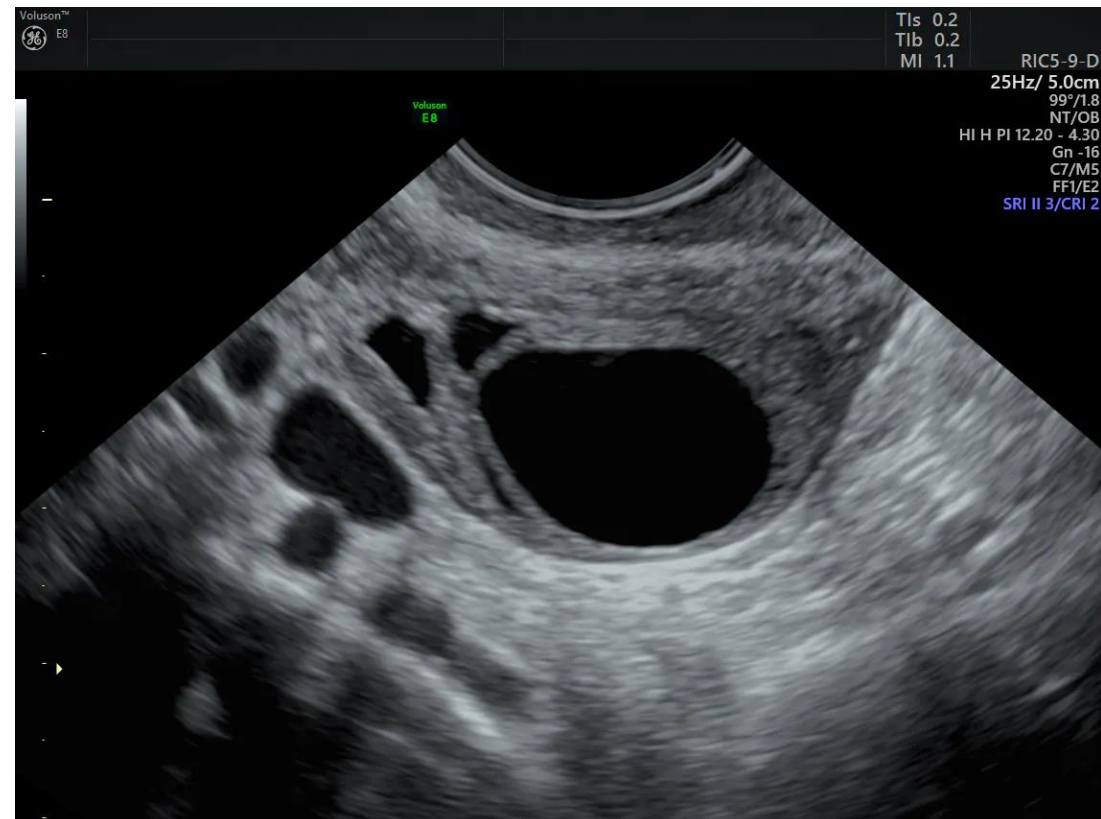
Where is Ureter ???



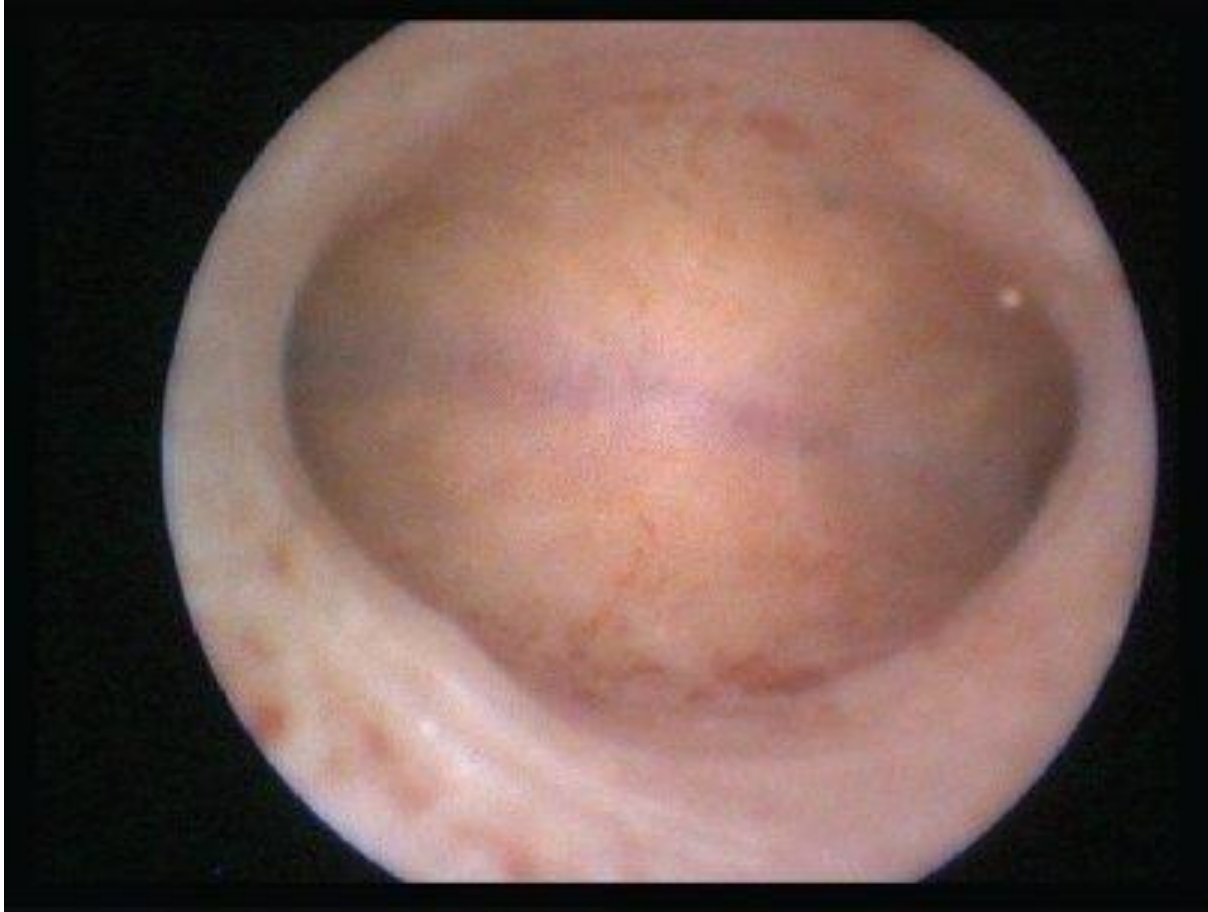
Uterus on transvaginal ultrasound



Ovary on transvaginal ultrasound



Hysteroscopy



Uterine malformation



Uterine septum



Bicornuate uterus

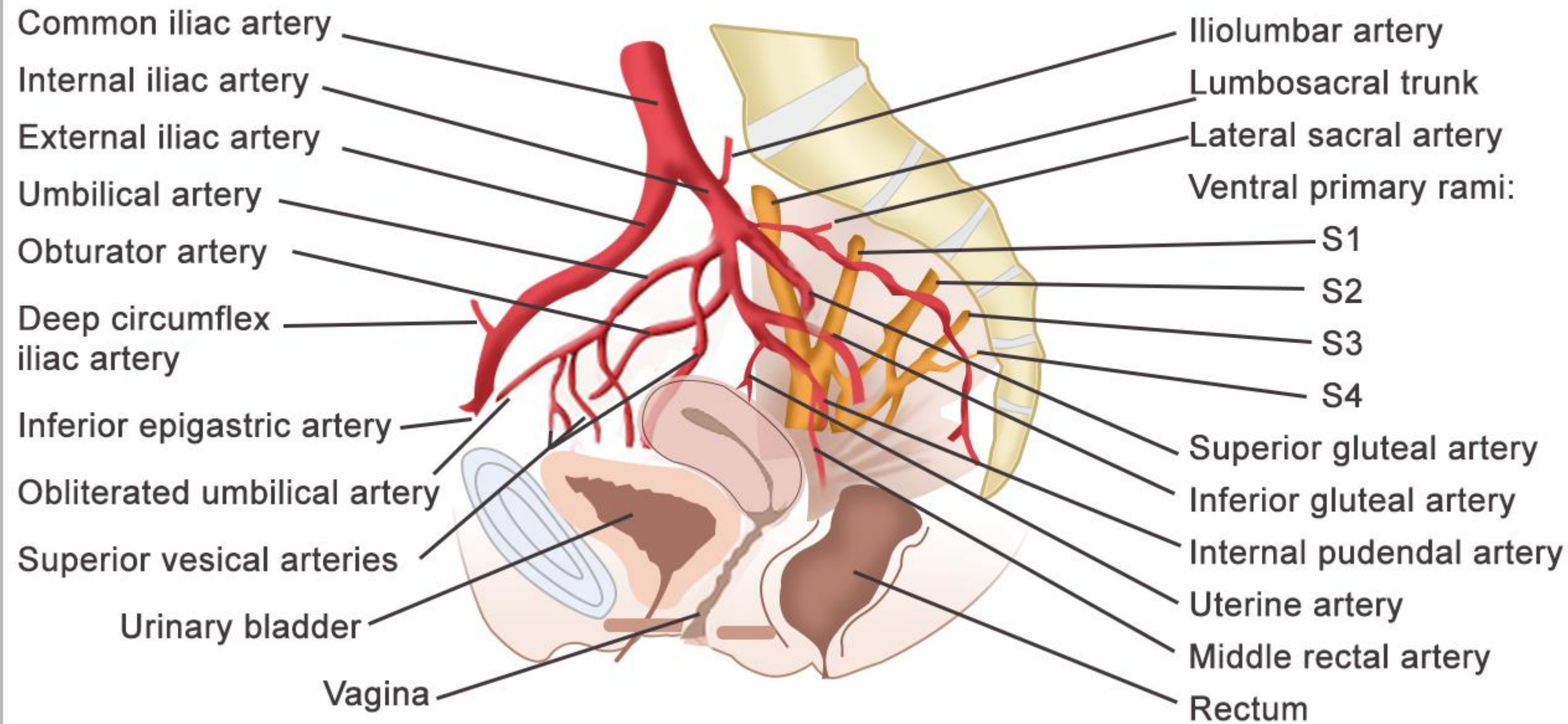


Uterus didelphys



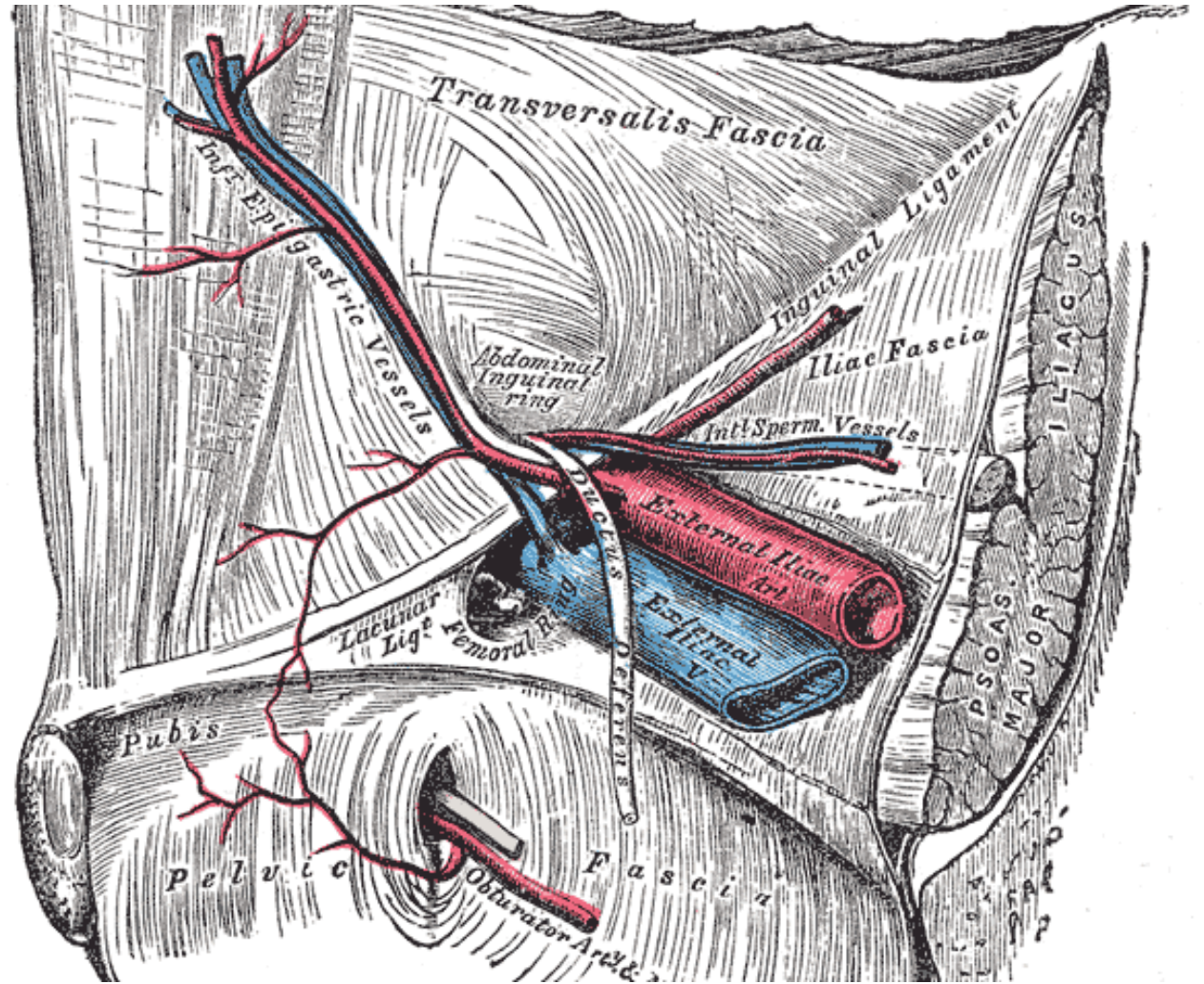
Unicornuate uterus

COMMON ILIAC ARTERY AND ITS BRANCHES (FEMALE)



Corona Mortis

- Anastomosis of ramus pubicus (a. obturatoria) and ramus obturatorius (a. epigastrica inf.)



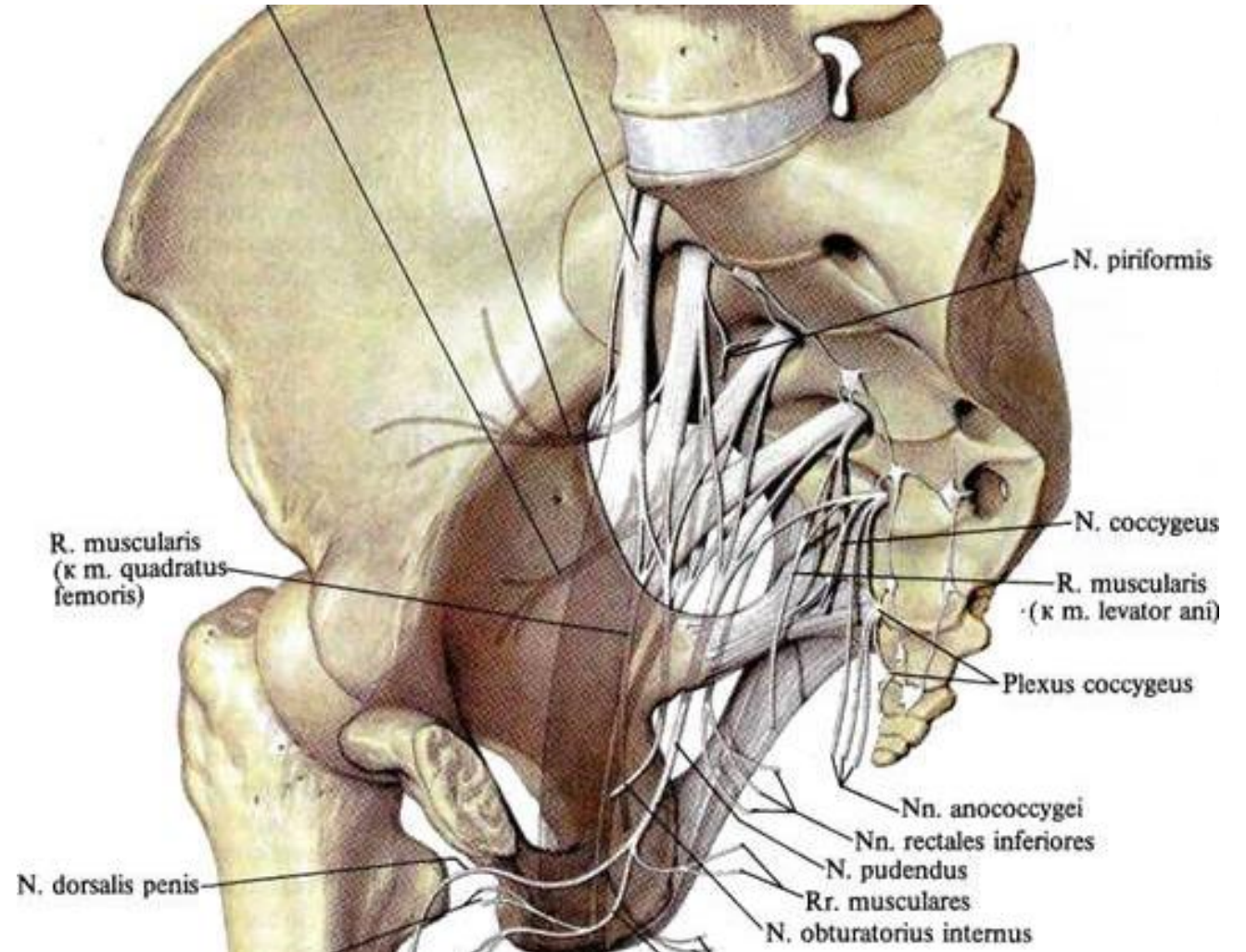
Nerves

Plexus lumbalis

- N. iliohypogastricus
- N. ilioinguinalis
- N. genitofemoralis
- N. cutaneus femoris lateralis
- N. femoralis

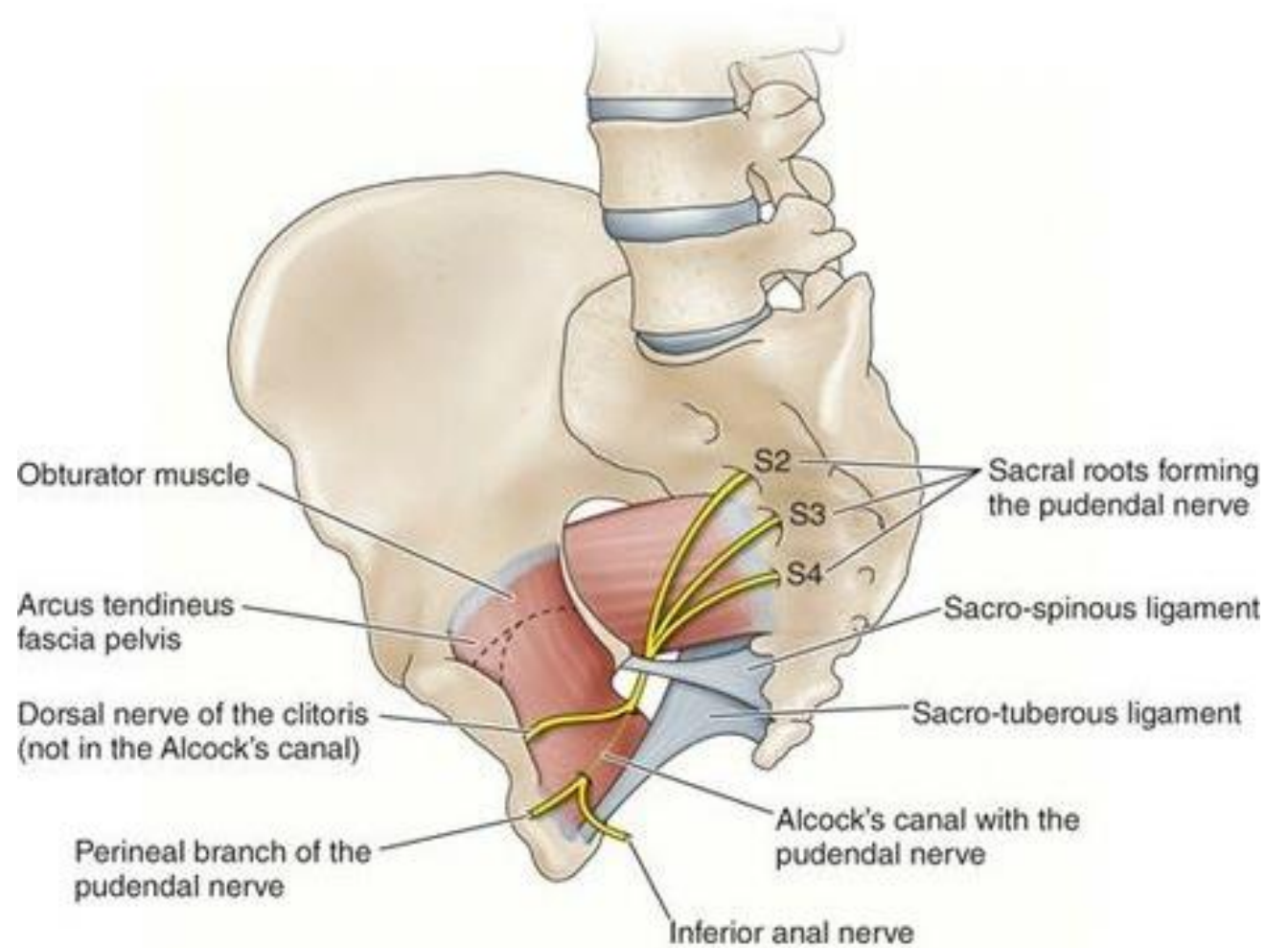
Plexus sacralis

- N. gluteus superior
- N. gluteus inferior
- N. cutaneus femoris posterior
- N. ischiadicus
- N. pudendus**



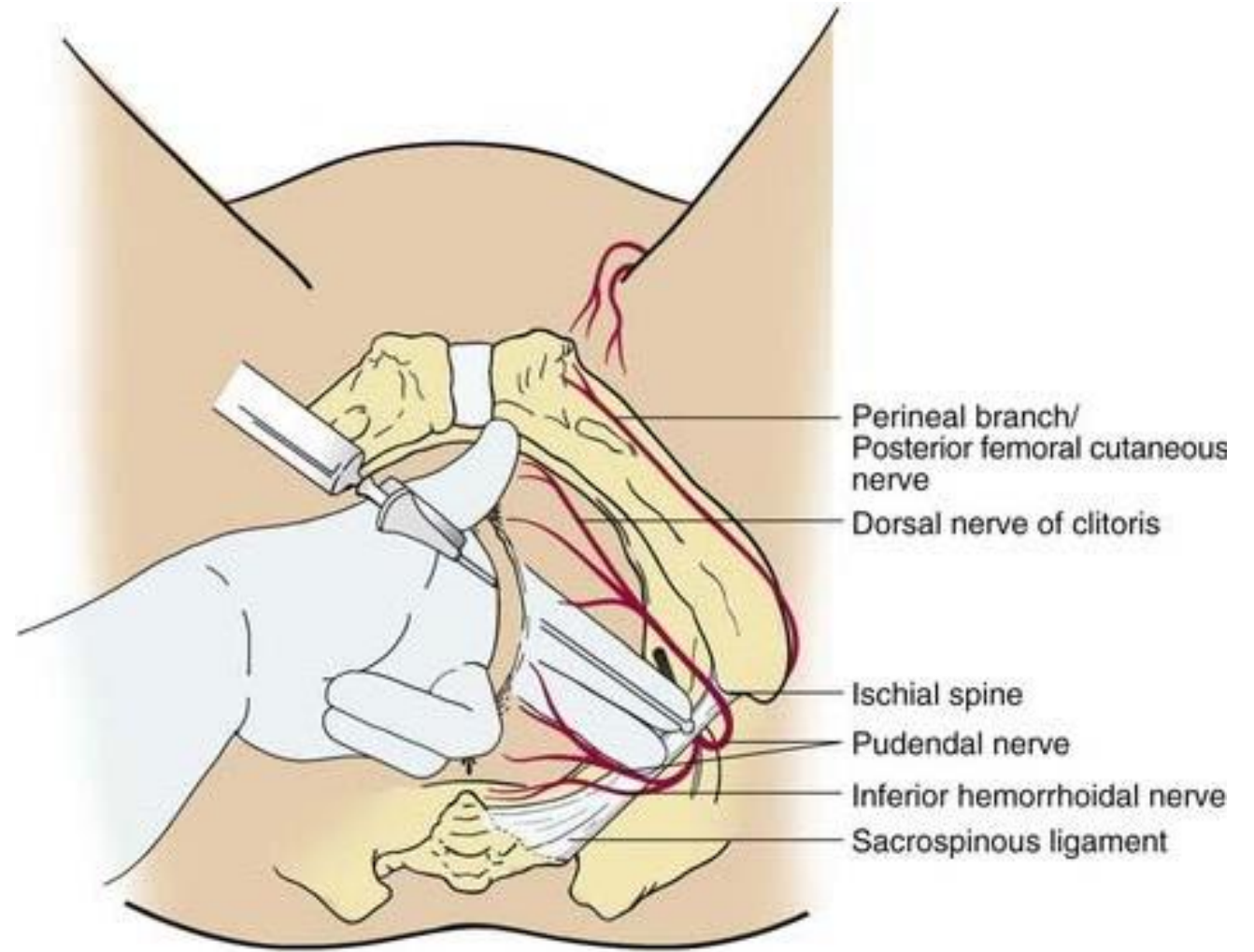
Alcock's canal (pudendal canal)

- Contains vasa pudenda and nervus pudendus
- Duplication of fascia of m. obturatorius internus



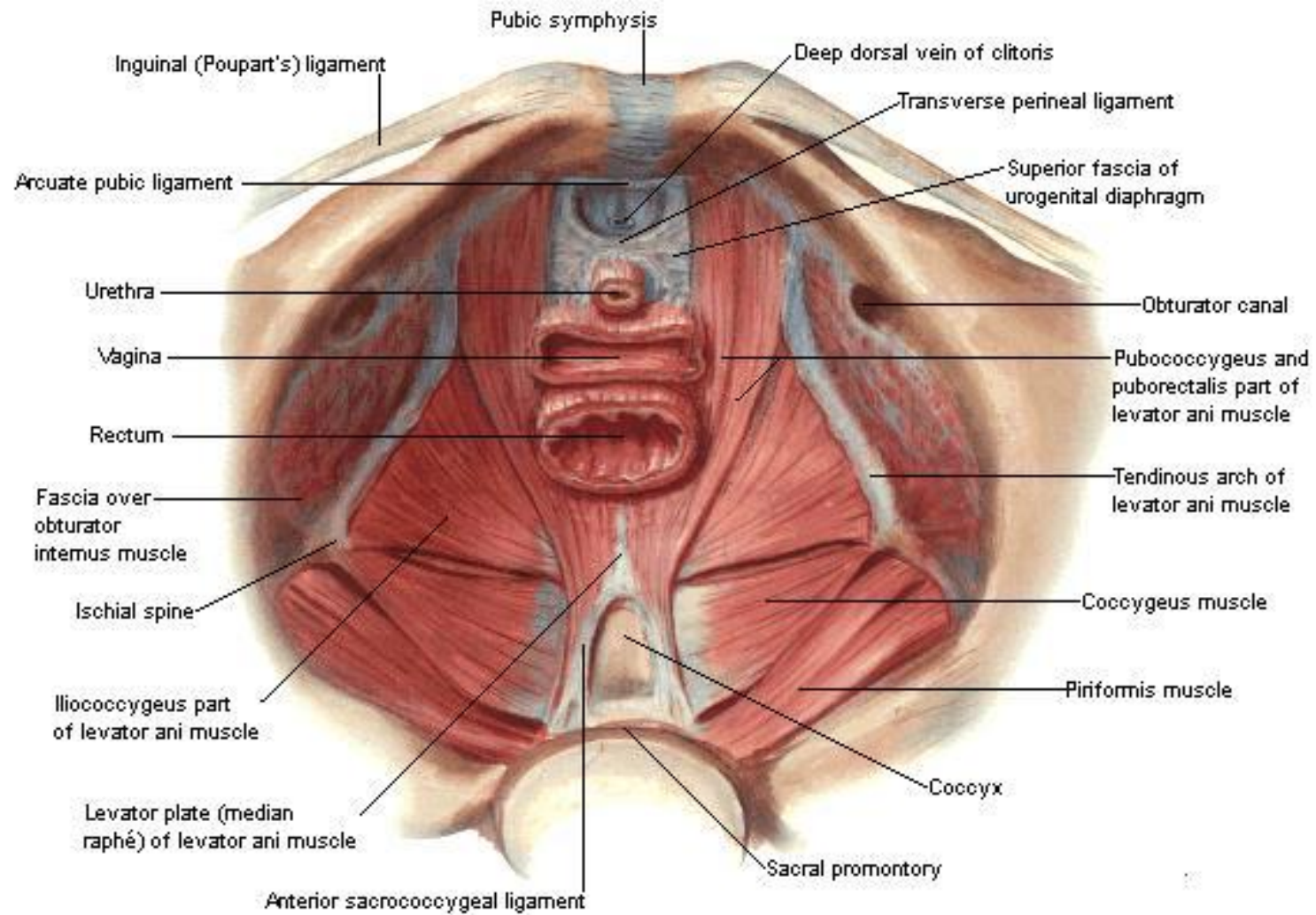
Pudendal anesthesia

- Gyneacologic surgery
- During labour
- Obstetric surgery
 - Vacuumextraction, Forceps
 - Perineal repair



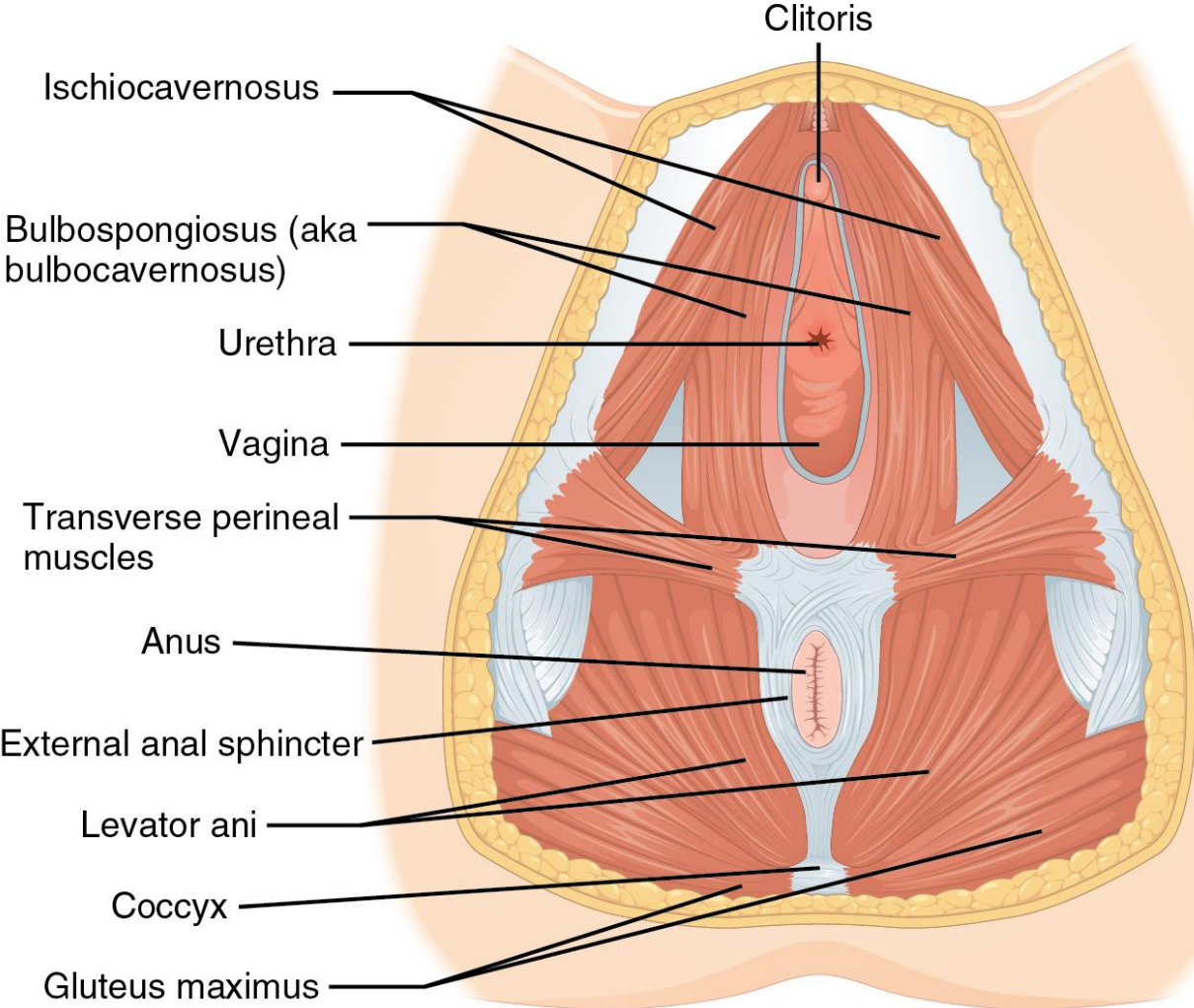
Pelvic Diaphragm of Female

Superior View



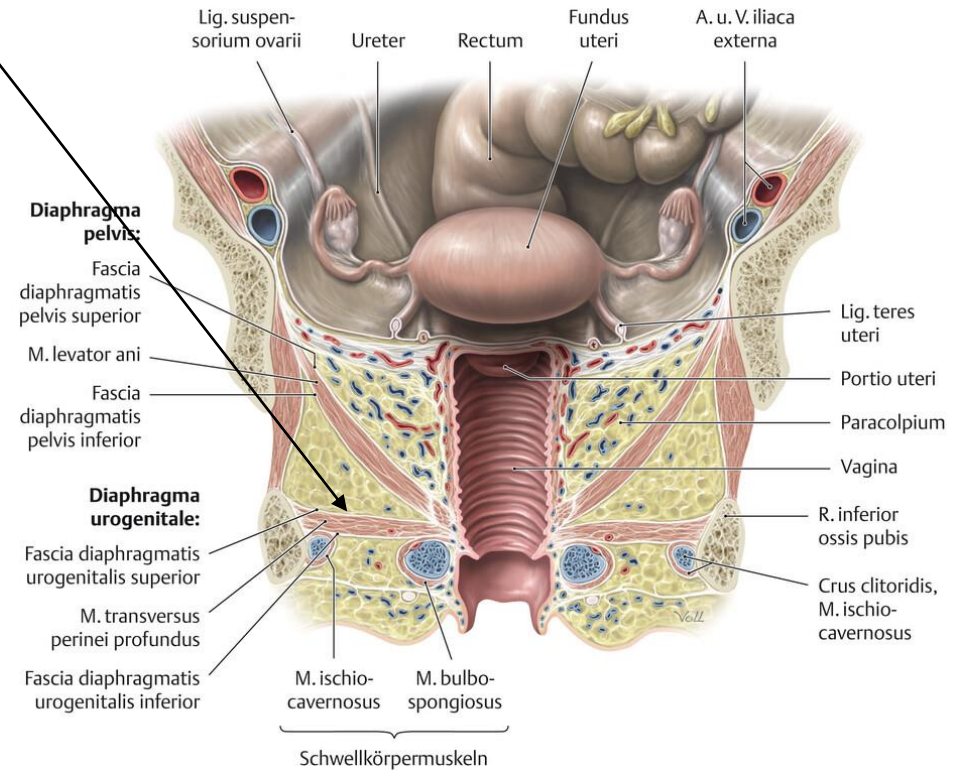
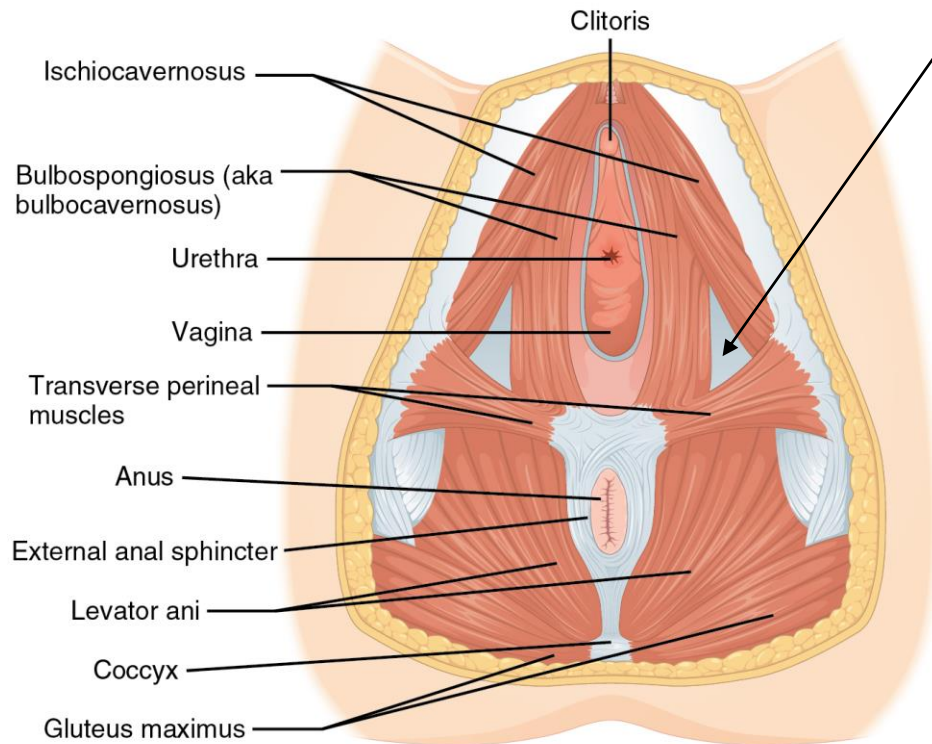
Pelvic floor

- M. levator ani
 - M. pubococcygeus
 - M. puborectalis
 - M. iliococcygeus
- M. coccygeus



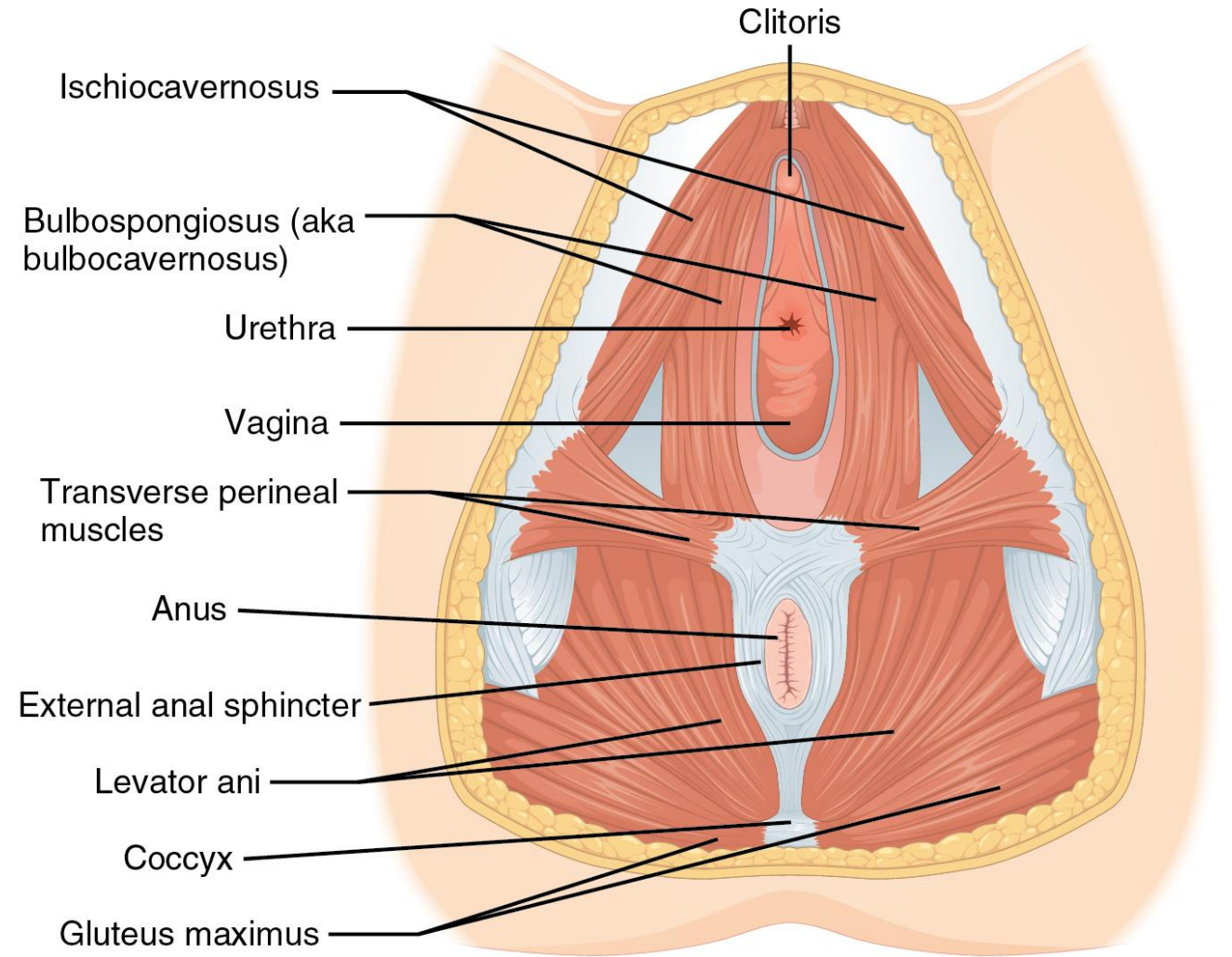
Diaphragma urogenitale

Diaphragma urogenitale



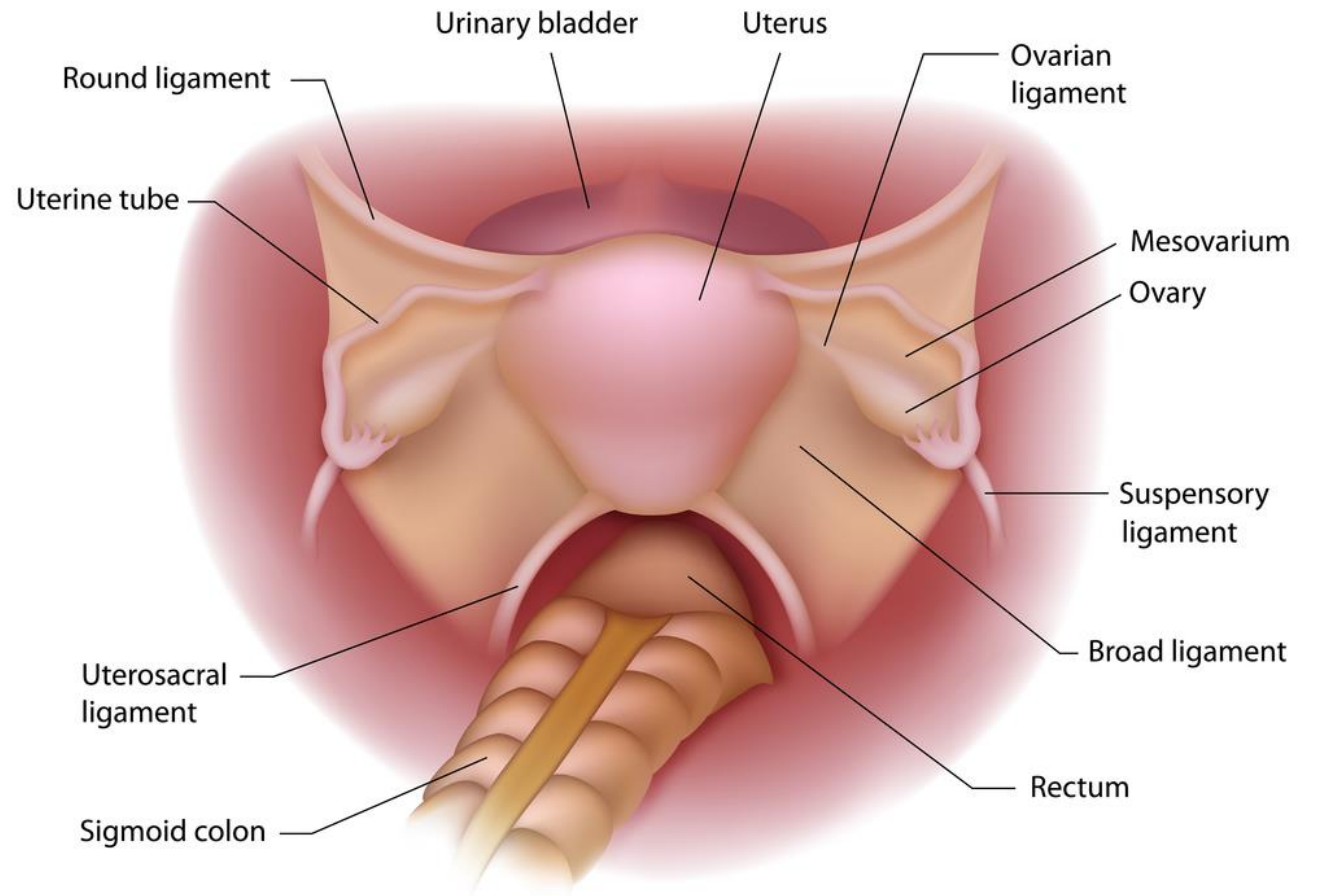
Perineal muscles

- M. ischiocavernosus
- M. bulbospongiosus
- M. sphincter urethrovaginalis
- M. sphincter ani externus



Uterine support

- Round ligament
- Broad ligament
- Uterosacral ligament

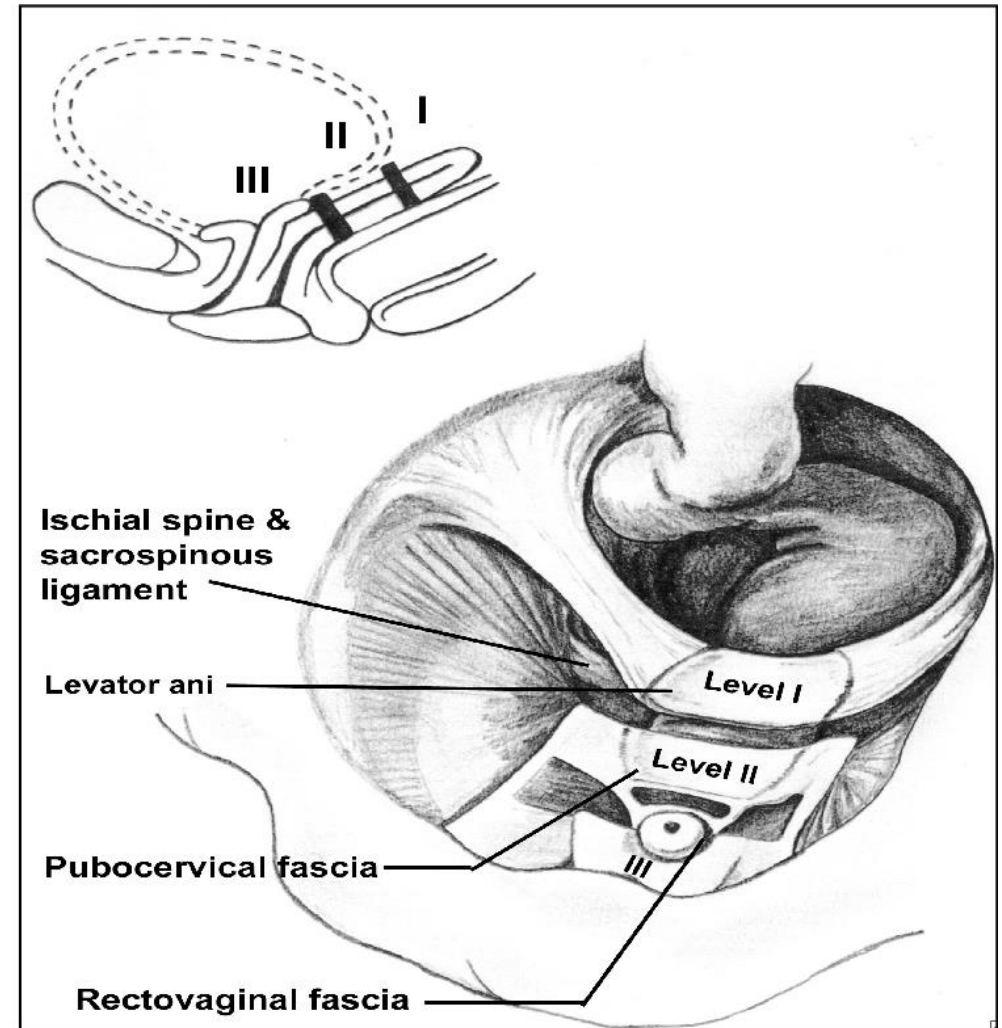


Vaginal support

Level 1 - ligamentum sacrouterinum and lateraly ligamentum cardinale uteri (seu ligamentum latum uteri)

Level 2 - lateral fixation to arcus tendineus fasciae pelvis and fascia overlaying m. levator ani

Level 3 – urogenital diaphragma and perineal body



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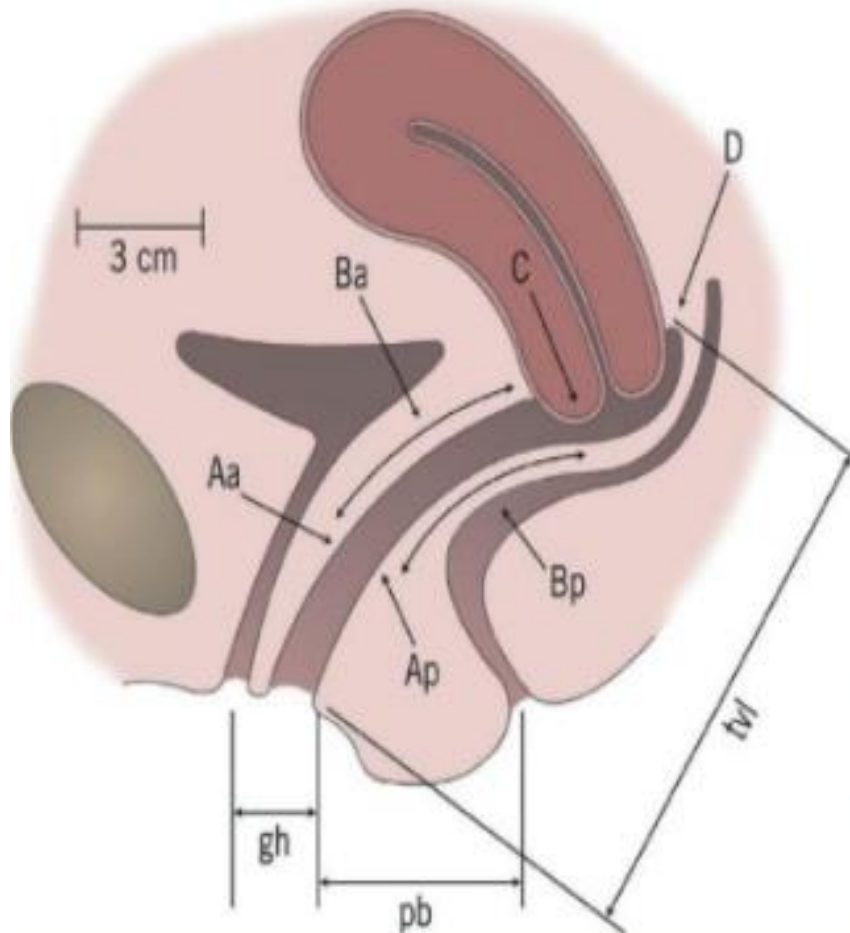
Cystocele



Prolapsus uteri et parietis vaginae

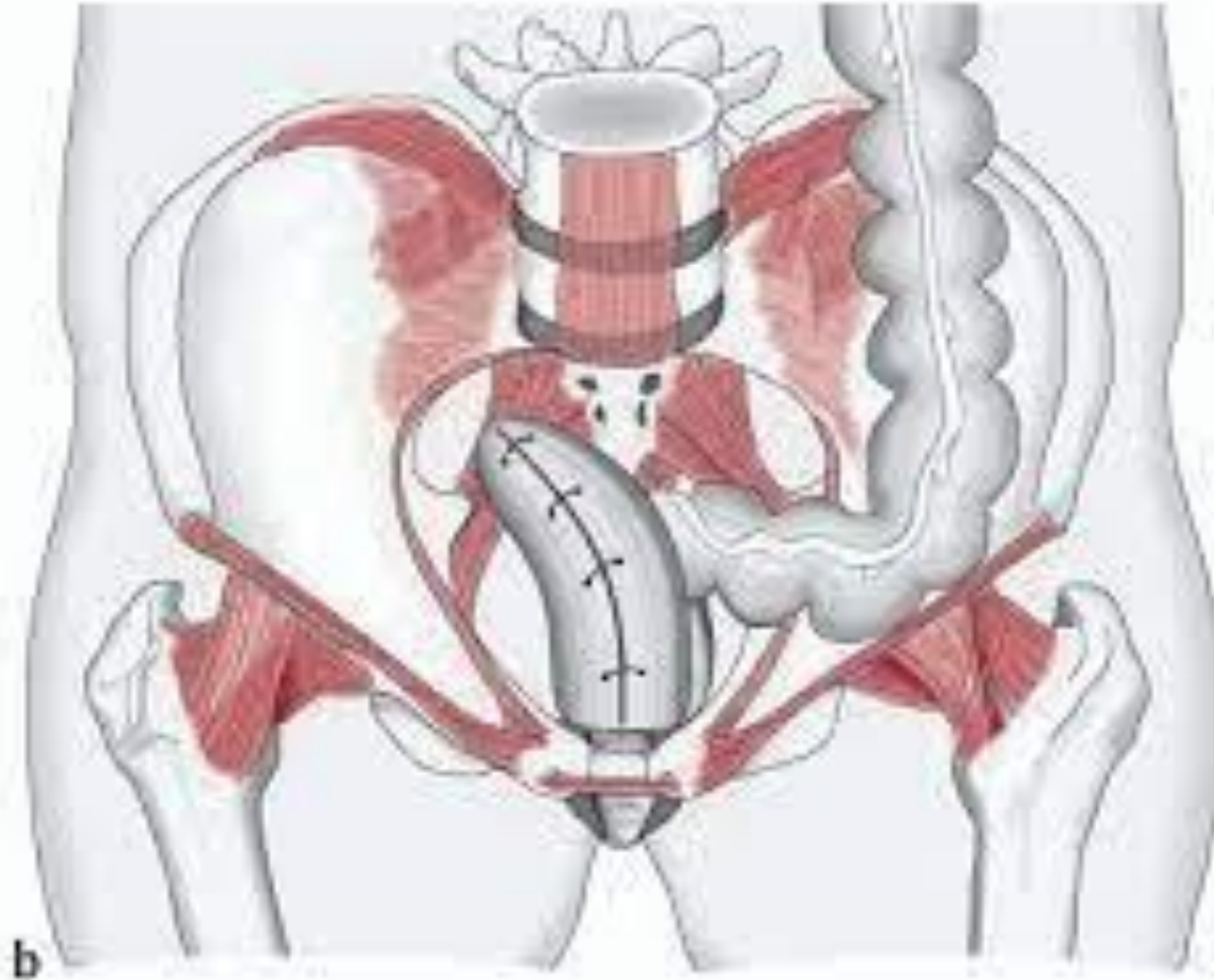


POP-Q System

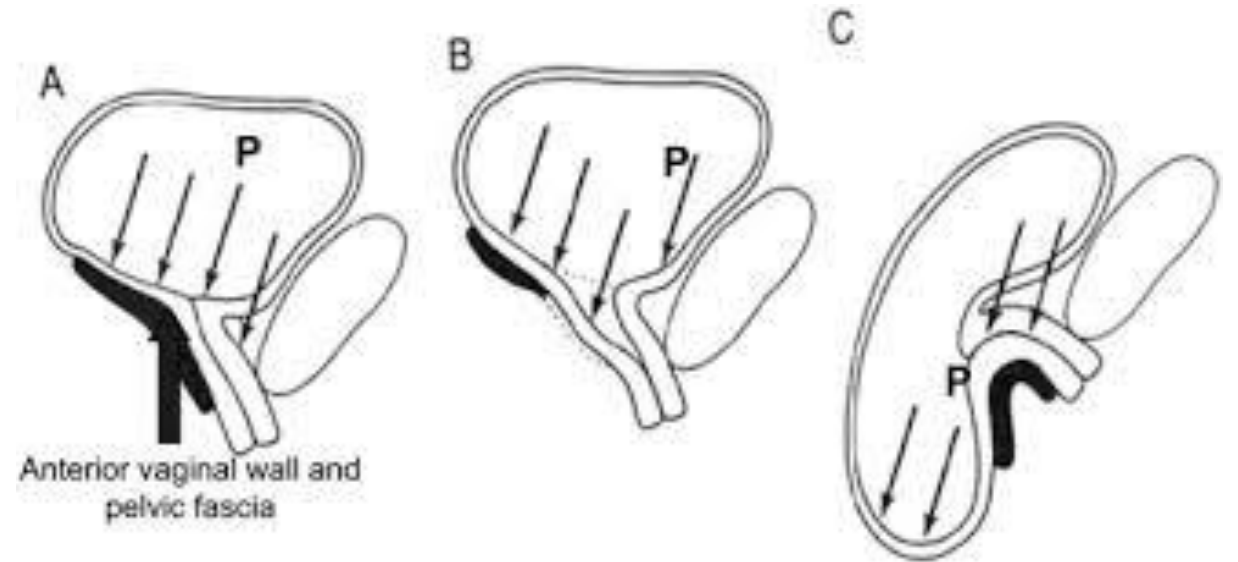
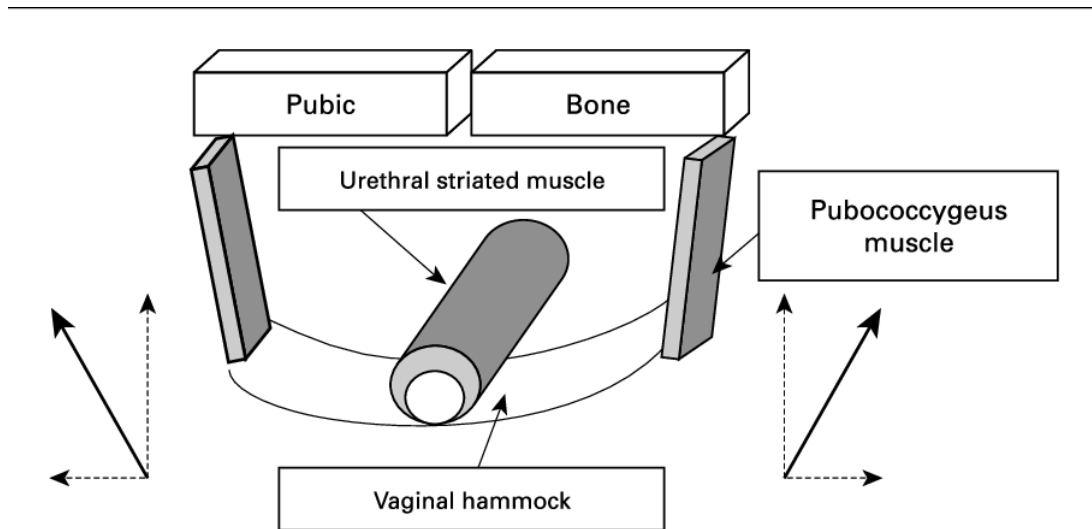


Point	Description	Range of values
Aa	Anterior vaginal wall 3 cm proximal to the hymen	-3 cm to +3 cm
Ba	Most distal position of remaining upper anterior vaginal wall	-3 cm to +tvl
C	Most distal edge of cervix or vaginal cuff scar	-
D	Posterior fornix (N/A if post-hysterectomy)	-
Ap	Posterior vaginal wall 3 cm proximal to the hymen	-3 cm to +3 cm
Bp	Most distal position of remaining upper posterior vaginal wall	-3 cm to +tvl
gh (genital hiatus)	Measured from middle of external urethral meatus to posterior midline hymen	-
pb (perineal body)	Measured from posterior margin of gh to middle of anal opening	-
tvl (total vaginal length)	Depth of vagina when point D or C is reduced to normal position	-

Vaginaefixatio

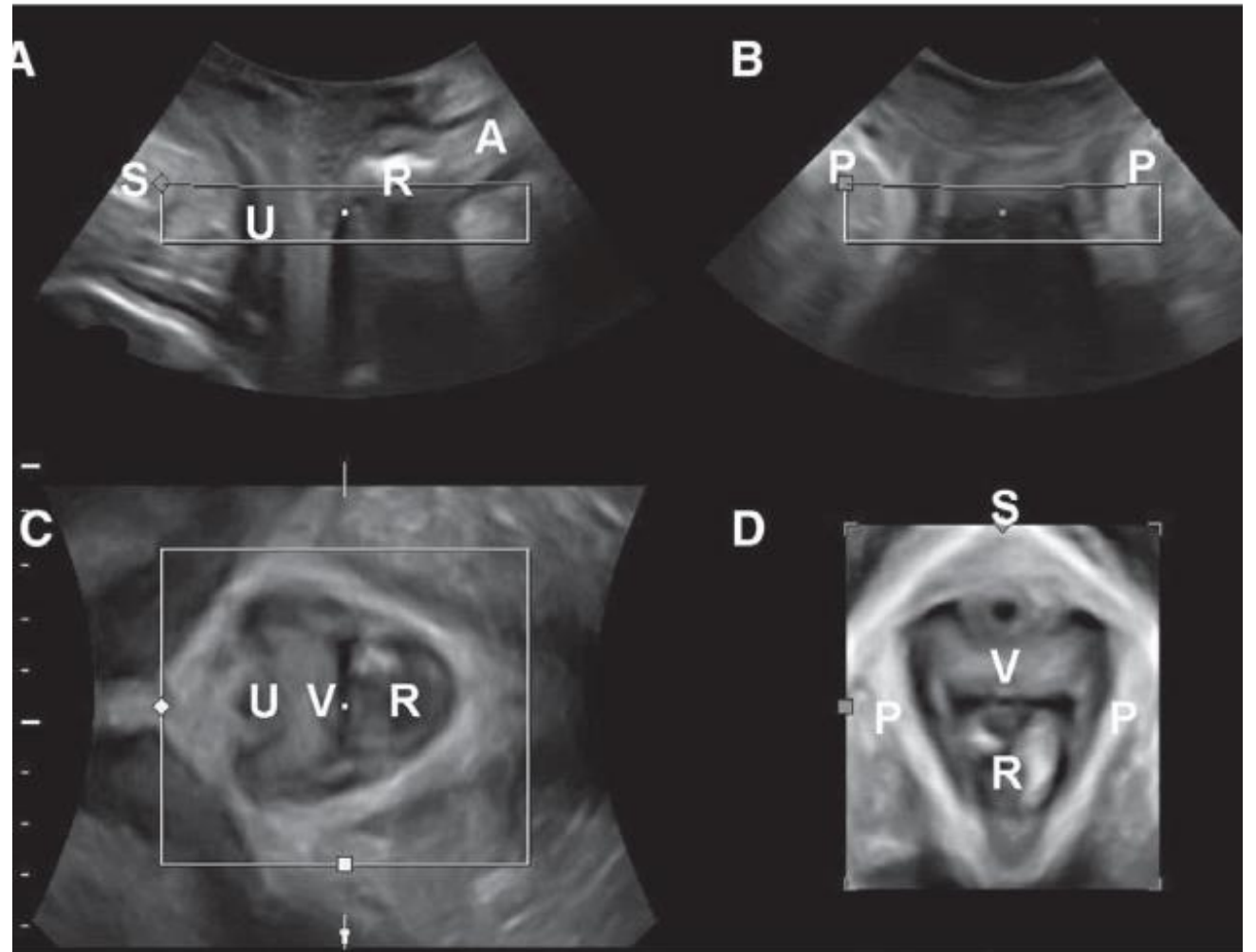


Hammock theory

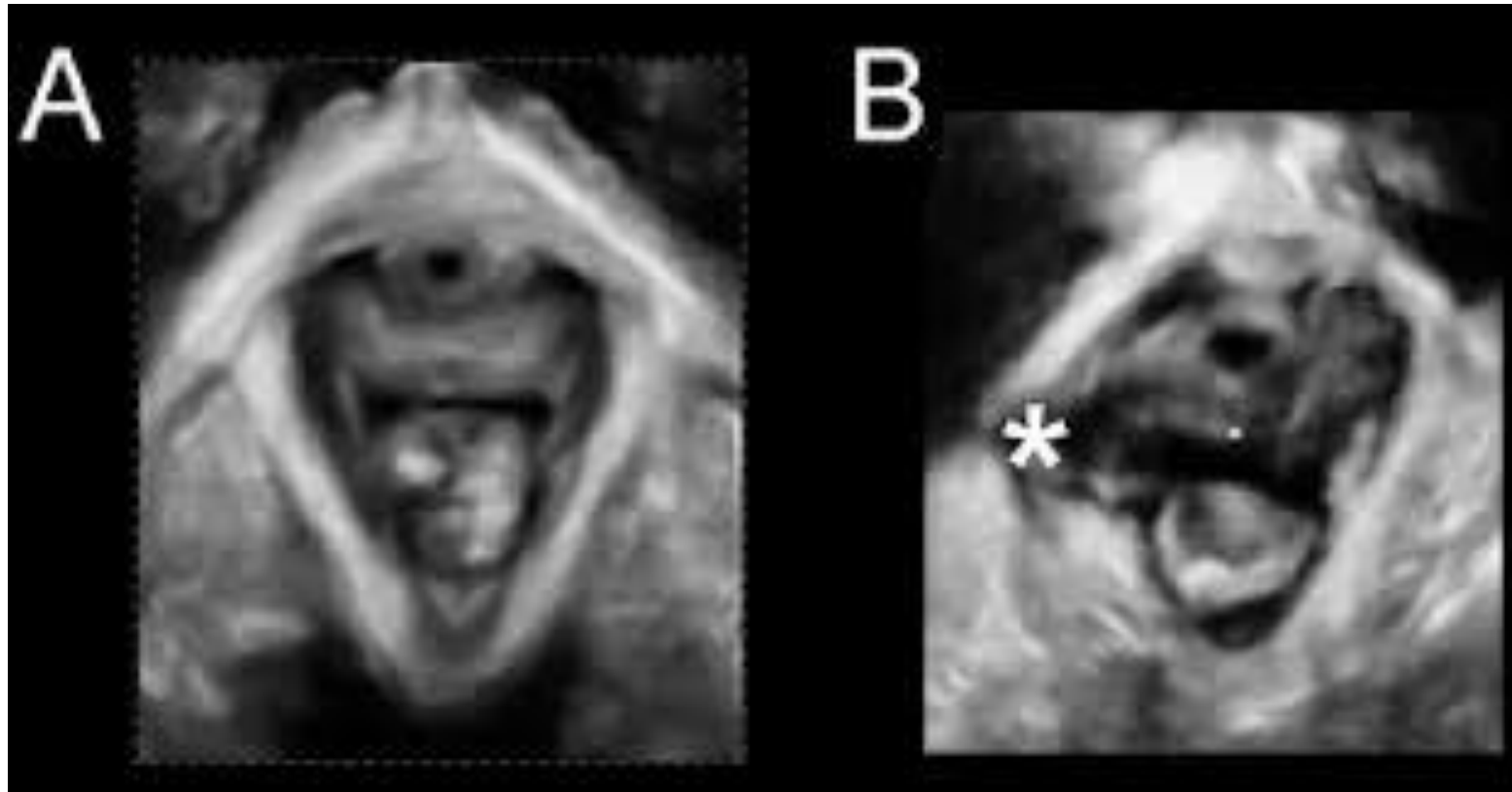


Perineal ultrasound

- Safe and precise method for examining perineal muscles
- Allows to examine contractility in real time

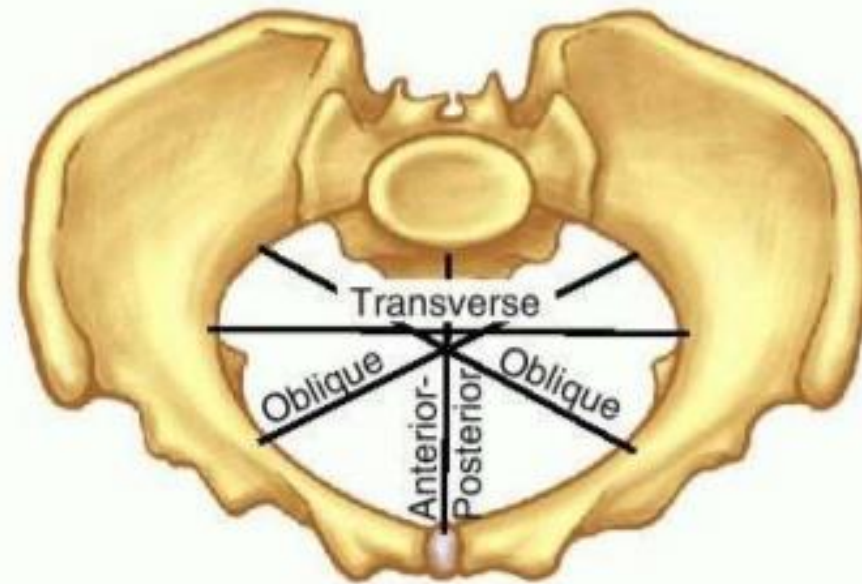


Trauma to m. levator ani

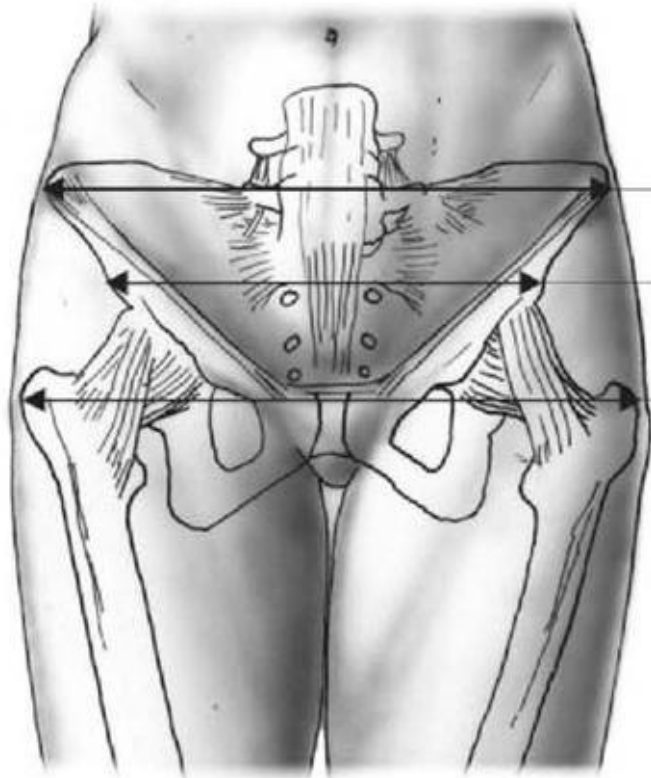


Pelvic diameters

Pelvis	Diameter (cm)		
	Anteroposterior	Transverse	Oblique
Pelvic Inlet	11	13	12
Pelvic Cavity	12	12	12
Pelvic Outlet	13	11	-



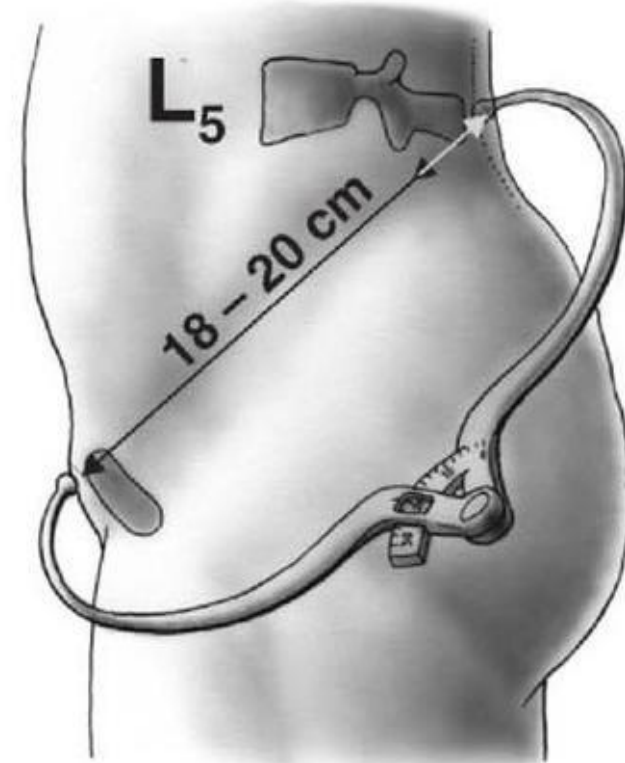
Pelvic diameters



distantia bicristalis
28 – 29 cm

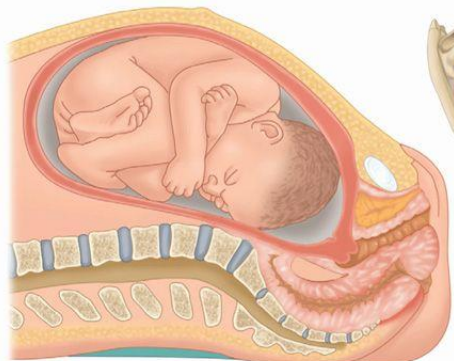
distantia bispinalis
25 – 26 cm

distantia
bitrochanterica
31 – 32 cm

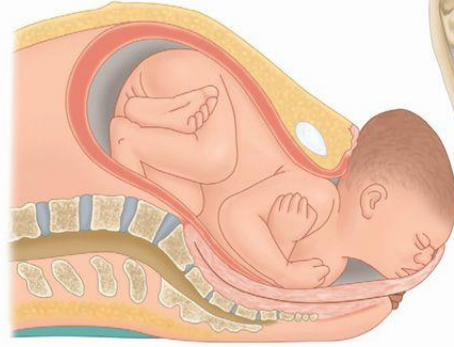


conjugata externa
(diameter Baudeloque)

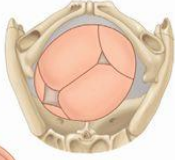
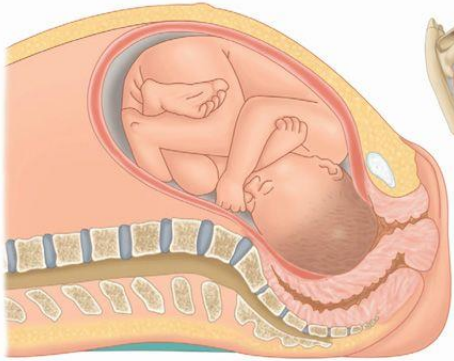
Vaginal delivery



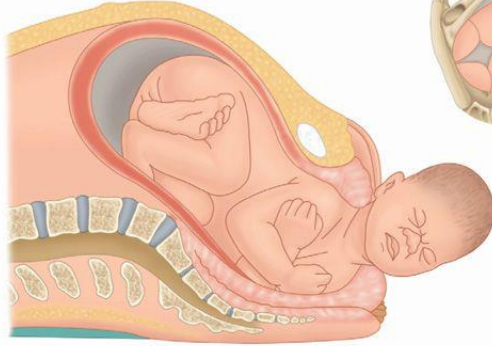
1. Head floating, before engagement



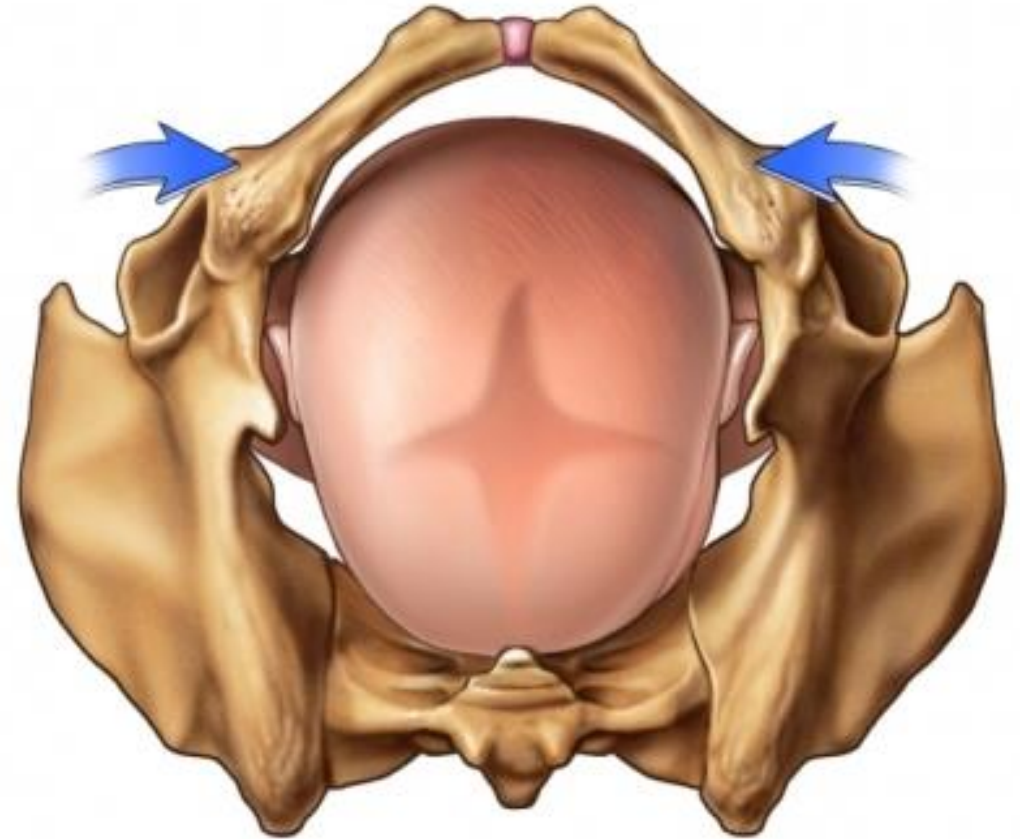
5. Complete extension



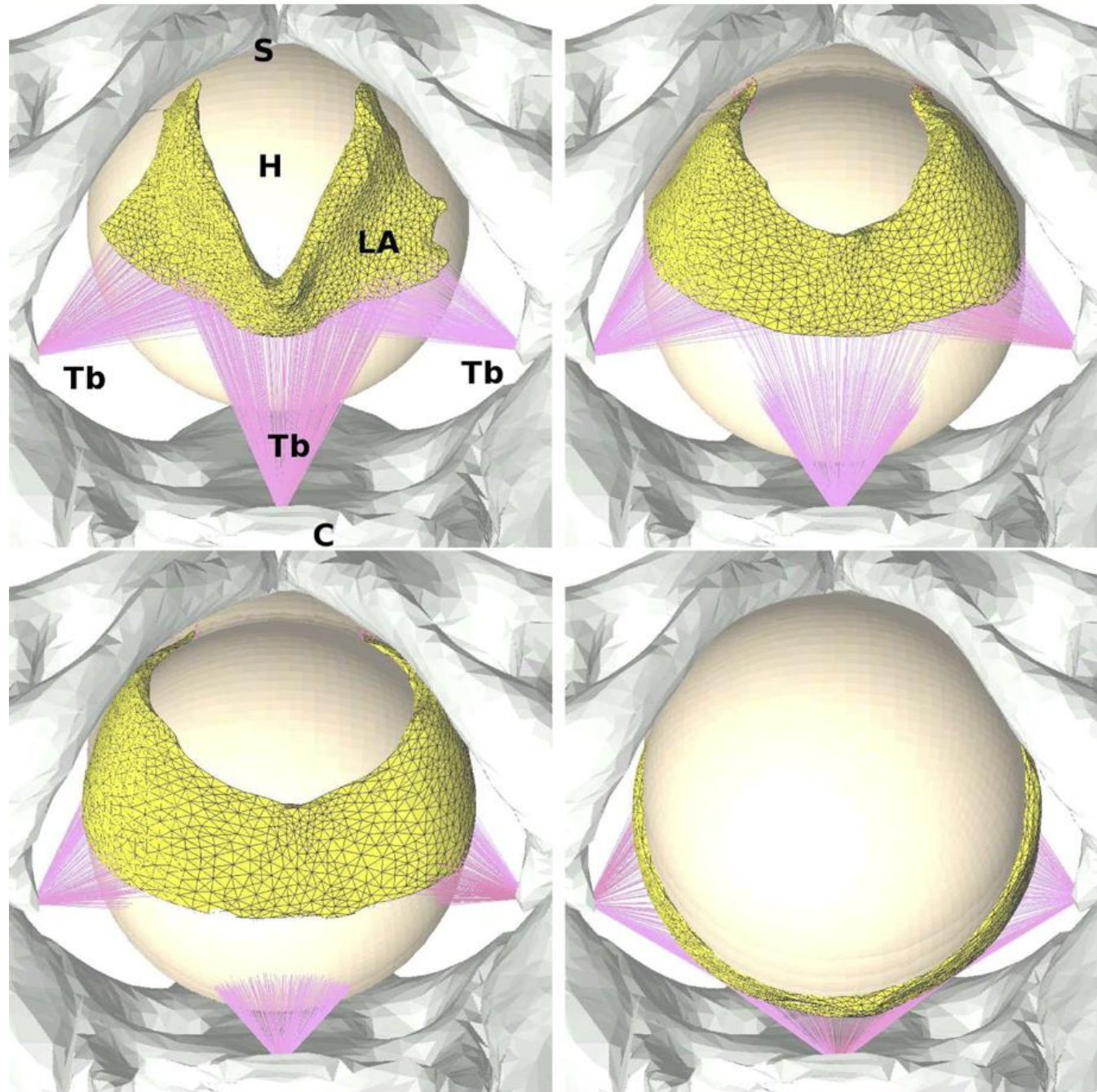
2. Engagement, descent, flexion



6. Restitution (external rotation)



Axial view of the levator childbirth model

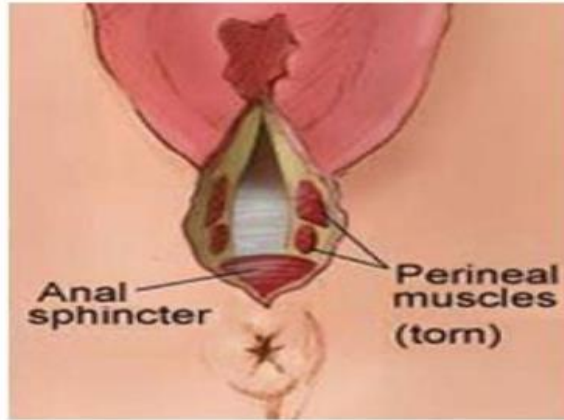


Axial view of the levator childbirth model showing the fetal head (H) interacting with the levator

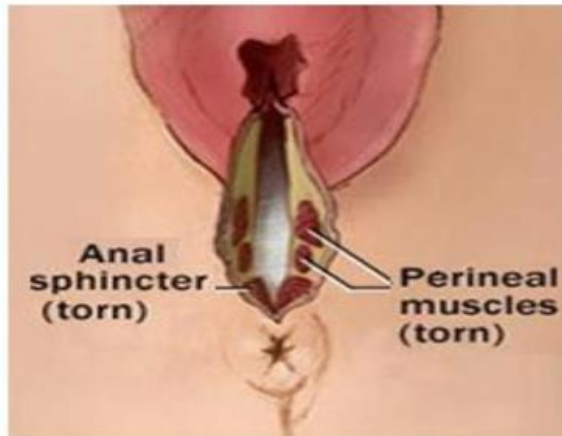
Perineal tears



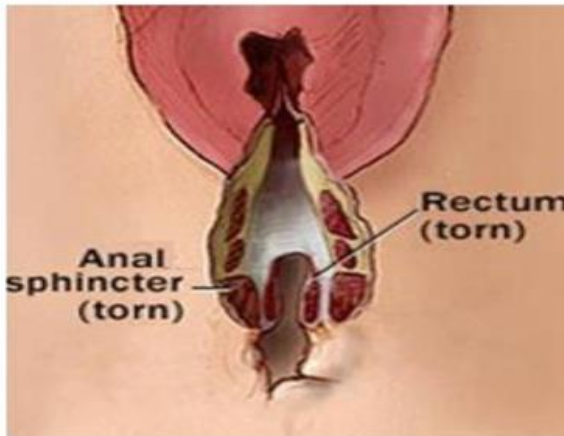
First Degree Perineal Tear



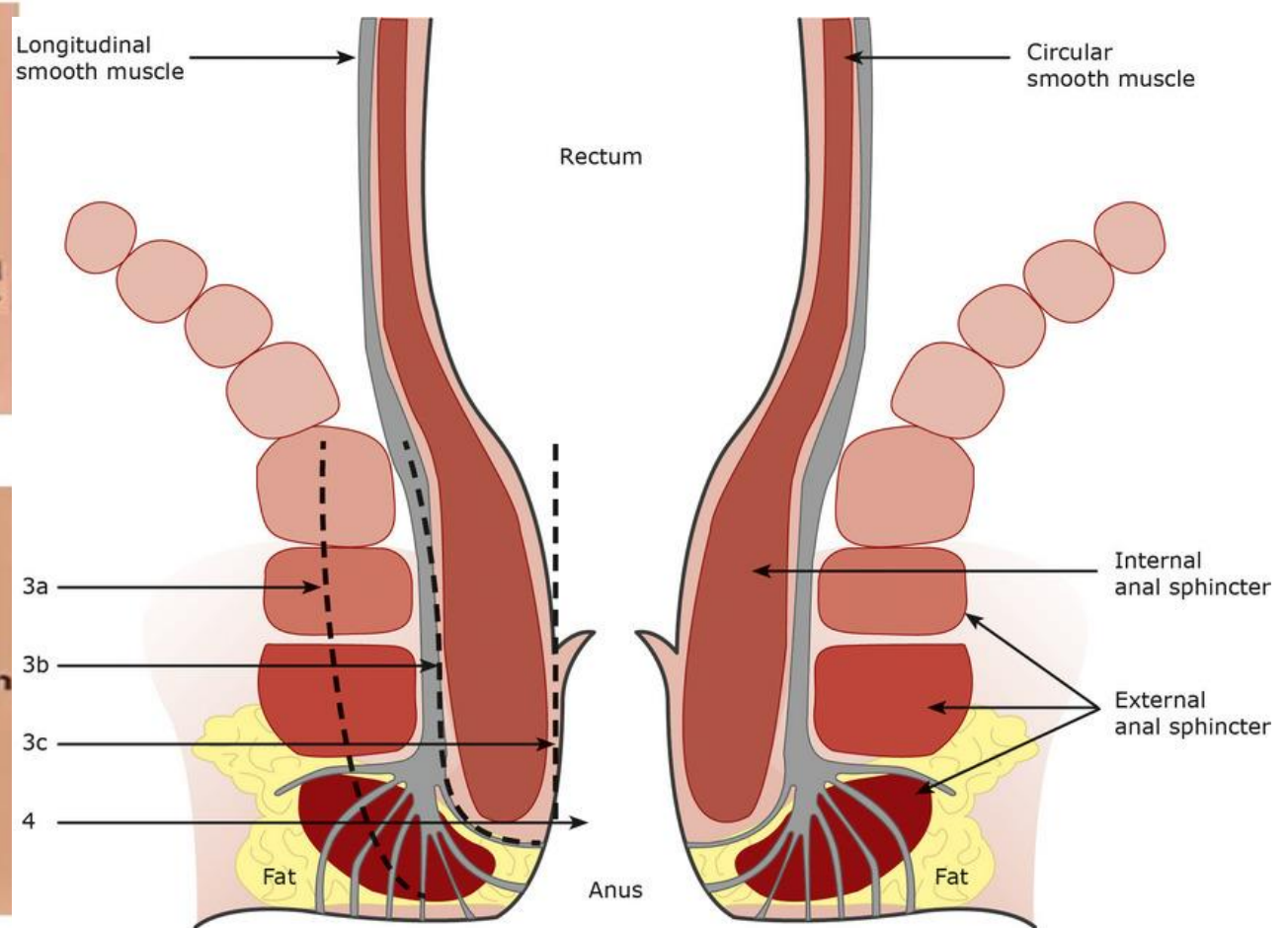
Second Degree Perineal Tear



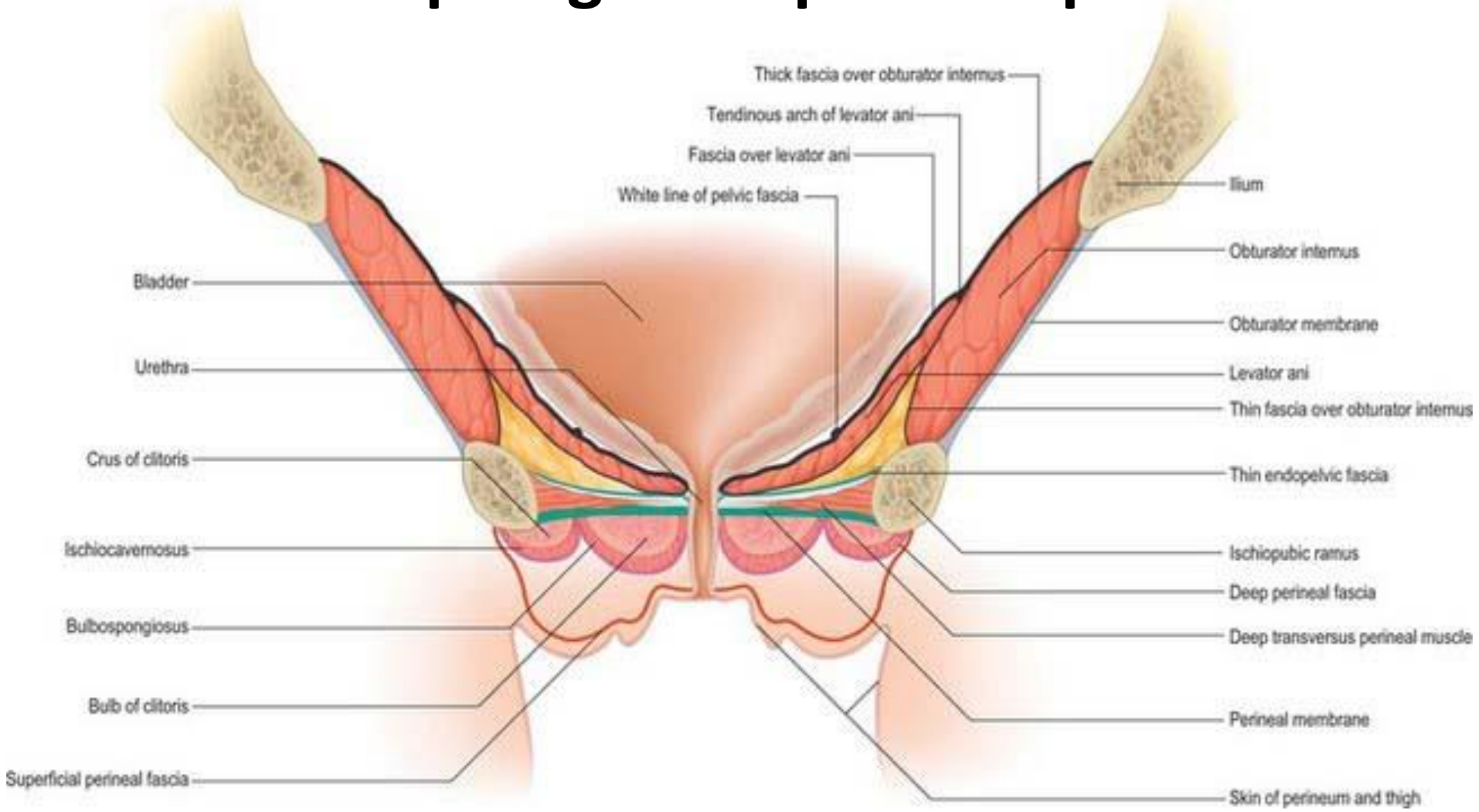
Third Degree perineal tear



Fourth Degree Perineal Tear



Pelvic fascia – diaphragmatis pelvis superior vs. inferior



Suprafascial hematoma

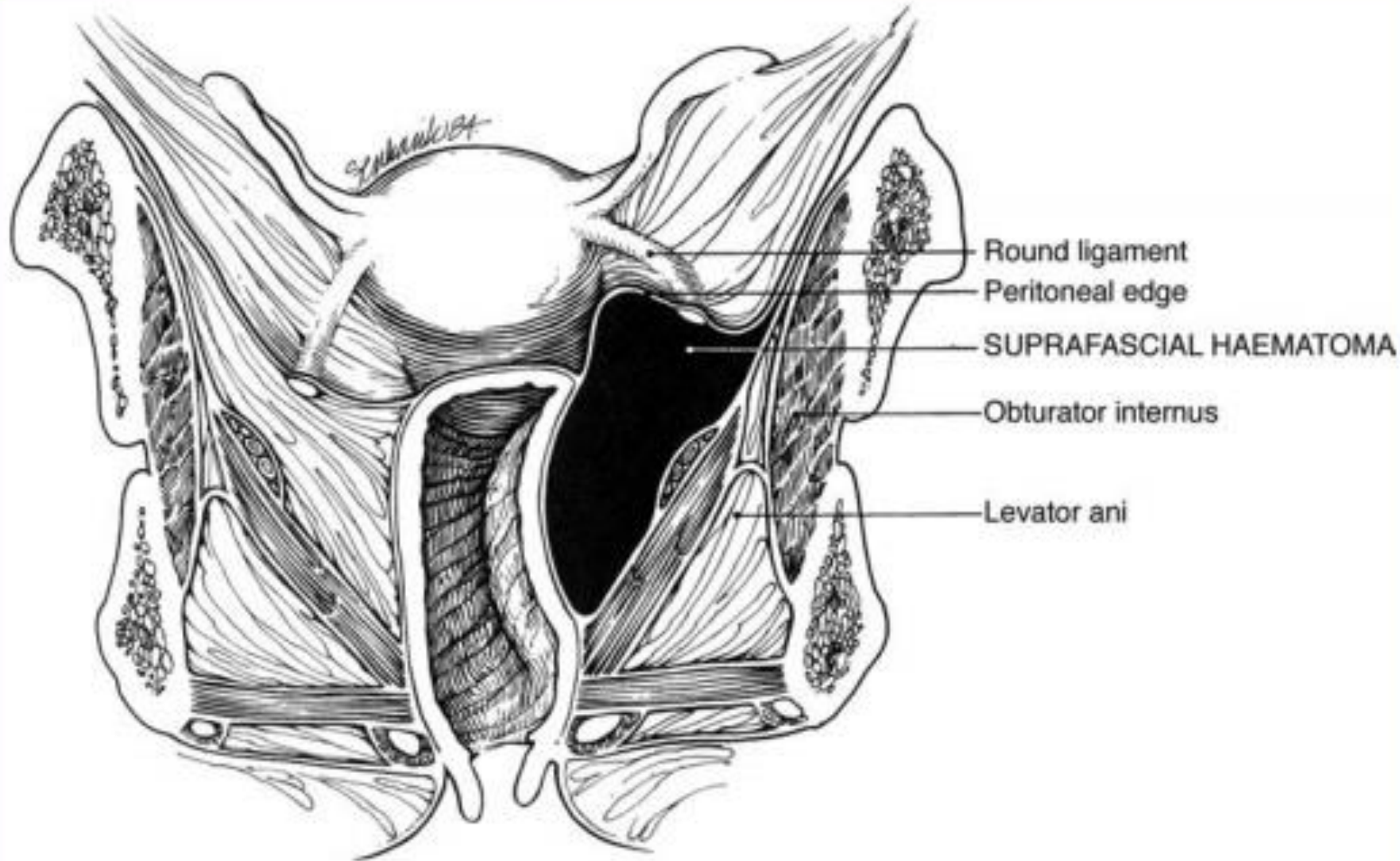
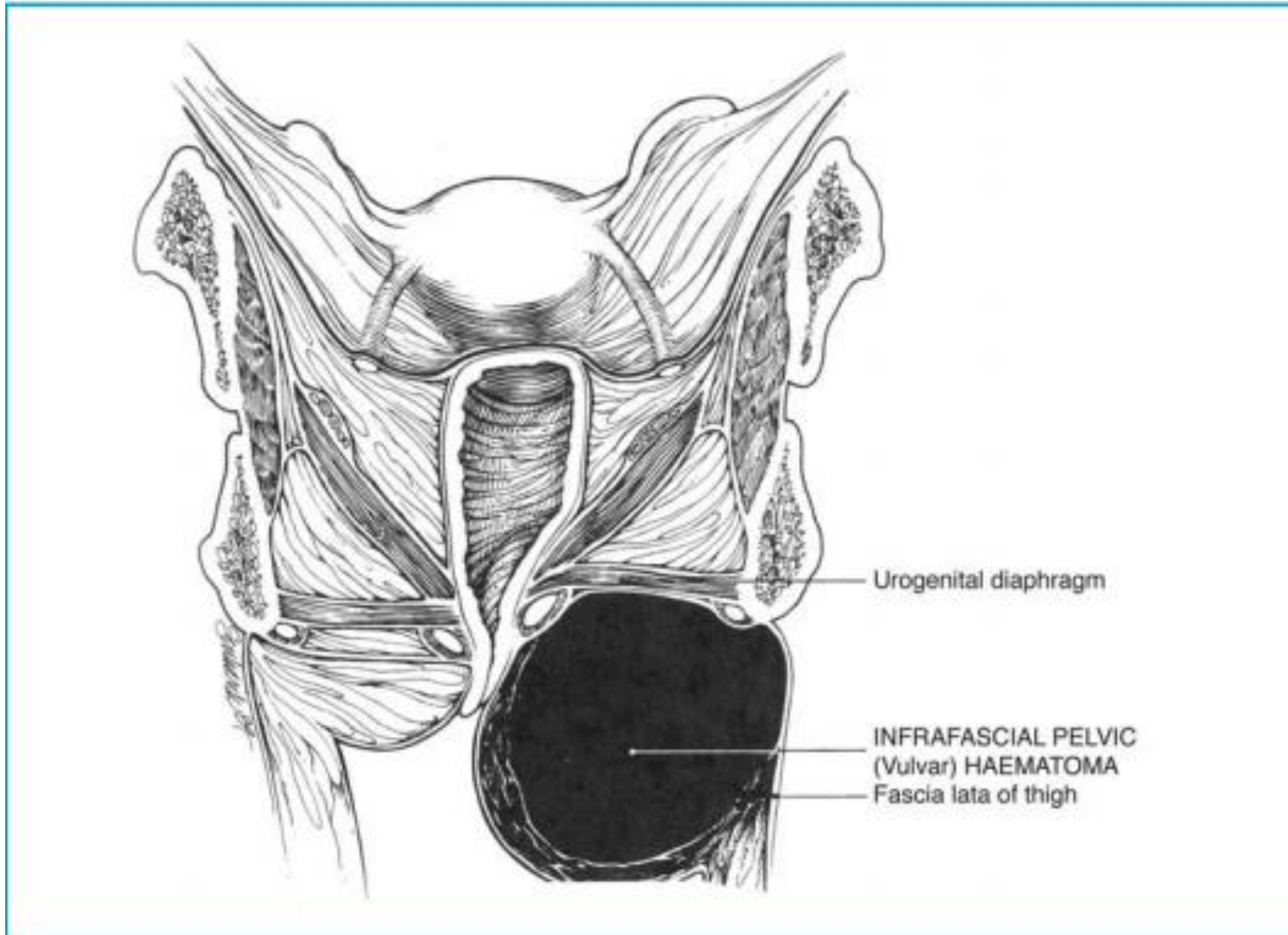
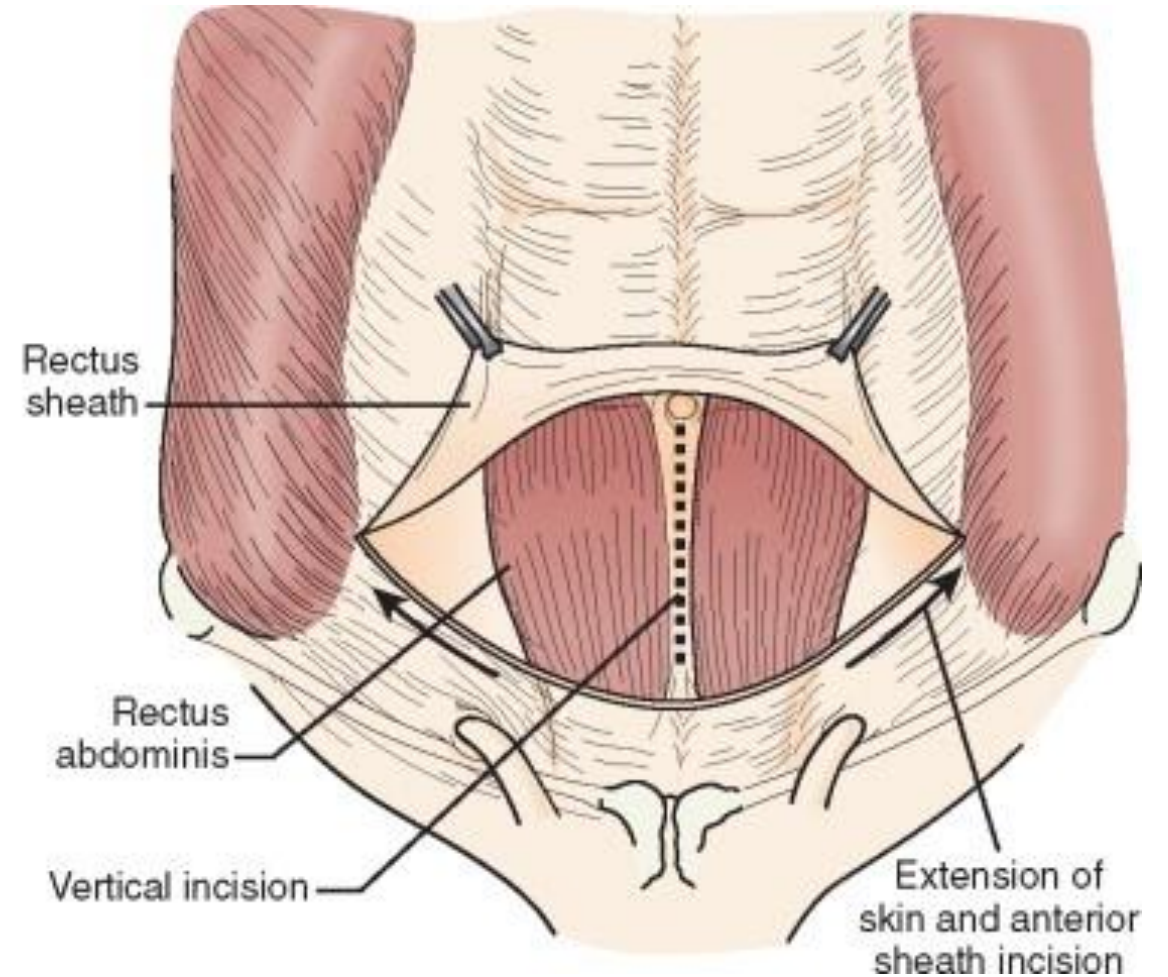
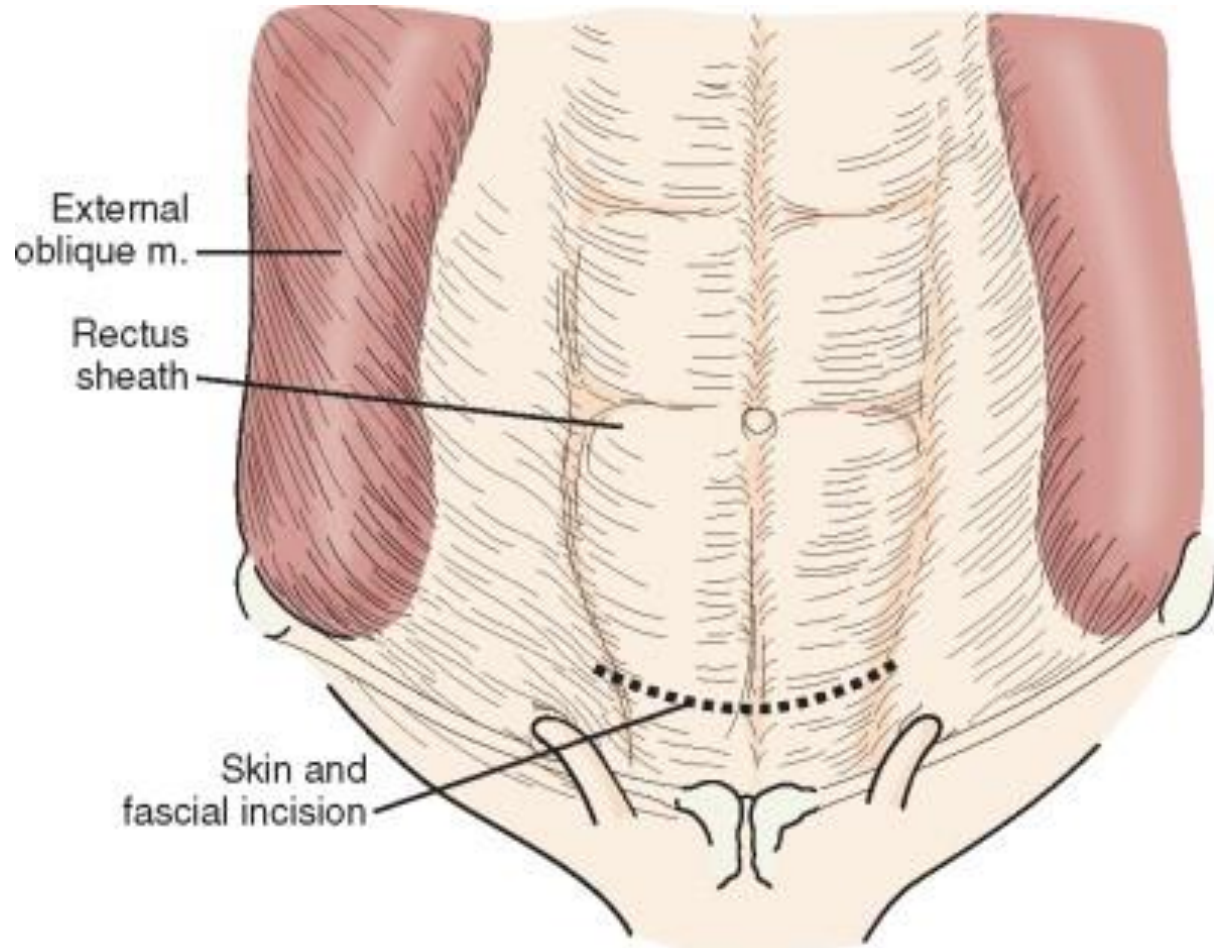


Figure 2
Paravaginal haematoma.⁵
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Infracascial hematoma



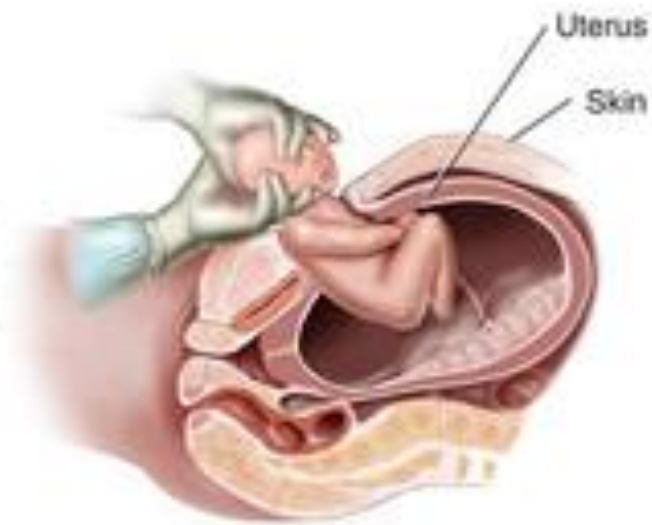
Pfannenstiel incision



C-Section Surgery



1. A cut is made in the abdomen and then another one in the uterus.



2. The baby is removed.



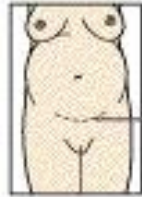
3. The placenta is removed.



4. The cuts in the uterus and skin are then closed with stitches.

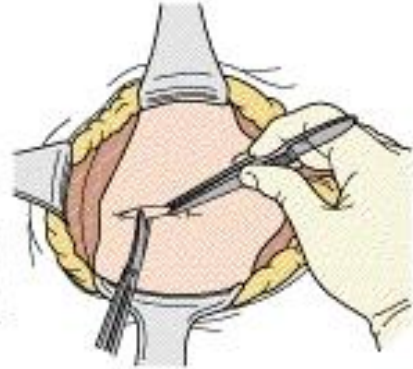
Cesarean section

Cesarean Section (C-Section)



Incision

1. The uterus is exposed through the abdominal wall. An incision is made in the uterine covering.



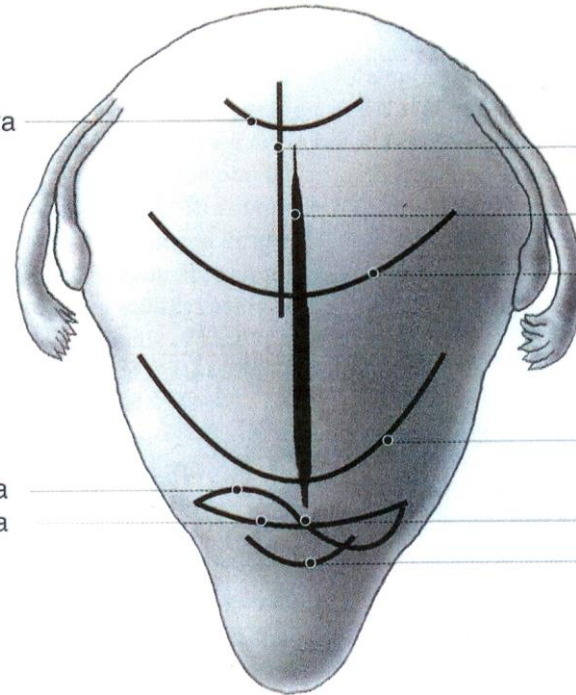
2. The muscles of the uterus are separated producing a hole for delivery of the infant.

3. The infant is delivered through the opening created in the uterine wall. Following delivery, the uterine wall is stitched closed.



řez podle Lauverjata

řez podle Chmelíka
řez podle Gepperta



korporální řez

cervikokorporální řez

vysoký U-řez

U-řez

T-řez

semilunární řez



Subfascial hematoma



Hysterectomy

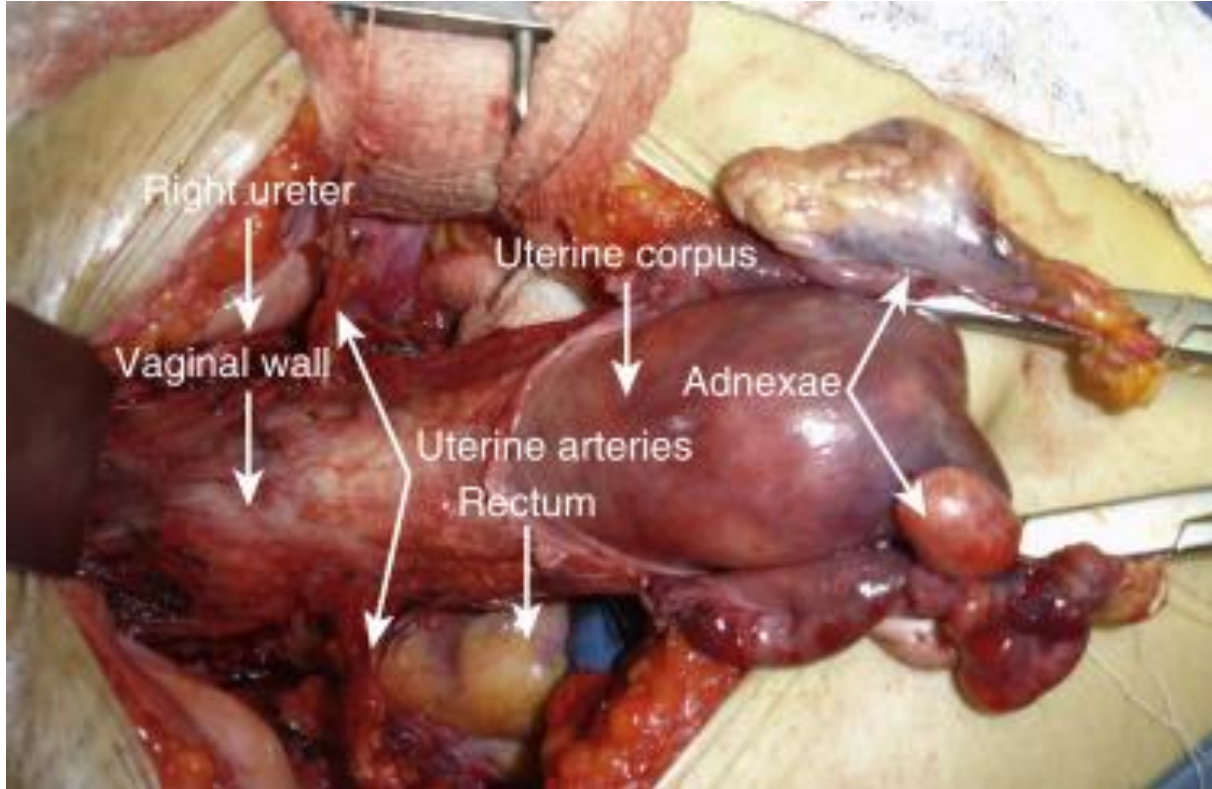
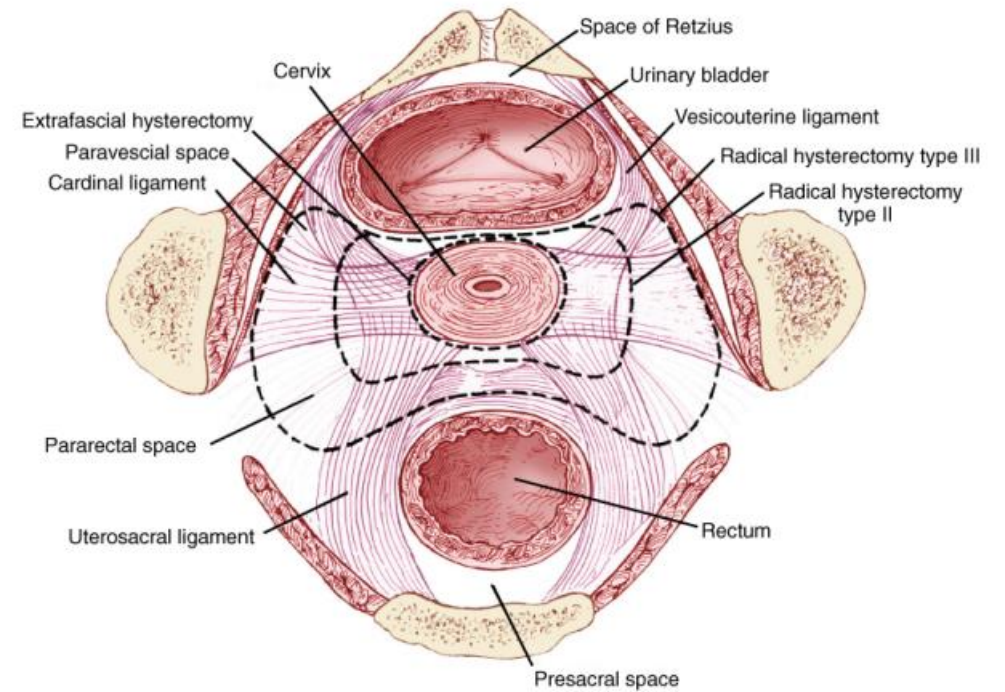
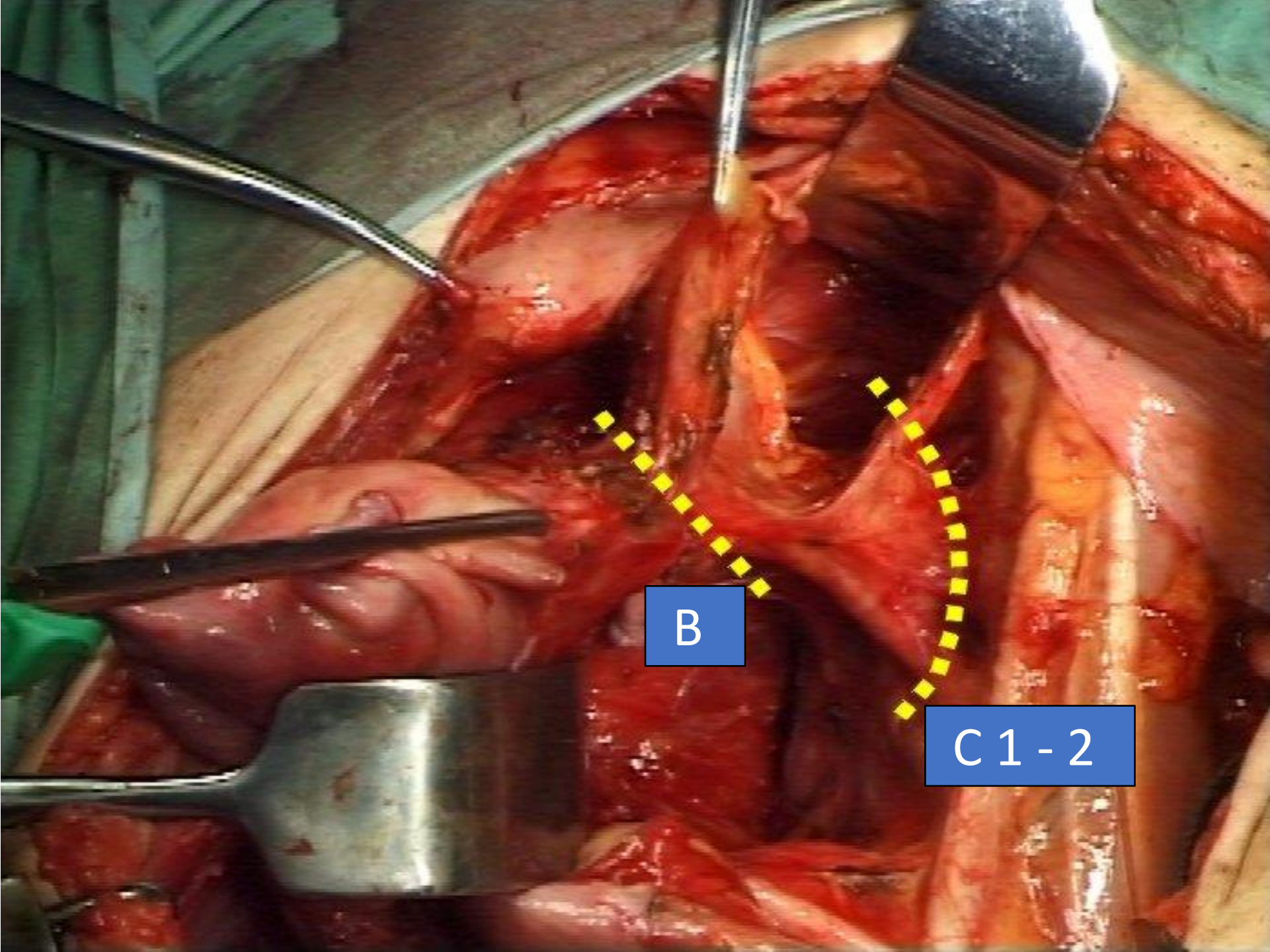


Fig. 14.1. Sagittal section of female pelvis showing the different pelvic spaces and extent of dissection in different classes of radical hysterectomy.

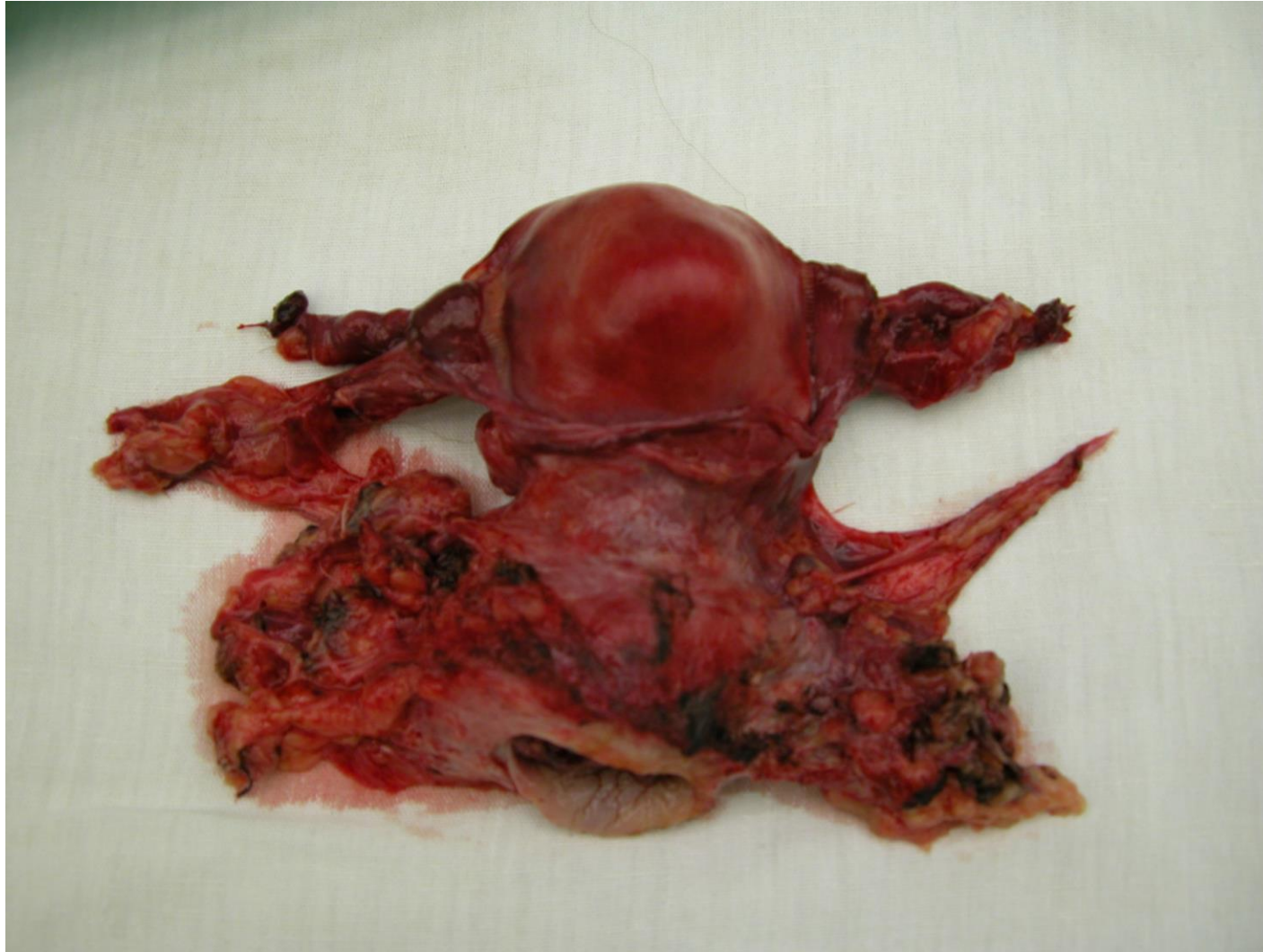




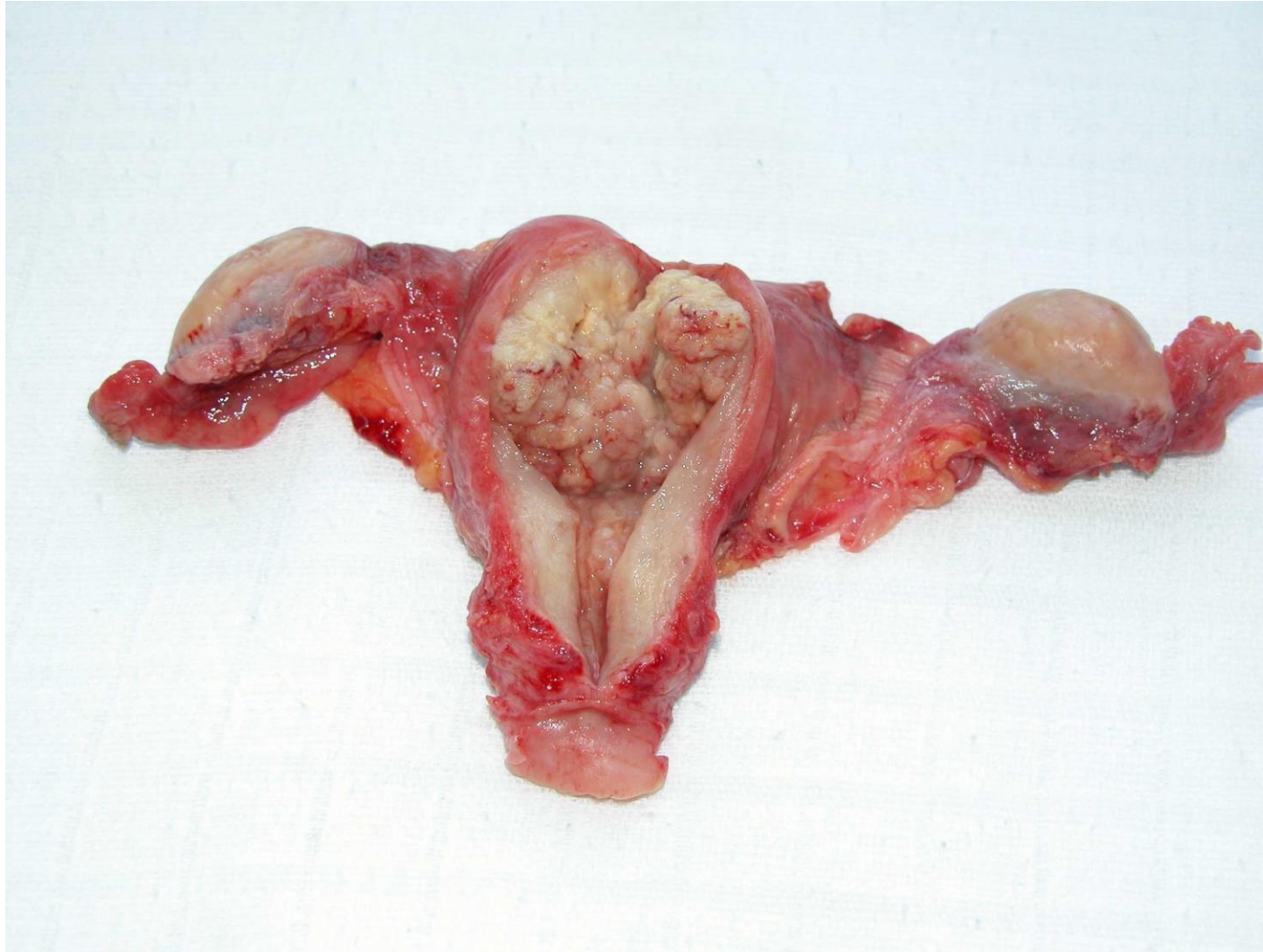
B

C1-2

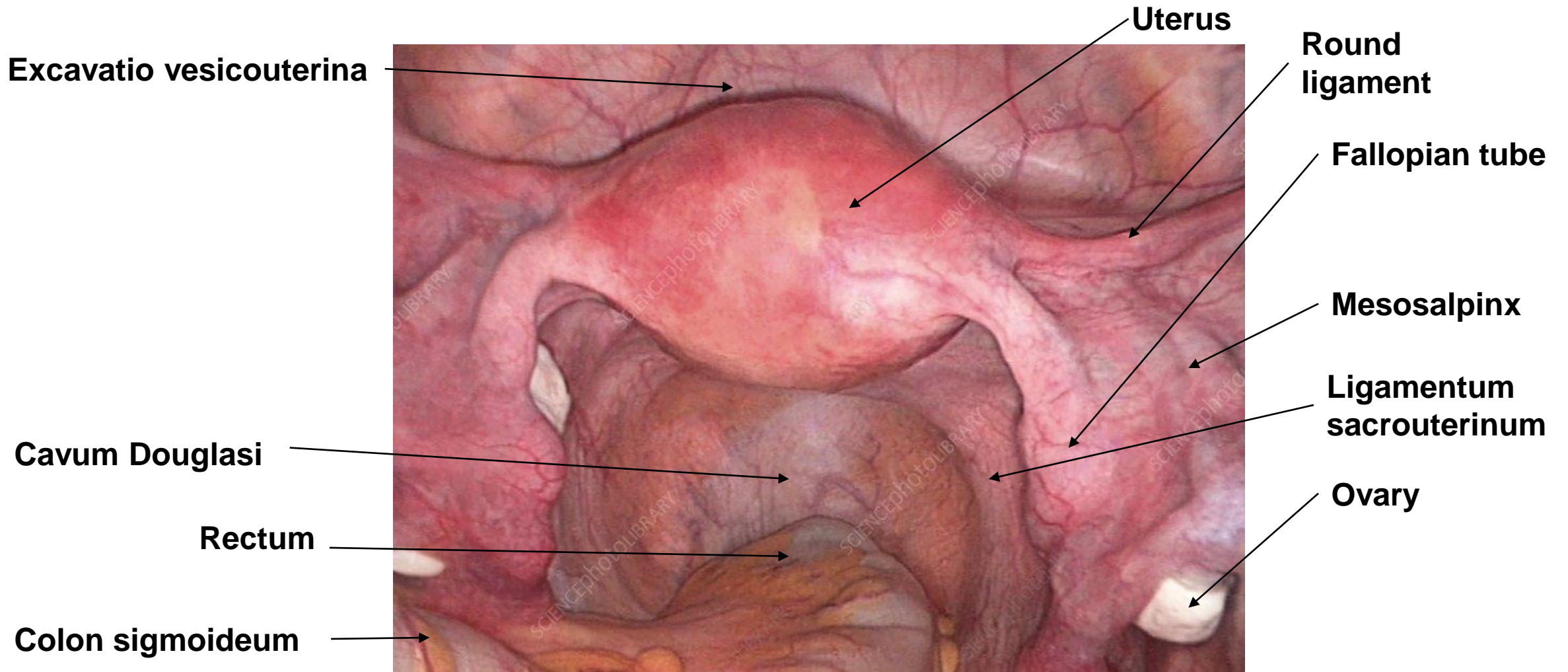
Hysterectomy



Hysterectomy



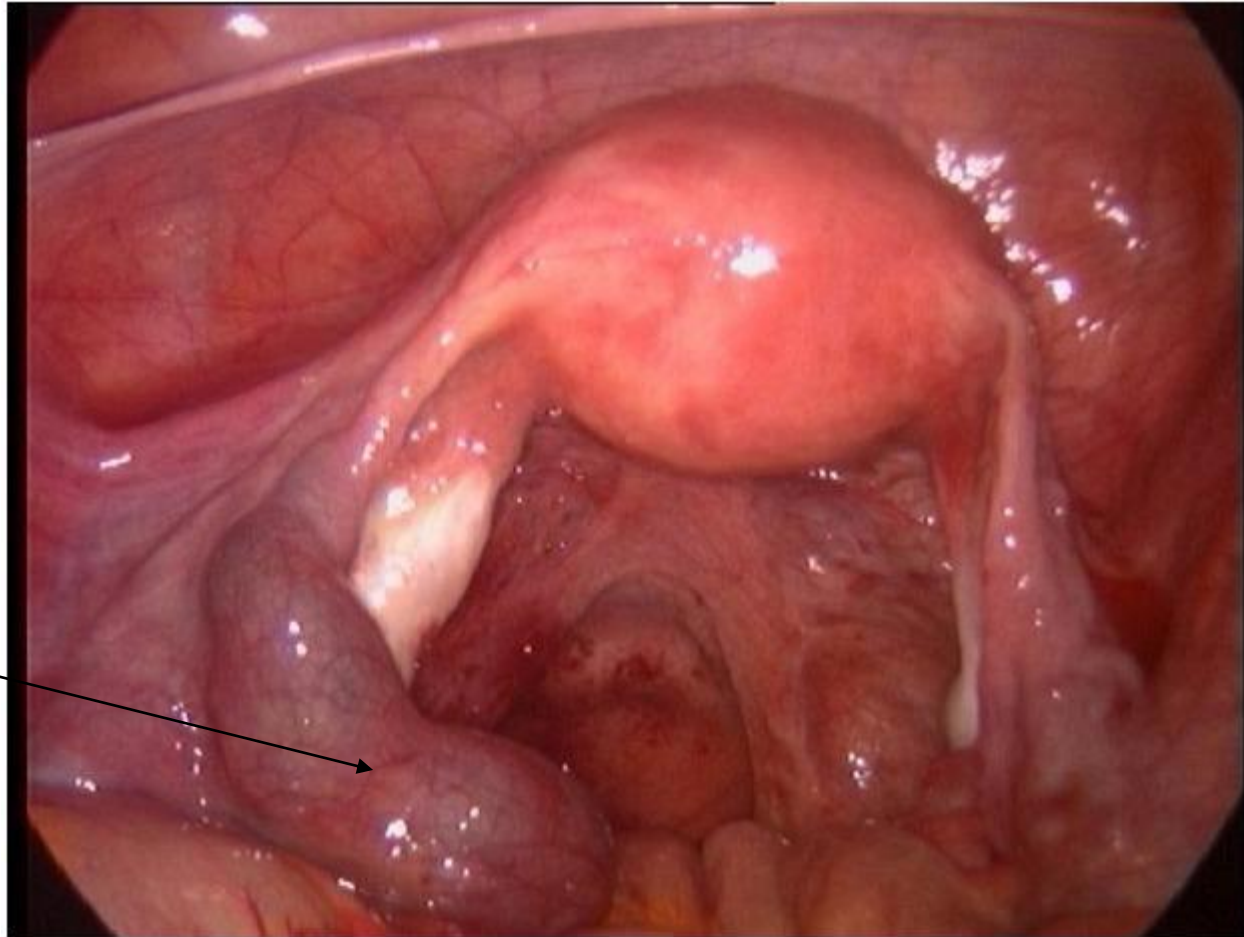
Laparoscopy



Laparoscopy - Fibroids



Laparoscopy – Ectopic pregnancy

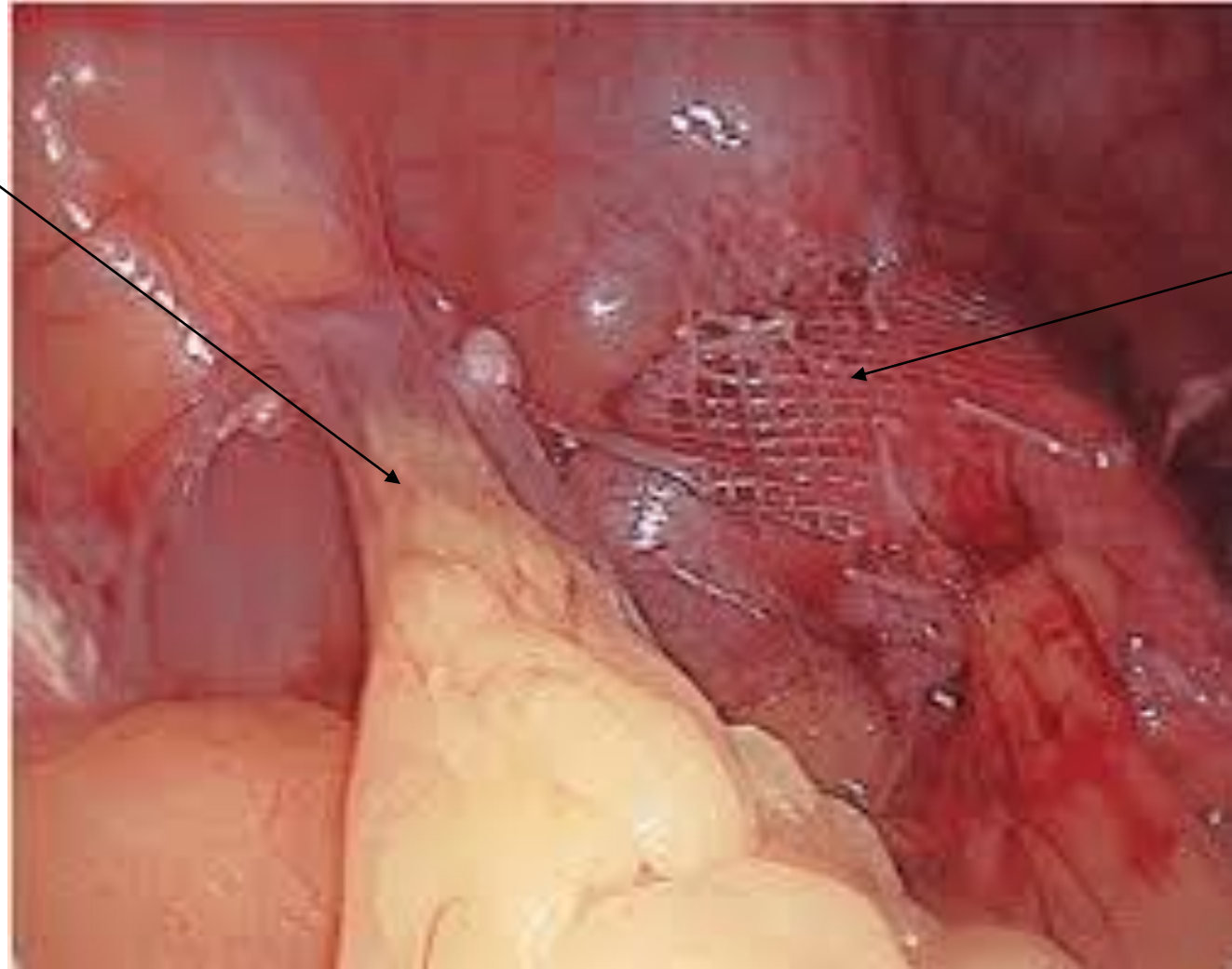


Ectopic pregnancy



Laparoscopy - Adhesion

Adhesion of omentum



Synthetic mesh

Thank you for your attention

