PELVIC DIAPHRAGM

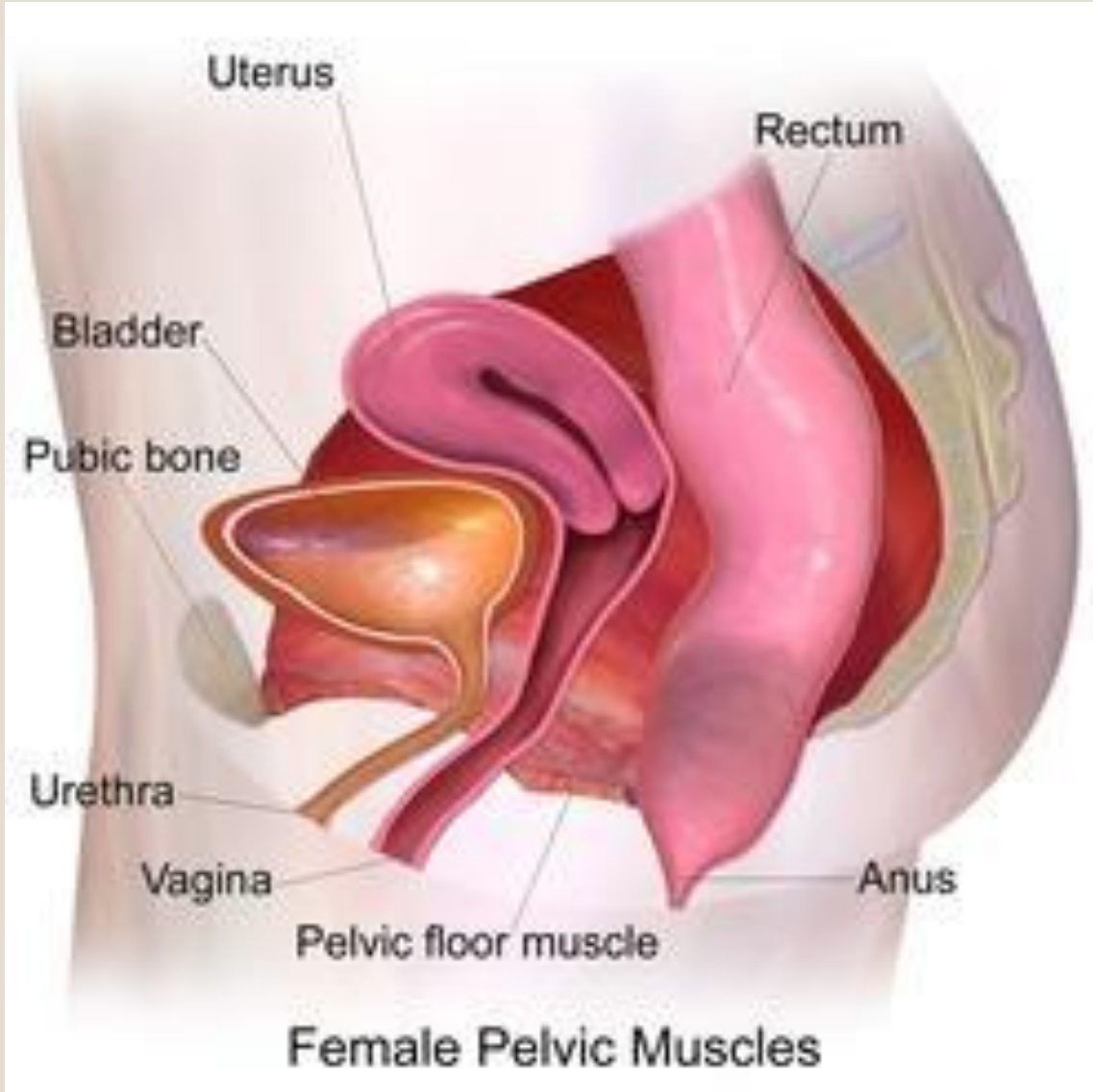
Syeda Sundus Shah Bokhari
Roll no. 86

LEARNING OBJECTIVES

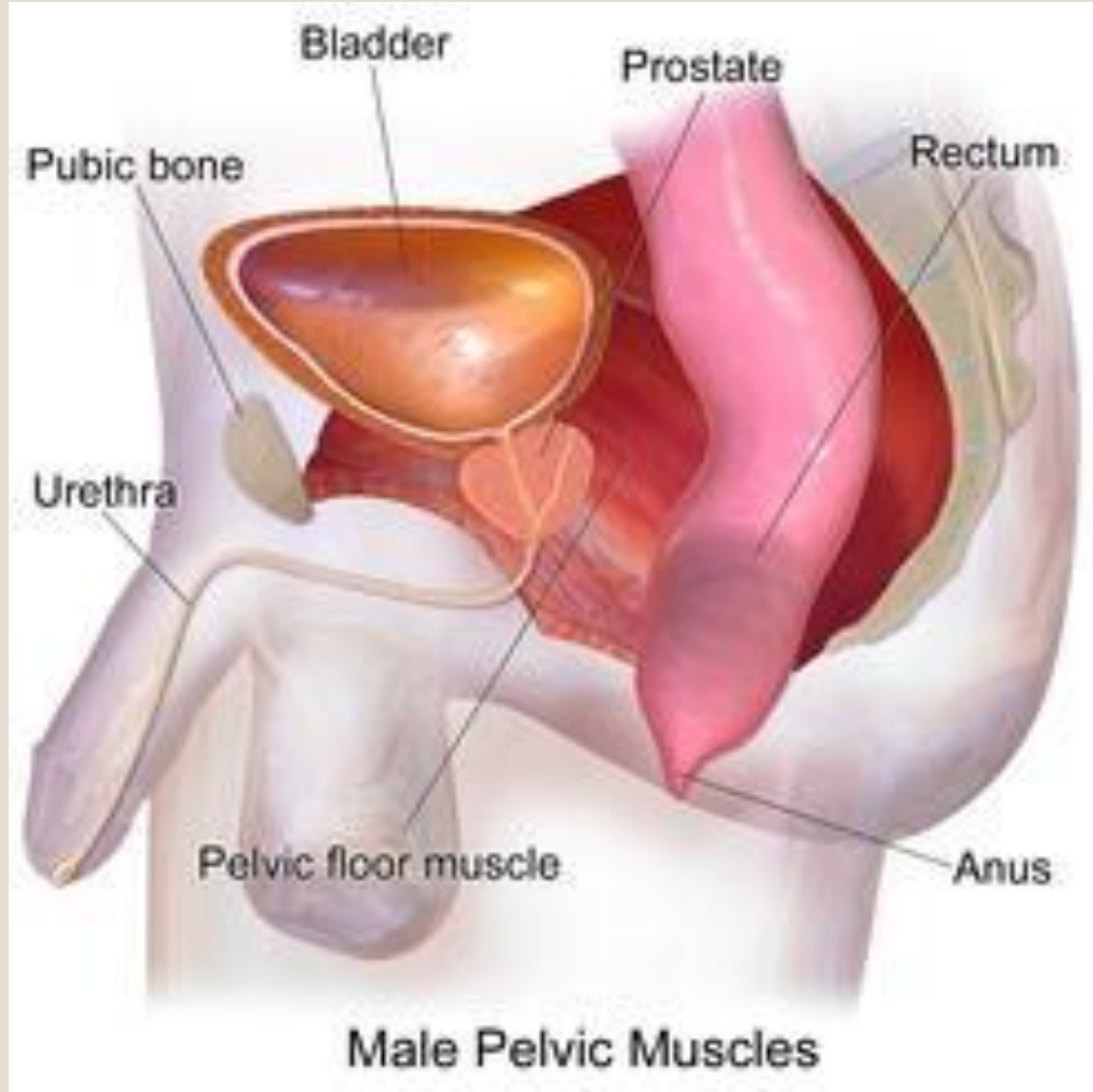
- Definition
- Function of pelvic diaphragm
- Components of pelvic diaphragm
- Neuro vascular supply
- Lymphatic drainage
- Diseases of pelvic diaphragm

PELVIC FLOOR

It is a basin/funnel shaped structure made of pelvic diaphragm and their associated fascia supporting the pelvic viscera i.e. rectum, urinary bladder, uterus in females.



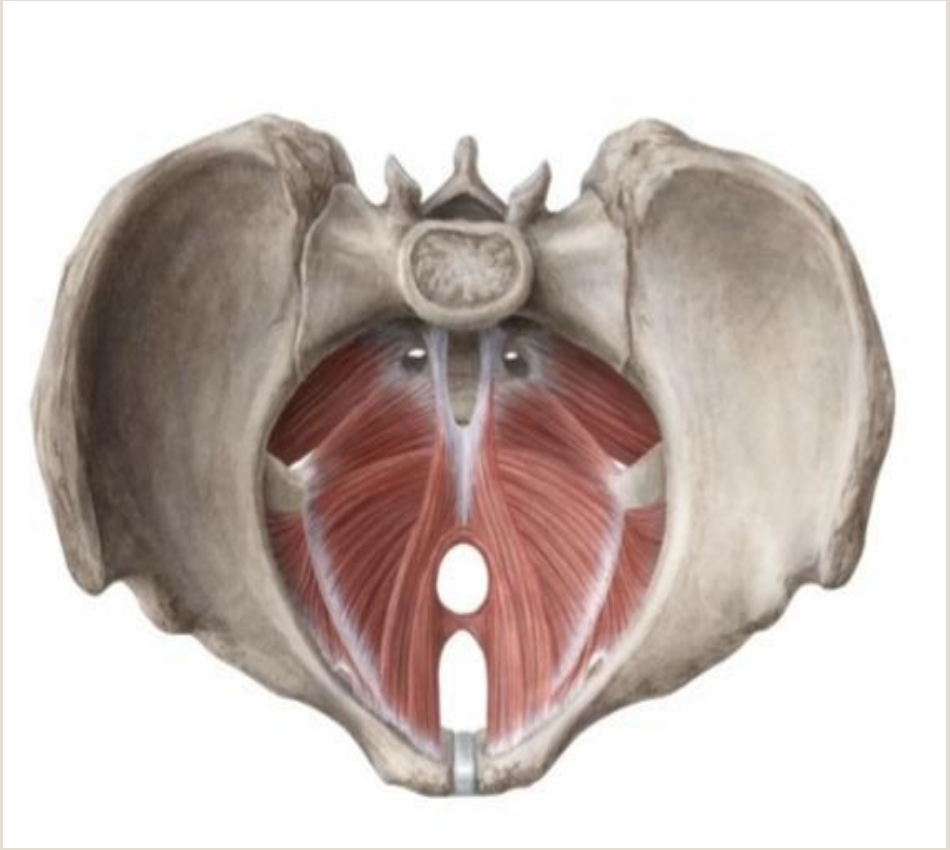
Female Pelvic Muscles

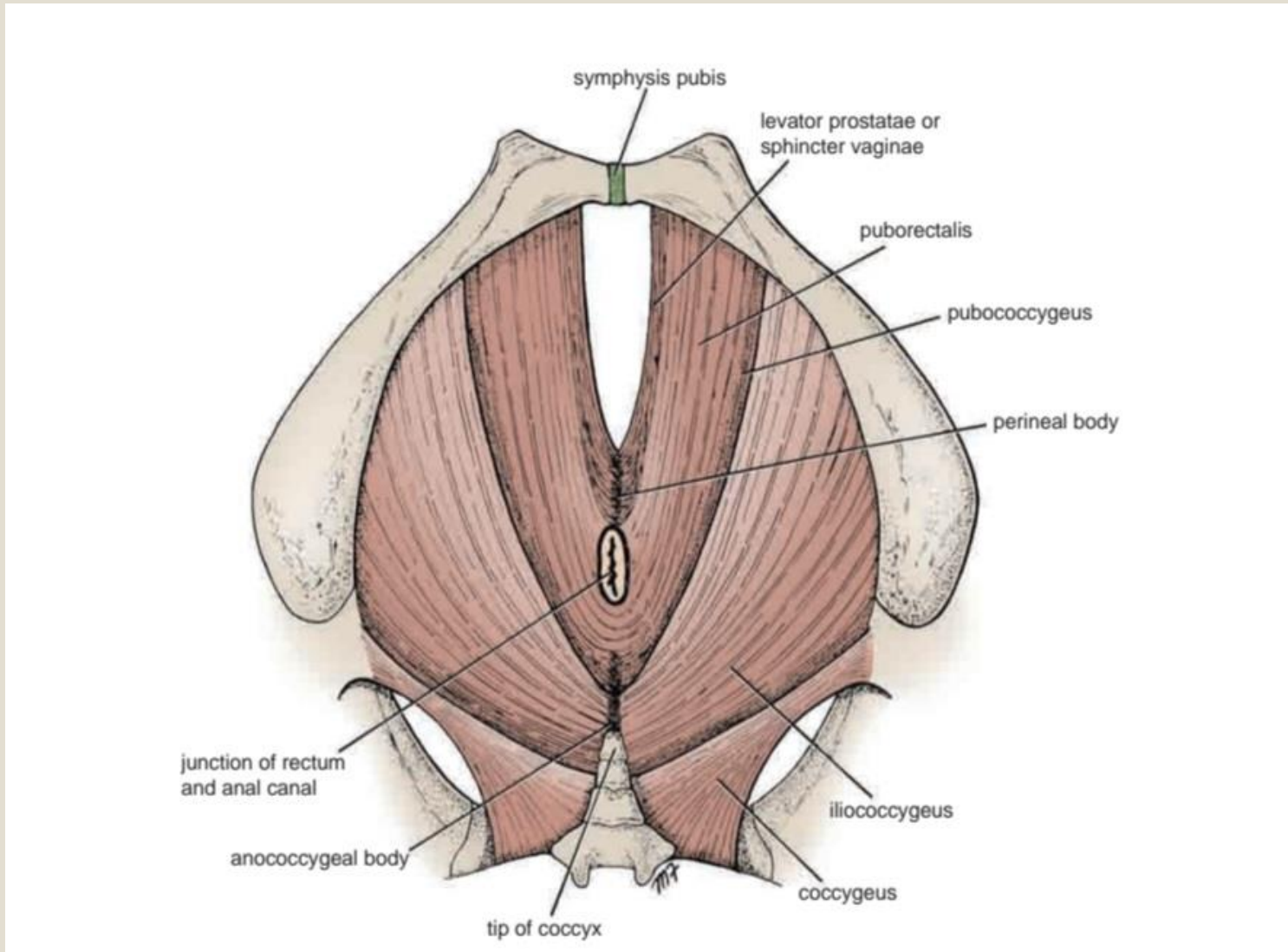


Male Pelvic Muscles

PELVIC DIAPHRAGM

The pelvic diaphragm is a group of muscles present in the floor of pelvis separating pelvic cavity proper above and perineum below.
It is incomplete anteriorly to Allow passage for urethra(and Vagina in case of females)




symphysis pubis
levator prostatae or
sphincter vaginae
puborectalis
pubococcygeus
perineal body
junction of rectum
and anal canal
anococcygeal body
tip of coccyx
iliococcygeus
coccygeus

FUNCTIONS OF PELVIC DIAPHRAGM

1. Support and maintain pelvic viscera in position.
2. Resistance to rise in intrapelvic/intraabdominal pressure (in coughing, sneezing, lifting heavy objects, etc)
3. Provide urinary and faecal continence
4. Support during childbirth to presenting fetal part by holding the fetus in place during uterine contraction.

COMPONENTS OF PELVIC DIAPHRAGM

1. LEVATOR ANI MUSCLES:
   - Anterior fibres (Levator prostatae or sphincter vaginae)
   - Intermediate fibres (Puborectalis and pubococcygeus)
   - Posterior fibres (Iliococcygeus)
2. COCCYGEUS MUSCLE
3. Fascia of Obturator internus and piriformis muscles

LEVATOR PROSTATAE OR SPHINCTER VAGINAE

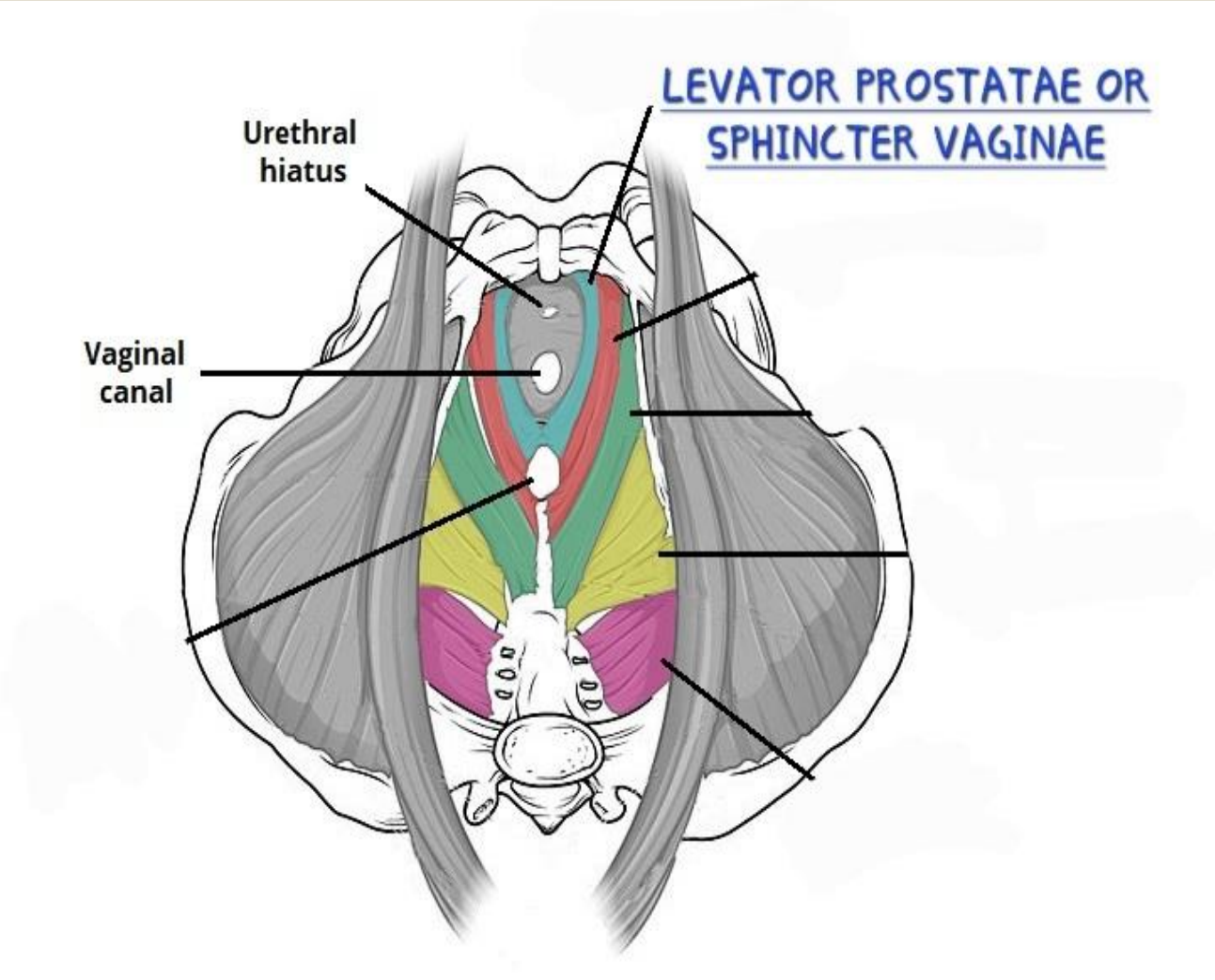
Medial most muscle.

ORIGIN

Body of pubis

INSERTION

Perineal body(fusion between levator ani, transverse perineii and External sphincter muscles.



PUBORECTALIS

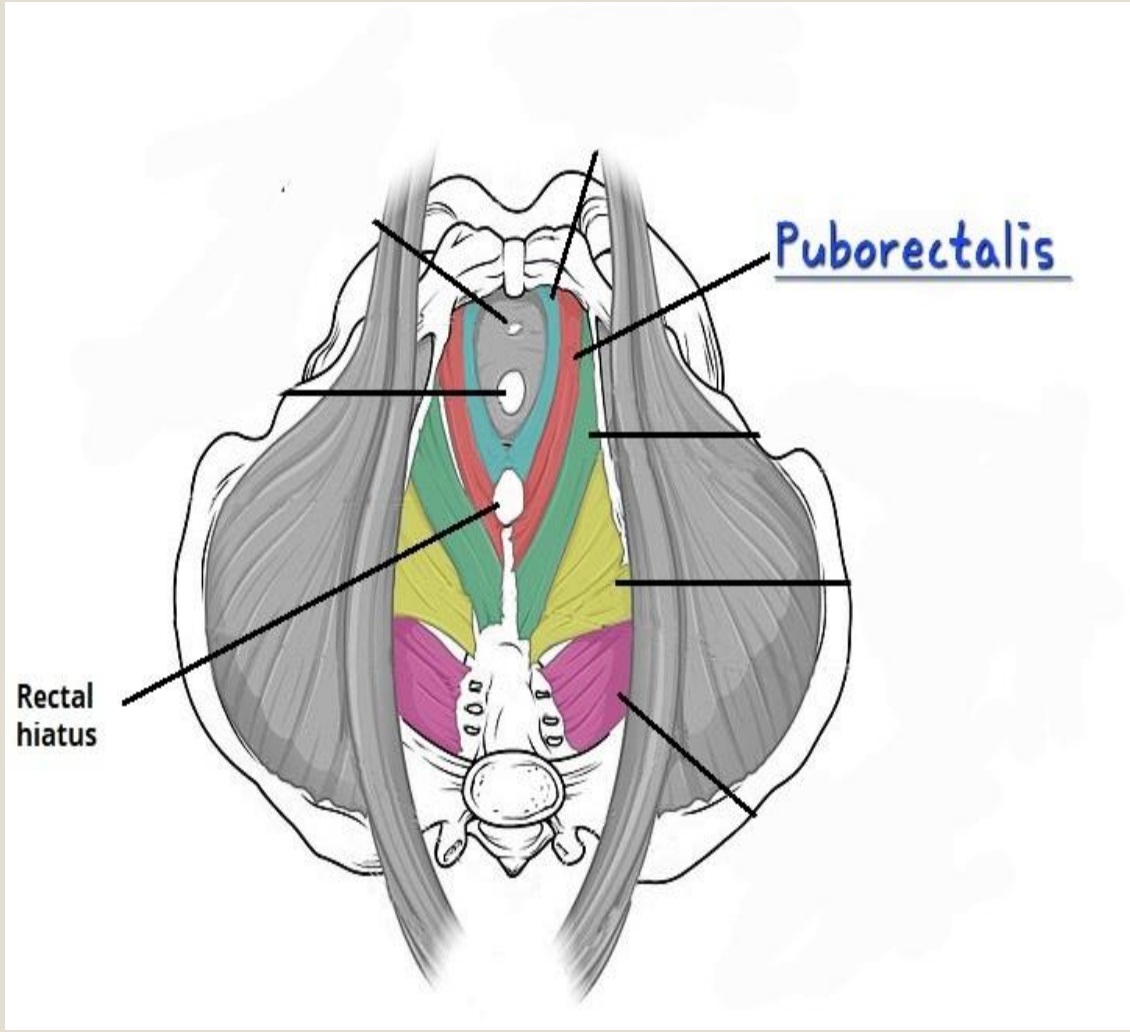
ORIGIN:

Posterior surface of body

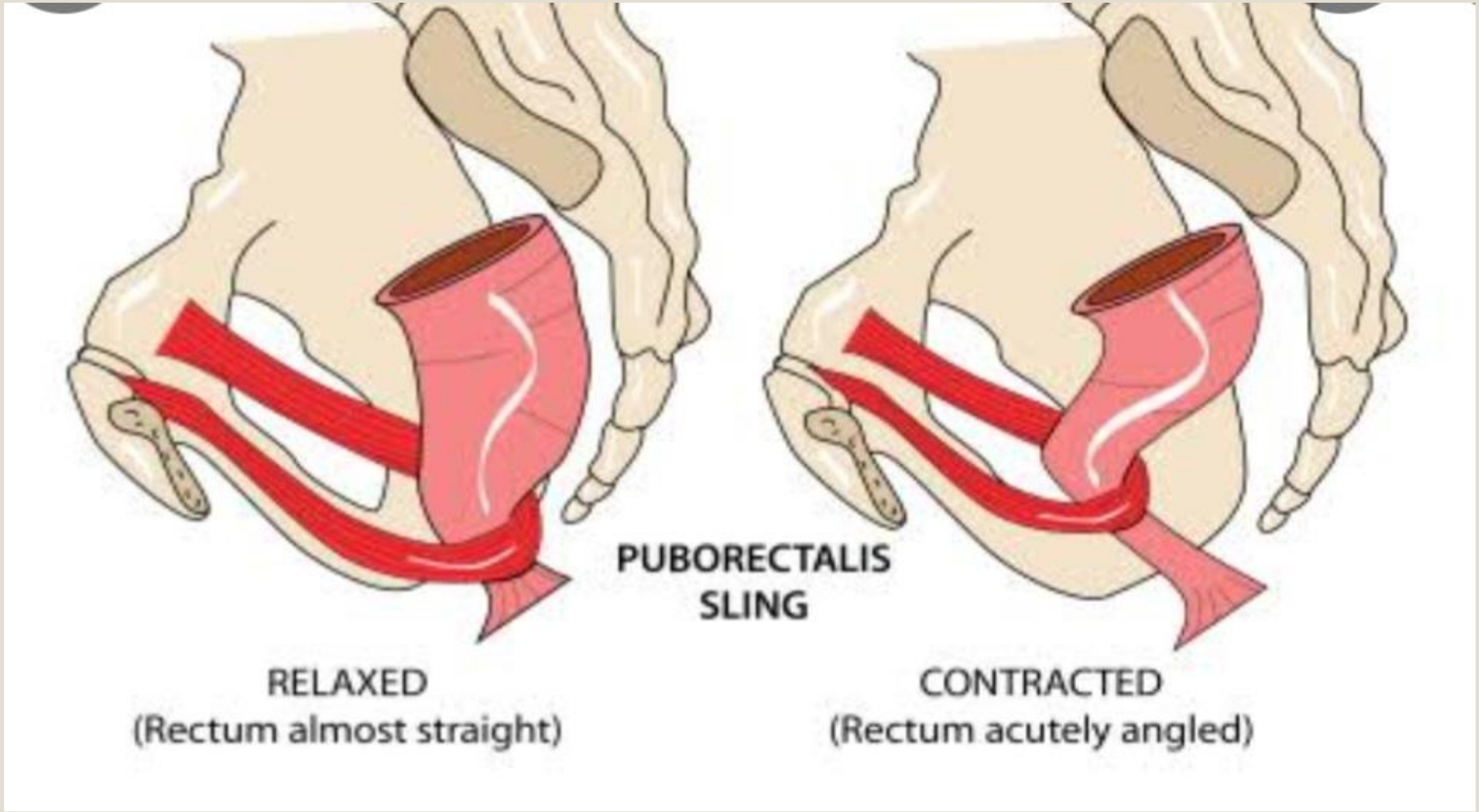
Of pubis

No insertion. It forms a

sling posterior to rectum.




Pubic symphysis
Rectum
Coccyx
Puborectalis
Wall of anal canal


PUBORECTALIS
SLING
RELAXED
(Rectum almost straight)
CONTRACTED
(Rectum acutely angled)

PUBOCOCCYGEUS

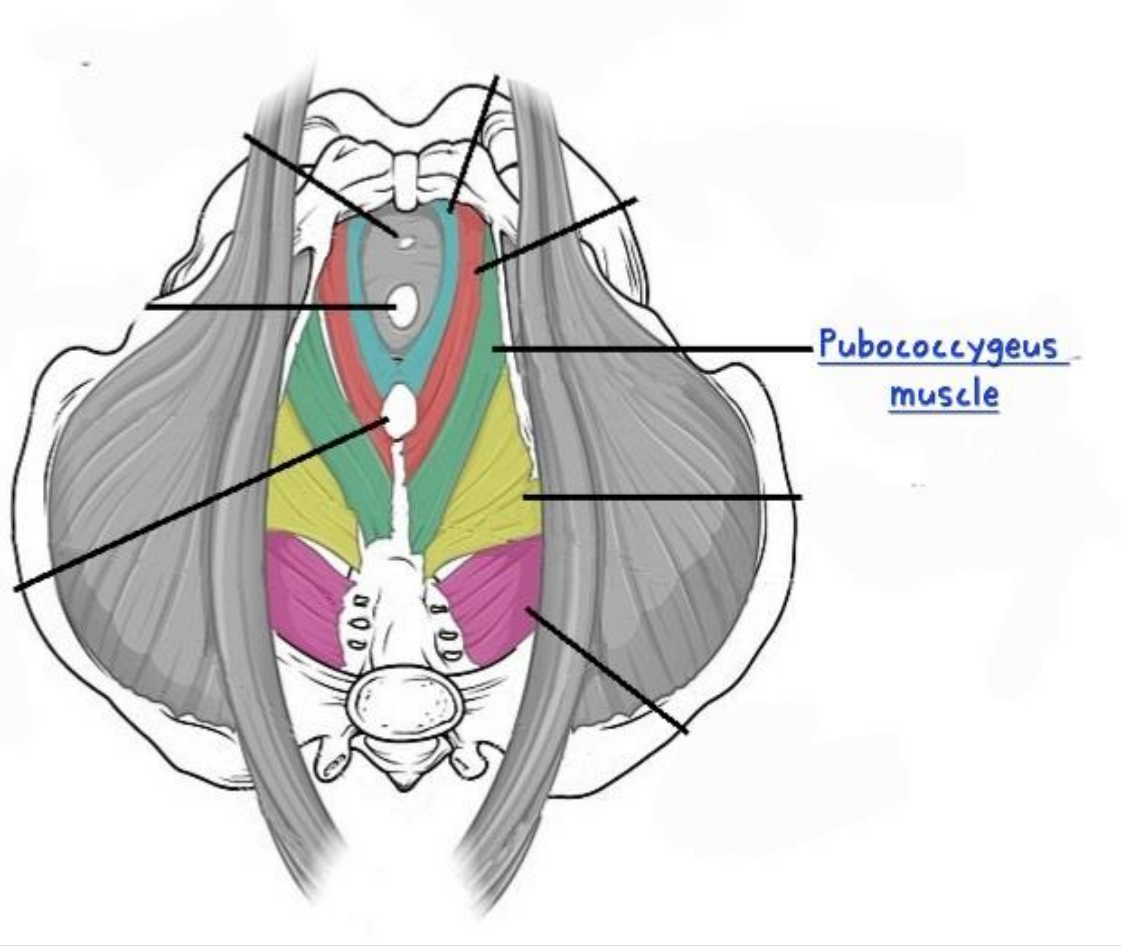
Lateral to Puborectalis.

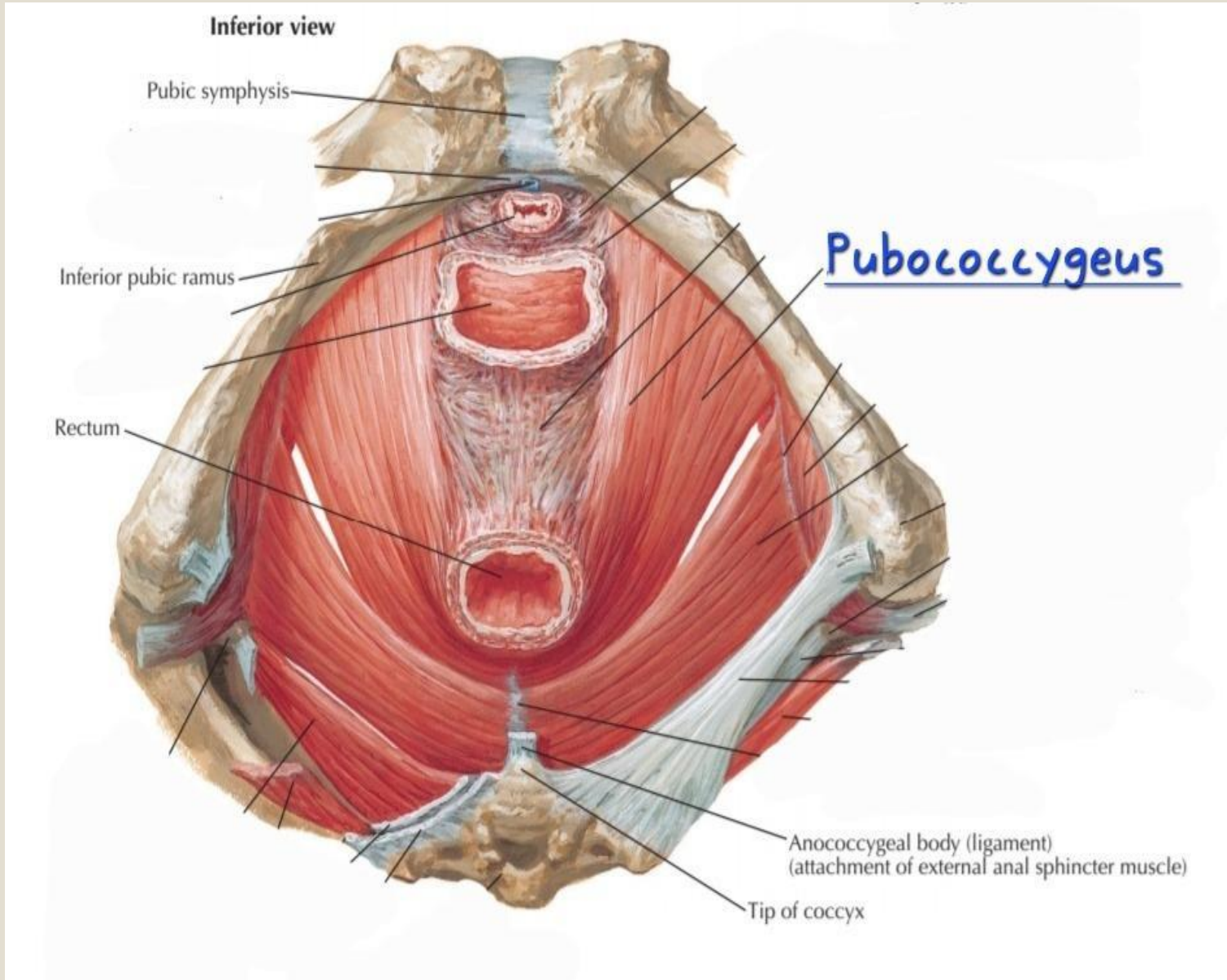
ORIGIN

Posterior surface of body Of pubis.

INSERTION:

Anococcygeal ligament. (between anal fascia and Coccygeal periosteum)




Inferior view
Pubic symphysis
Inferior pubic ramus
Rectum
Pubococcygeus
Anococcygeal body (ligament)
(attachment of external anal sphincter muscle)
Tip of coccyx

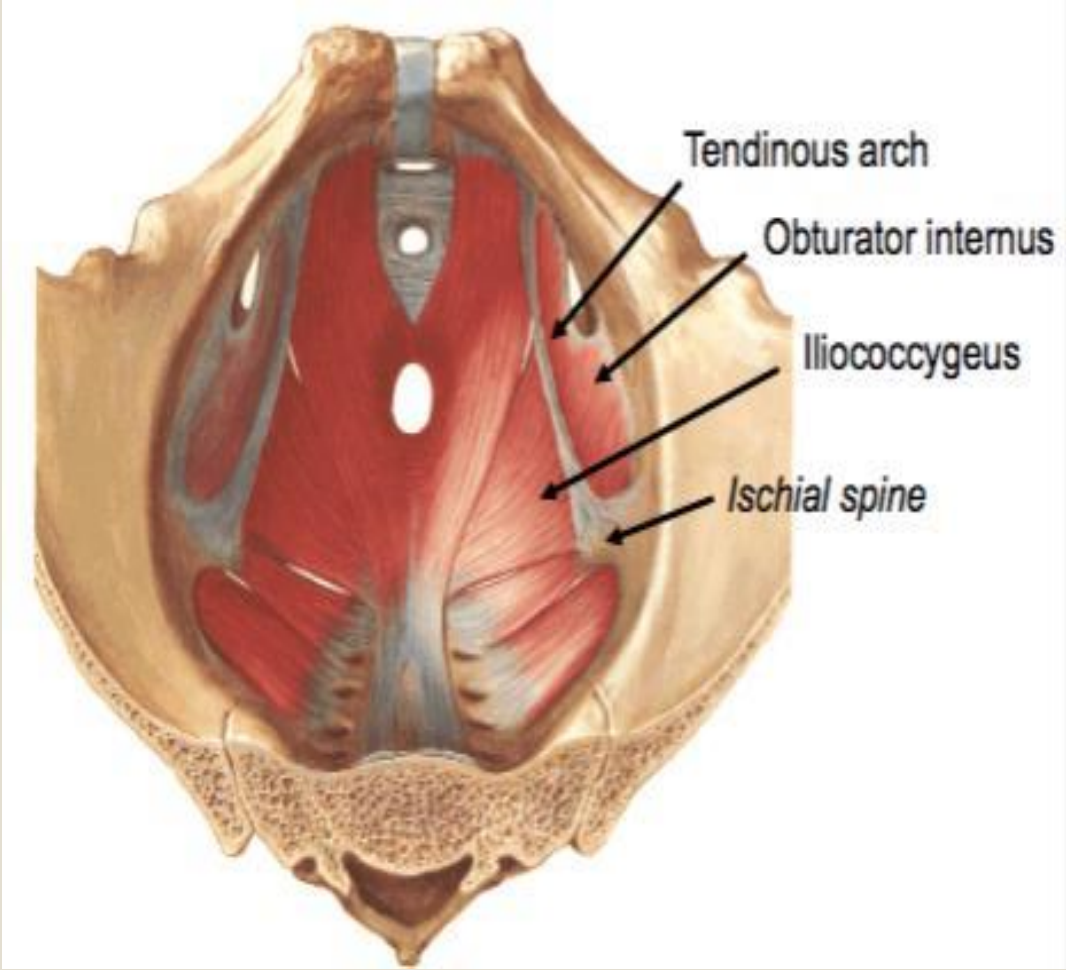
ILIOCOCCYGEUS

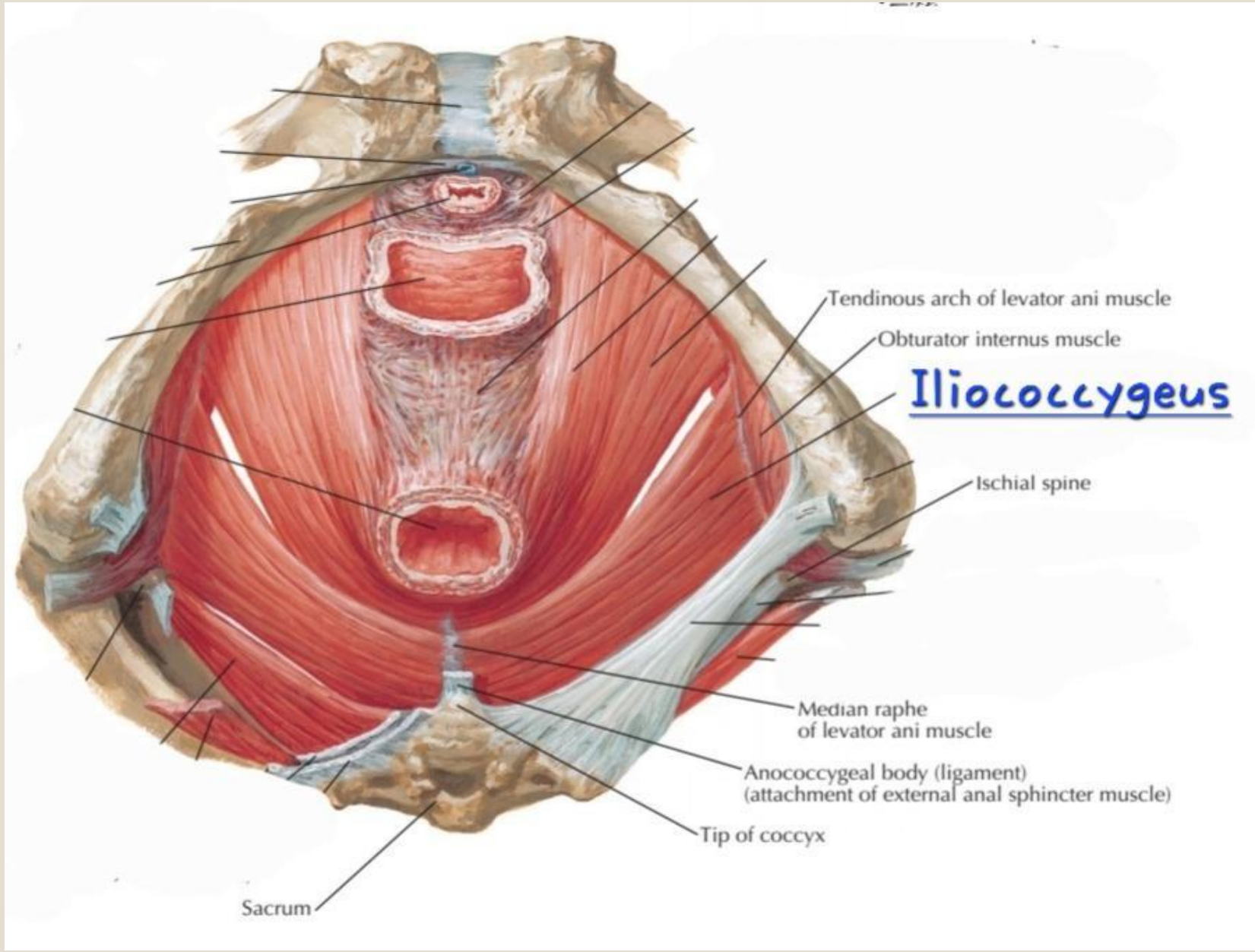
ORIGIN:

Tendinous arch of internal obturator fascia and Ischial spine.

INSERTION:

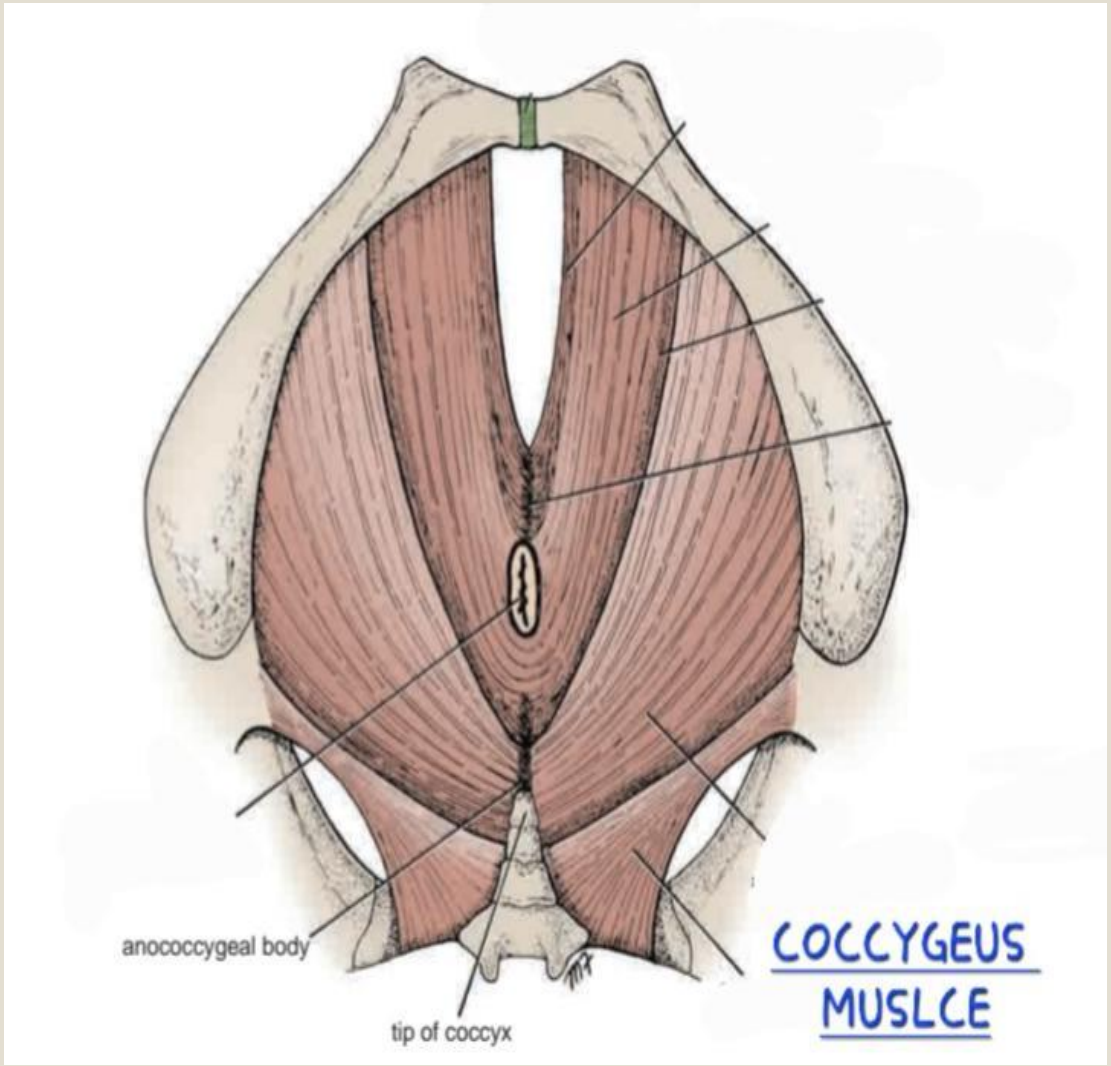
Anococcygeal ligament and coccyx.




Tendinous arch of levator ani muscle
Obturator internus muscle
Iliococcygeus
Ischial spine
Median raphe
of levator ani muscle
Anococcygeal body (ligament)
(attachment of external anal sphincter muscle)
Tip of coccyx
Sacrum

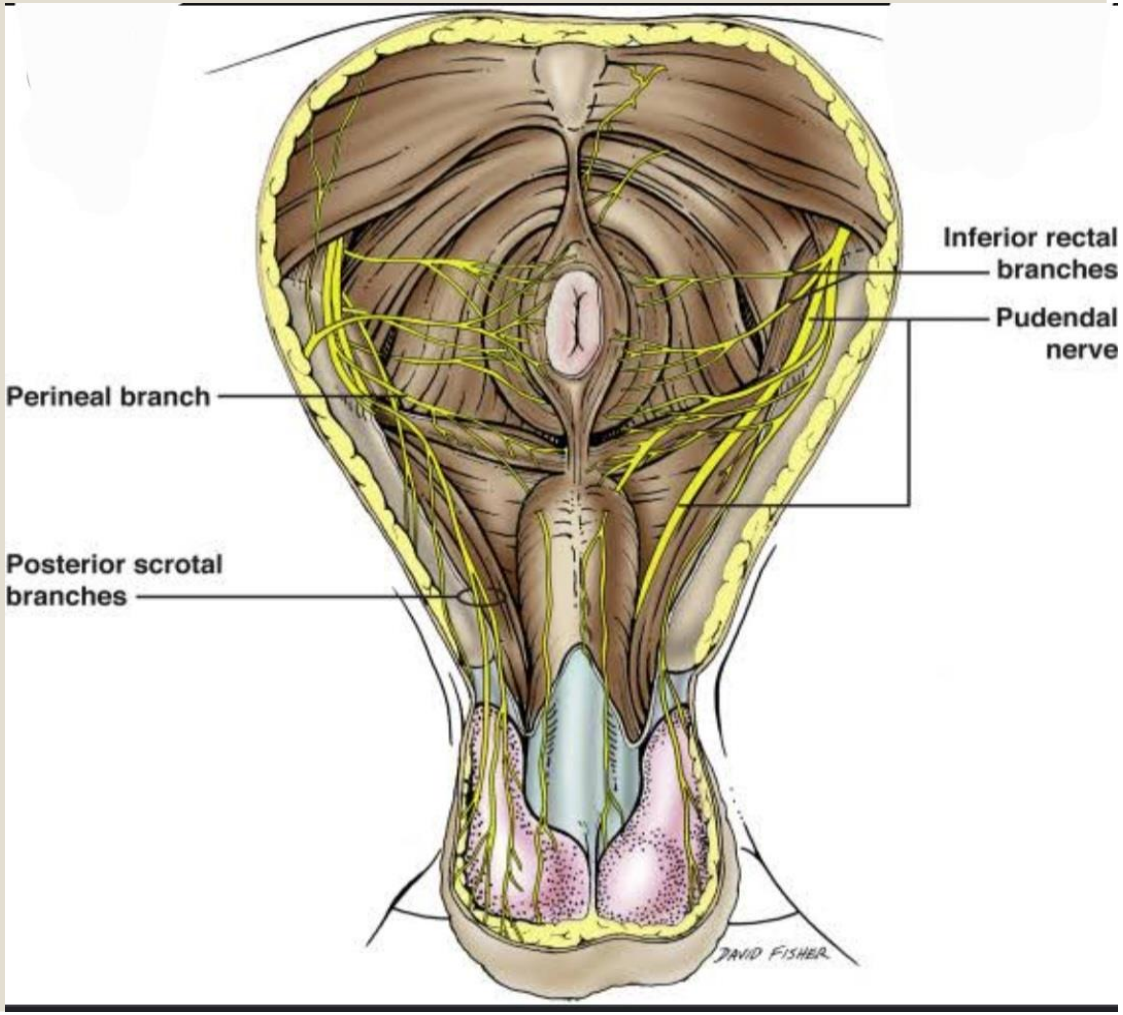
COCCYGEUS

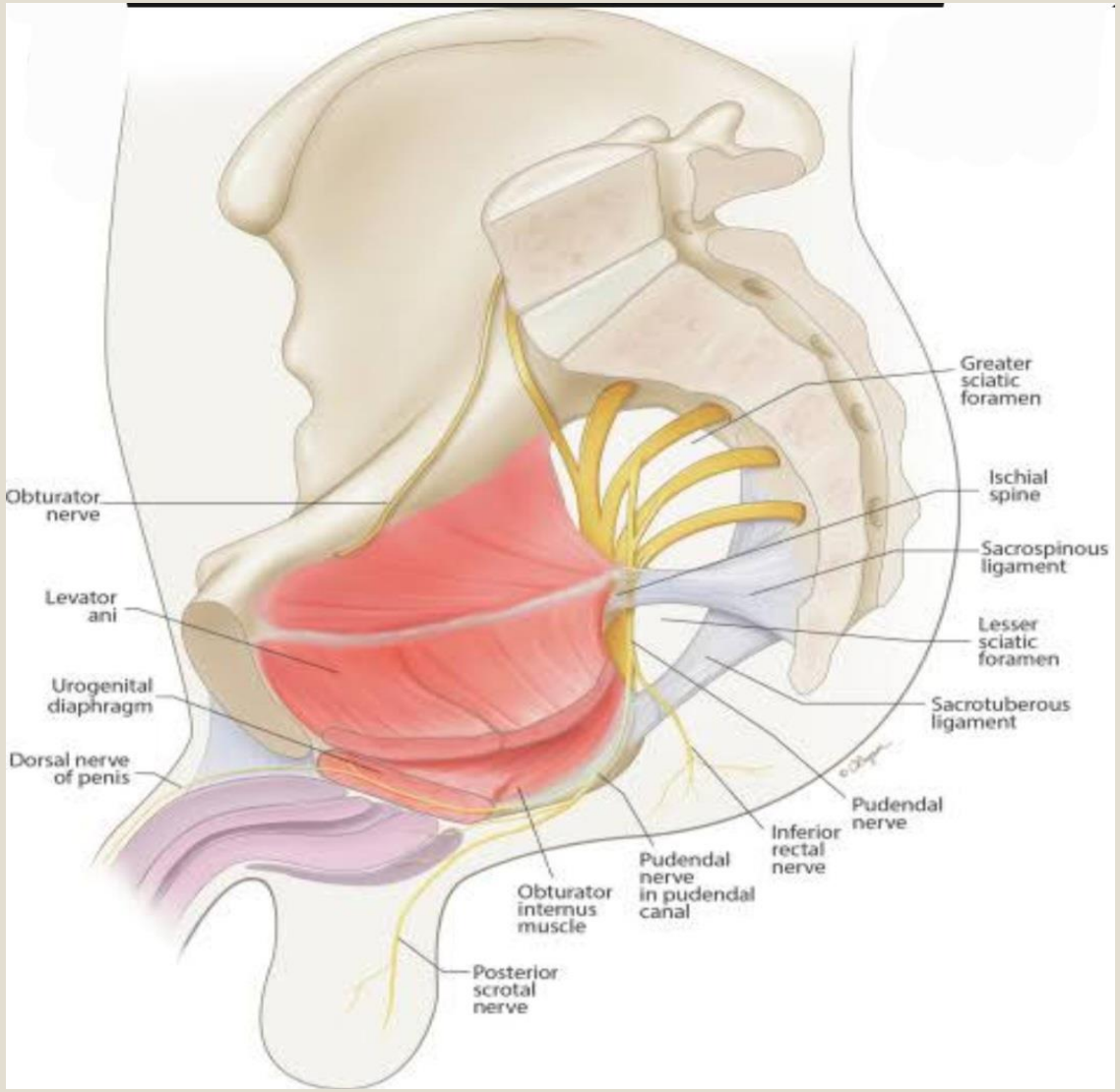
Triangular shaped muscle.
ORIGIN(Apex)
Ischial spine
INSERTION(Base)
Lower end of sacrum (S5 level), lateral part of coccyx.

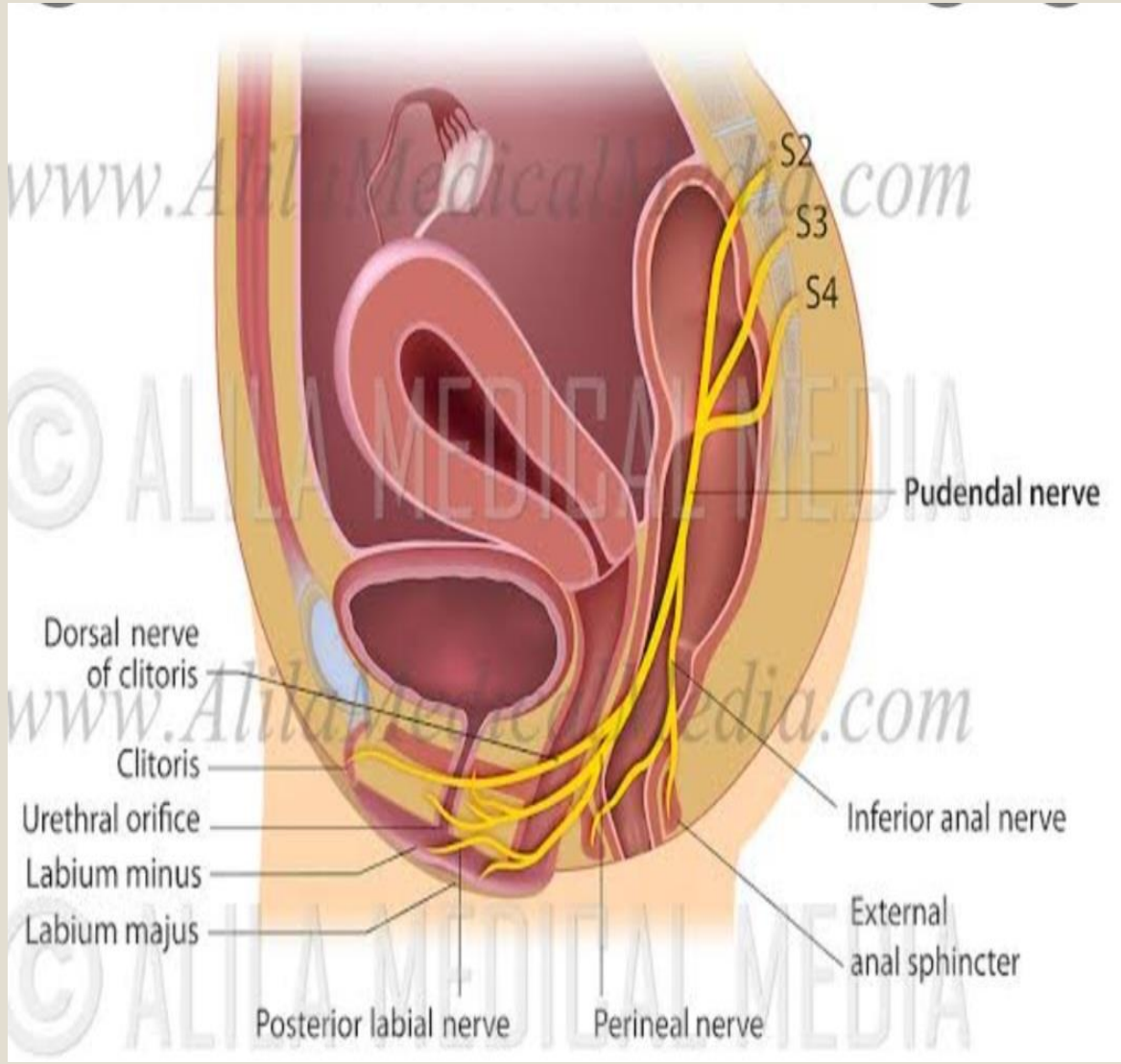


NERVOUS INERVATION

- **LEVATOR ANI MUSCLES:** From perineal branches of 4th sacral nerve and pudendal nerve(S2-4).
- **COCCYGEUS MUSCLE**: From 4th and 5th sacral nerves.




Greater sciatic foramen
Ischial spine
Obturator nerve
Sacrospinous ligament
Levator ani
Lesser sciatic foramen
Urogenital diaphragm
Sacrotuberous ligament
Dorsal nerve of penis
Pudendal nerve
Inferior rectal nerve
Pudendal nerve in pudendal canal
Obturator internus muscle
Posterior scrotal nerve

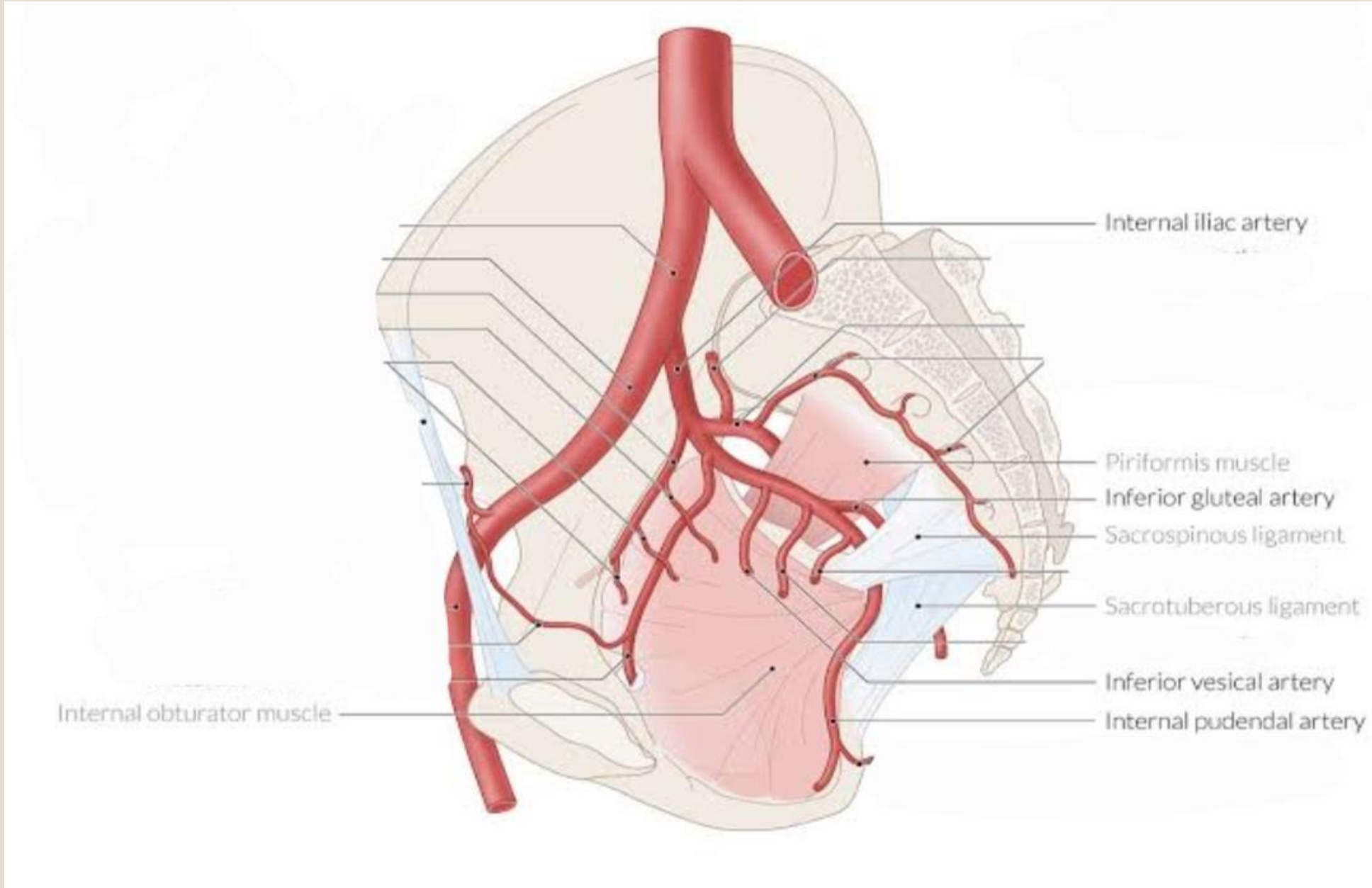

S2
S3
S4
Pudendal nerve
Dorsal nerve of clitoris
Clitoris
Urethral orifice
Labium minus
Labium majus
Inferior anal nerve
External anal sphincter
Posterior labial nerve
Perineal nerve

BLOOD SUPPLY

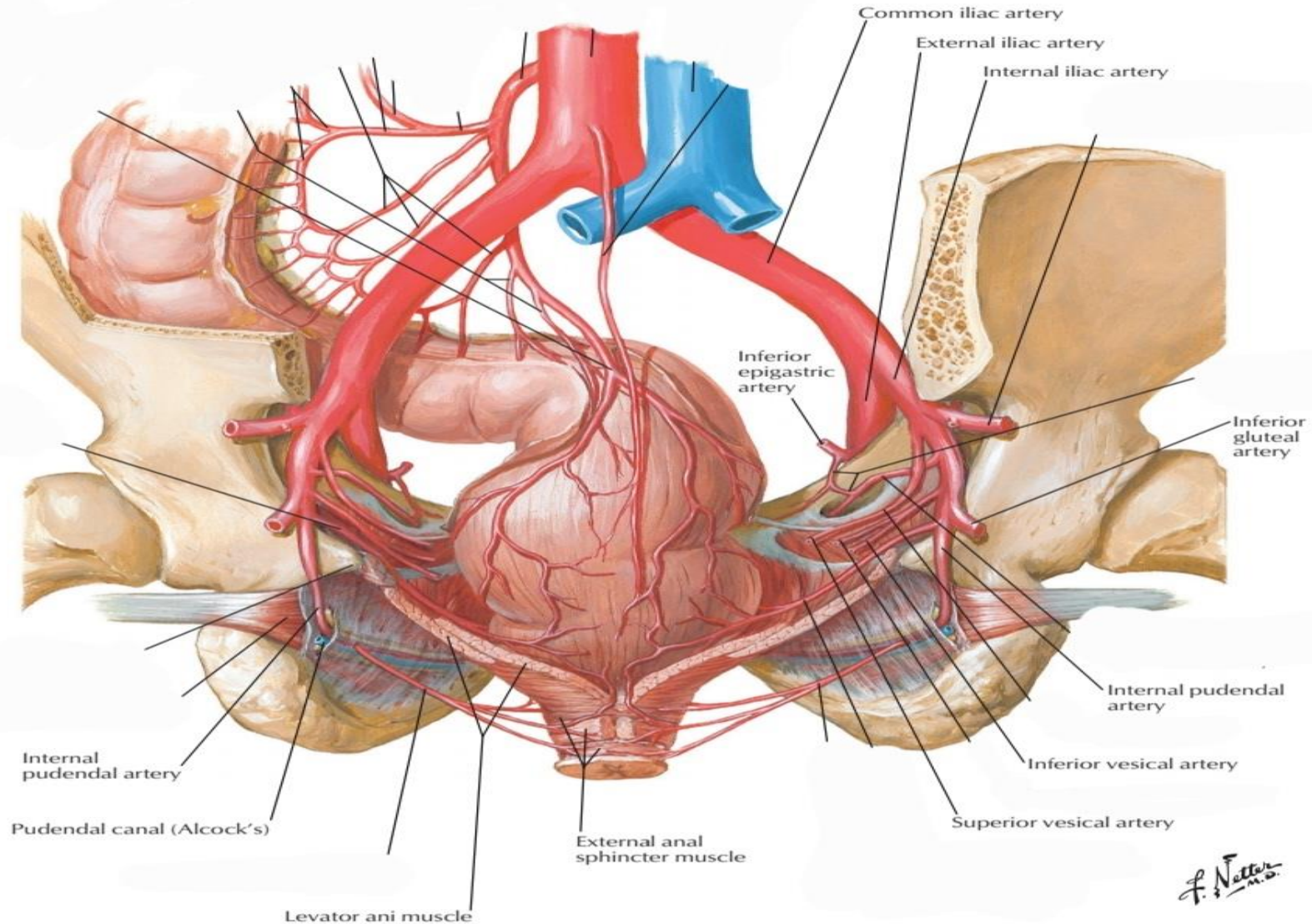
From 3 branches of internal iliac artery

1. Pudendal artery
2. Inferior gluteal artery
3. Vesical artery

The name of the veins correspond to arteries.

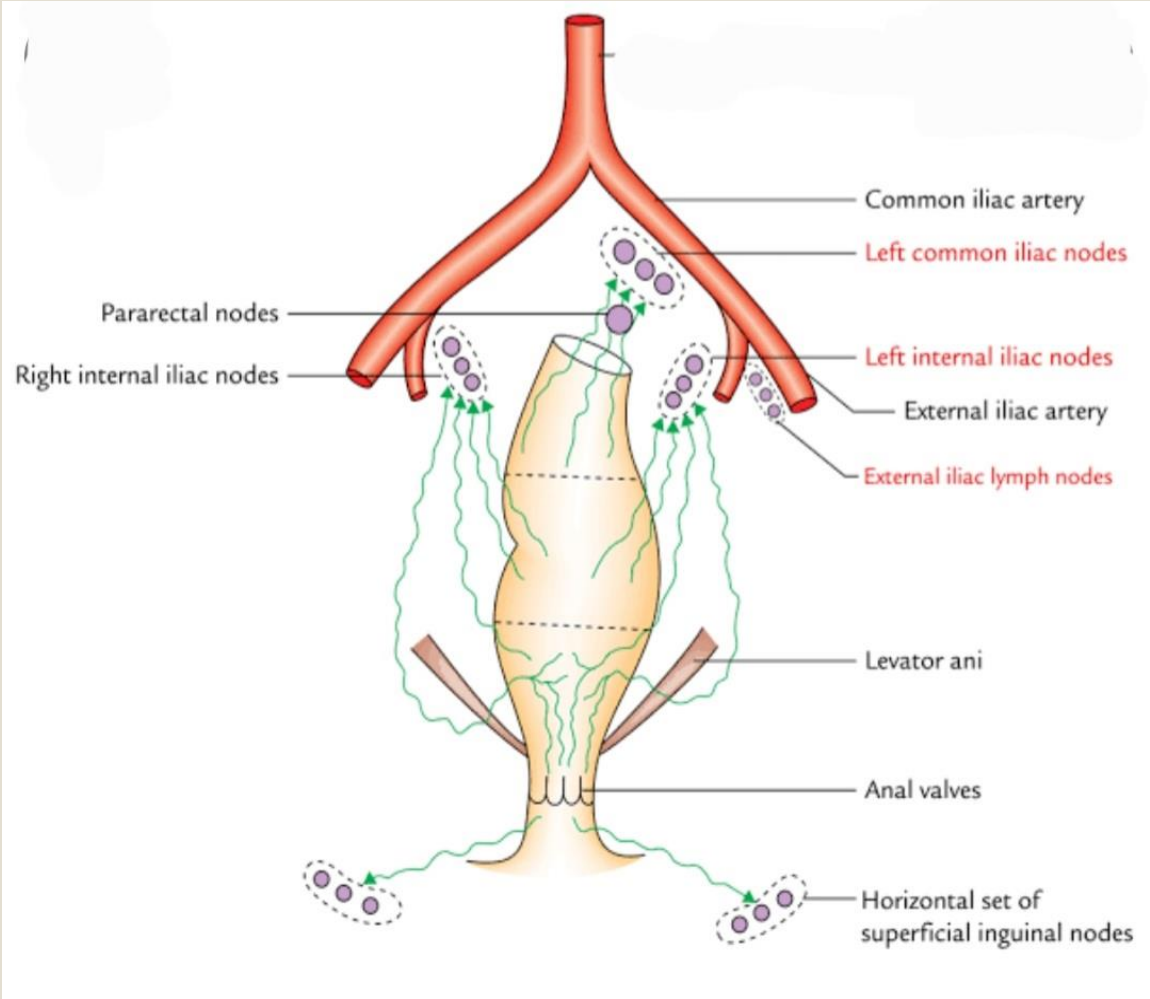

Internal iliac artery
Piriformis muscle
Inferior gluteal artery
Sacrospinous ligament
Sacrotuberous ligament
Inferior vesical artery
Internal pudendal artery
Internal obturator muscle

Posterior view



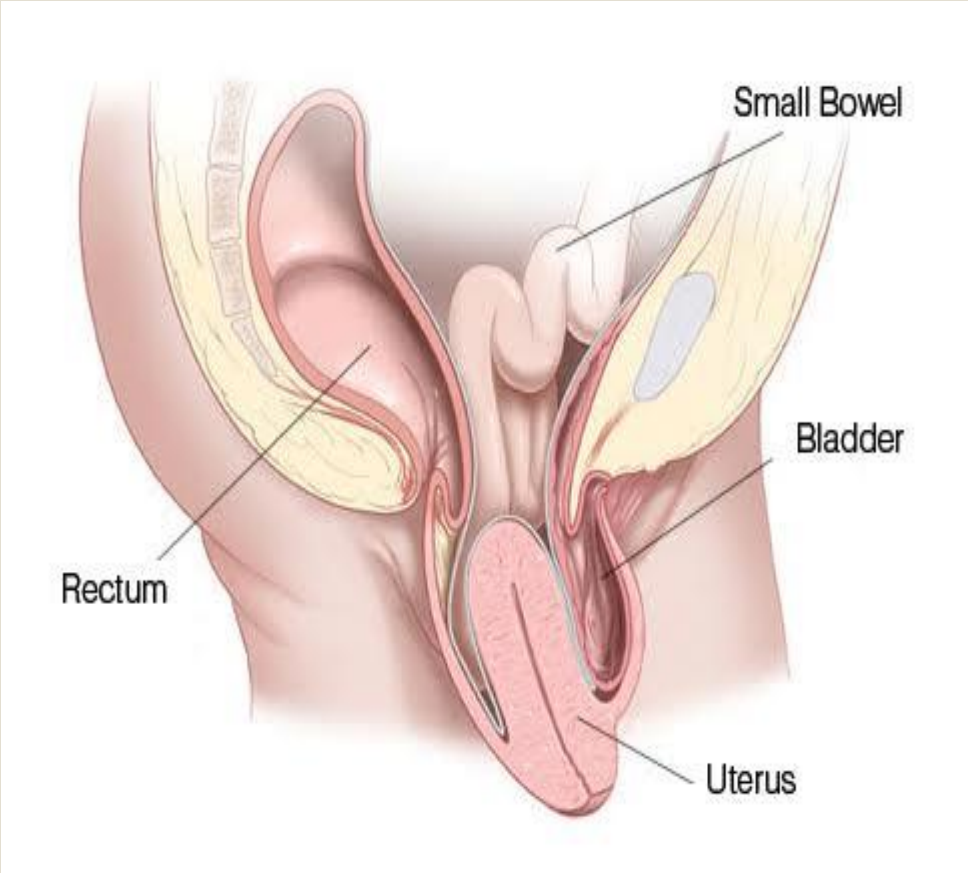
LYMPHATIC DRAINAGE

Lymph from pelvic floor drains into internal iliac lymph nodes which drain into common iliac lymph nodes.



PELVIC FLOOR DISORDERS (PFDs)

- Pelvic organ prolapse (most commonly uterine prolapse). In this condition pelvic floor muscles cannot support uterus causing it to descend into the vagina.



- Urinary and faecal incontinence occurs due to weakening of pelvic floor muscles supporting bladder and rectum and forming their sphincters.

TREATMENT

- Pelvic floor exercises
- Surgery

Reference

- Snell's Clinical Anatomy
- Netter's Atlas of Human Anatomy
- Internet.


Thank
You