

Ischioanal / Ischiorectal fossa

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Learning objectives

By the end of this teaching session all the students must be able to correctly:-

- **Describe the location, shape and dimensions of the ischioanal fossa**
- **Enumerate the boundaries of the ischioanal fossa**
- **Enumerate subdivisions and recesses of ischioanal fossa**
- **Enumerate the contents of ischioanal fossa**
- **Draw a labelled diagram of coronal section of ischioanal fossa**
- **Describe the applied anatomy of ischioanal fossa**

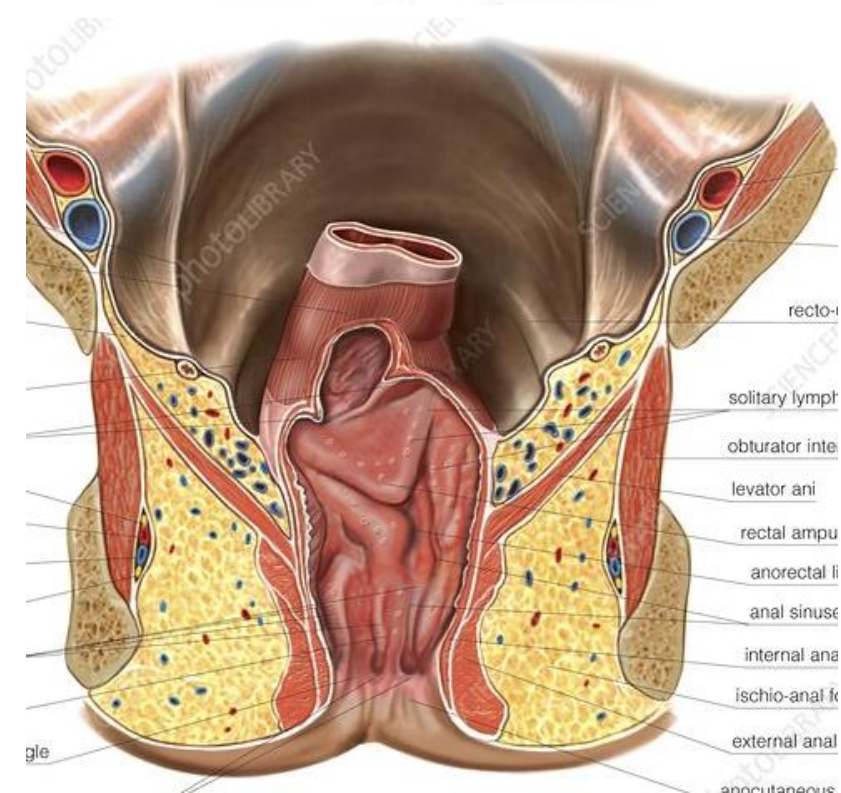
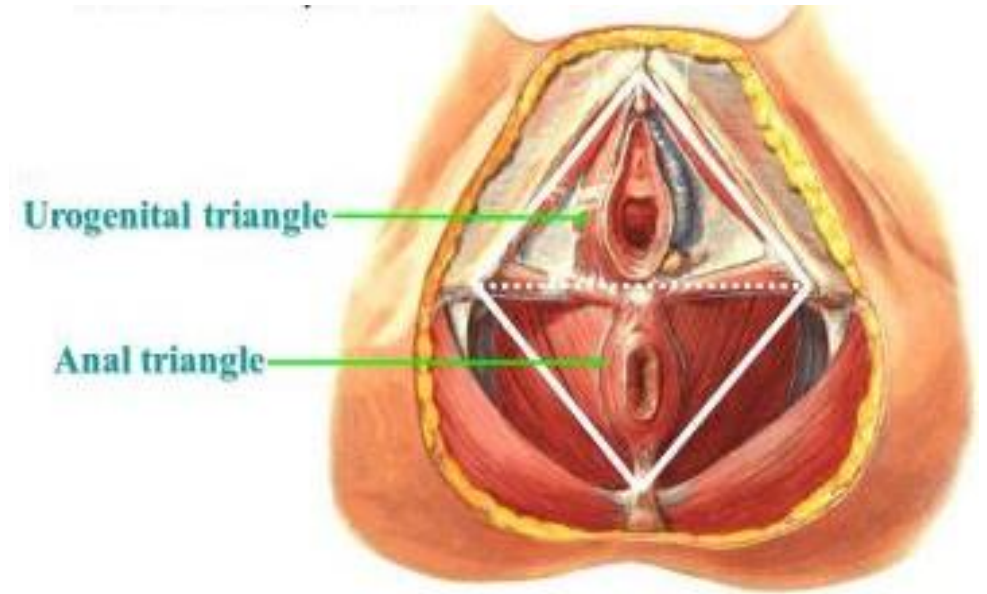
- Pelvic outlet is subdivided by an imaginary line into:

- Urogenital triangle in front
- Anal triangle behind

- In the midline antero-posteriorly the anal triangle presents

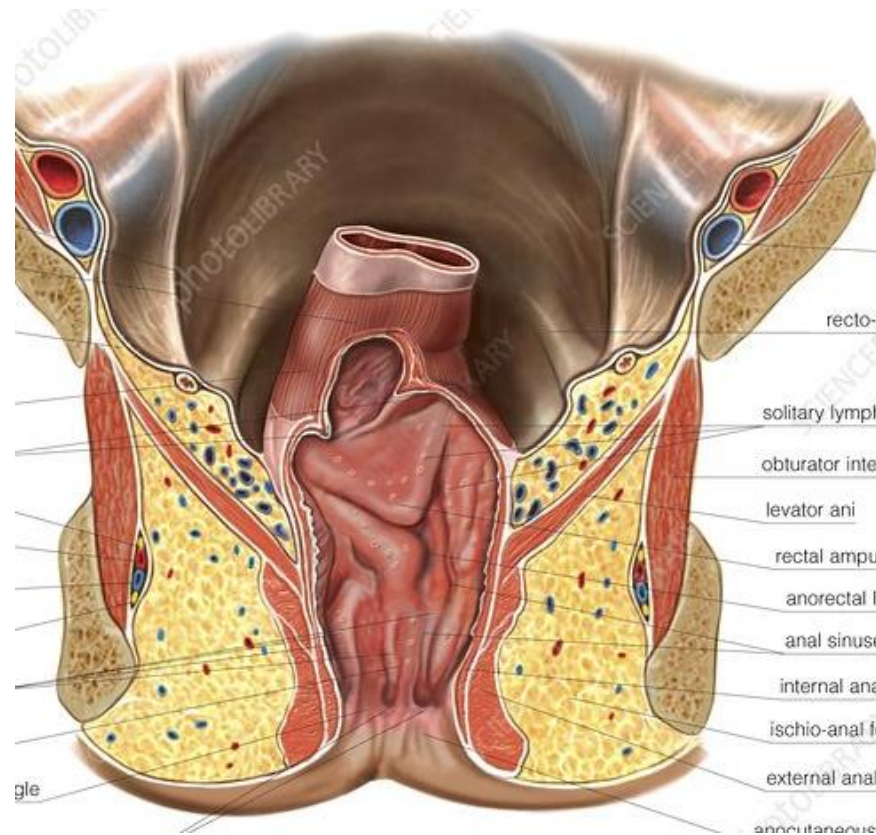
- Perineal body
- Anal orifice
- Ano- coccygeal raphe

- On each side – fascia lined wedge shaped space called ischio-rectal/ ischioanal fossa



Ischioanal/Ischioirectal fossa

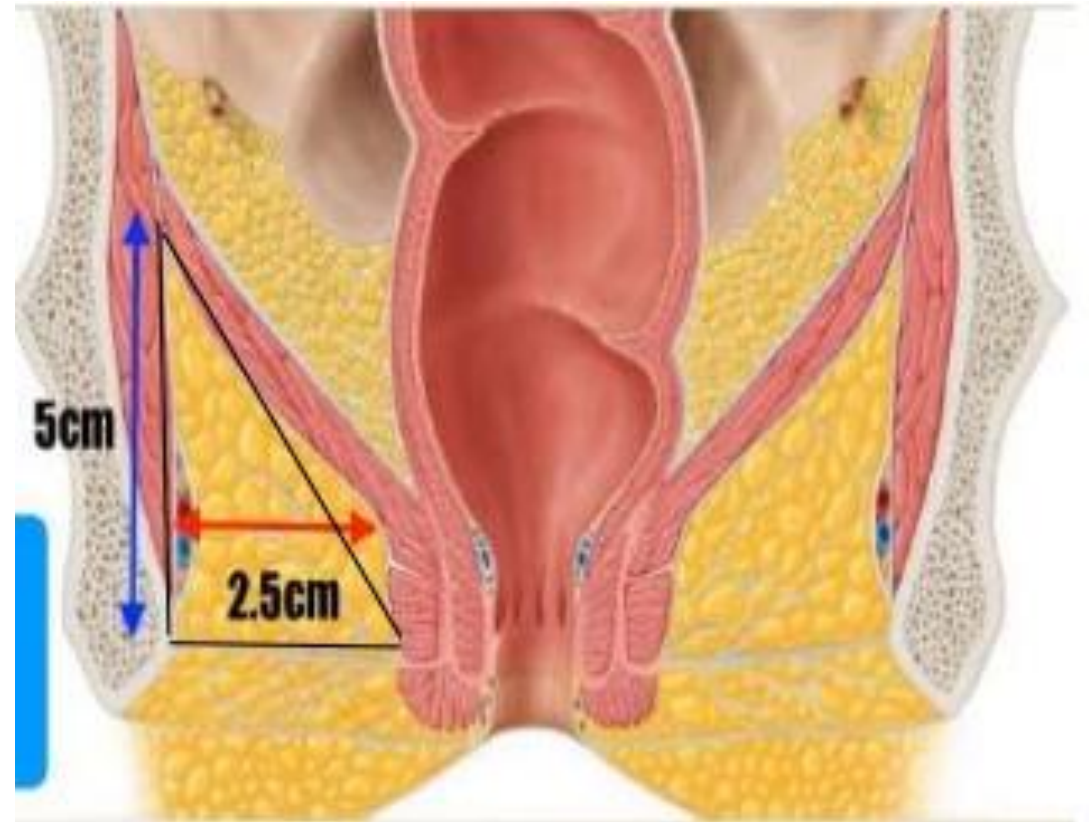
- Space on each side of anal canal between inferior surface of pelvic diaphragm and pelvic surface of ischium
- Filled with fat – act as cushions allow expansion of rectum and anal canal



Shape & measurements

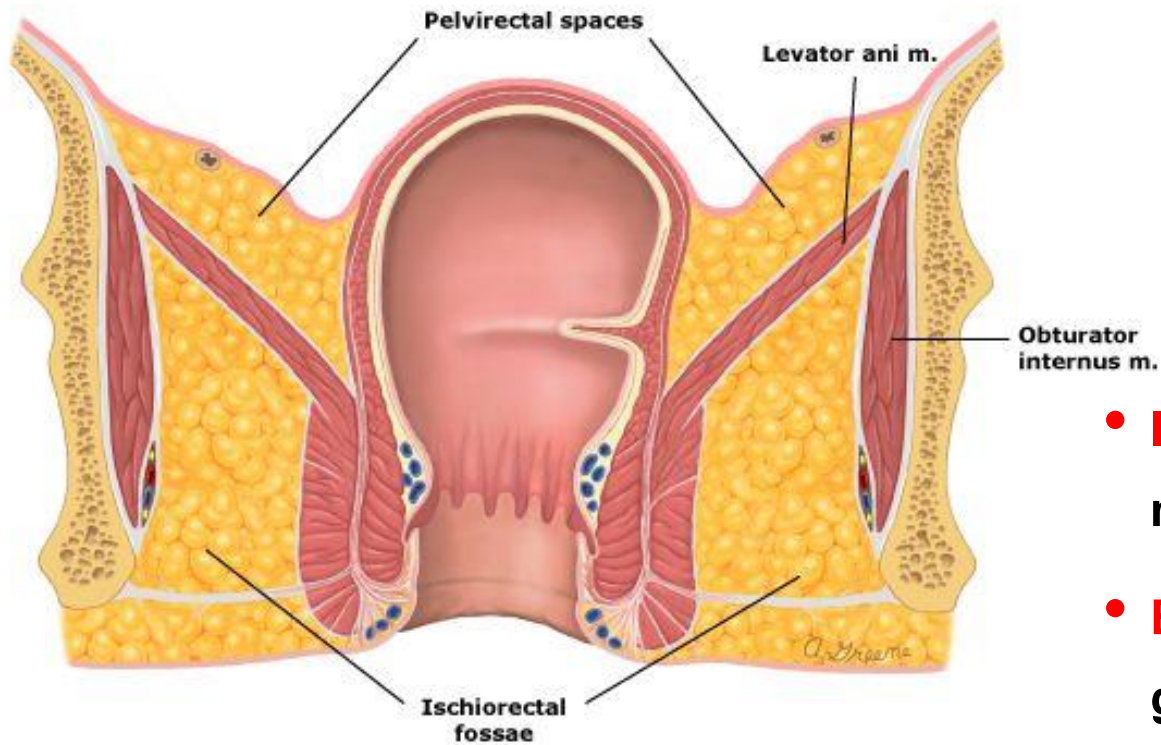


- Wedge shaped
- Vertical – 5 cm
- Anteroposterior – 5 cm
- Transverse – 2.5 cm



Boundaries

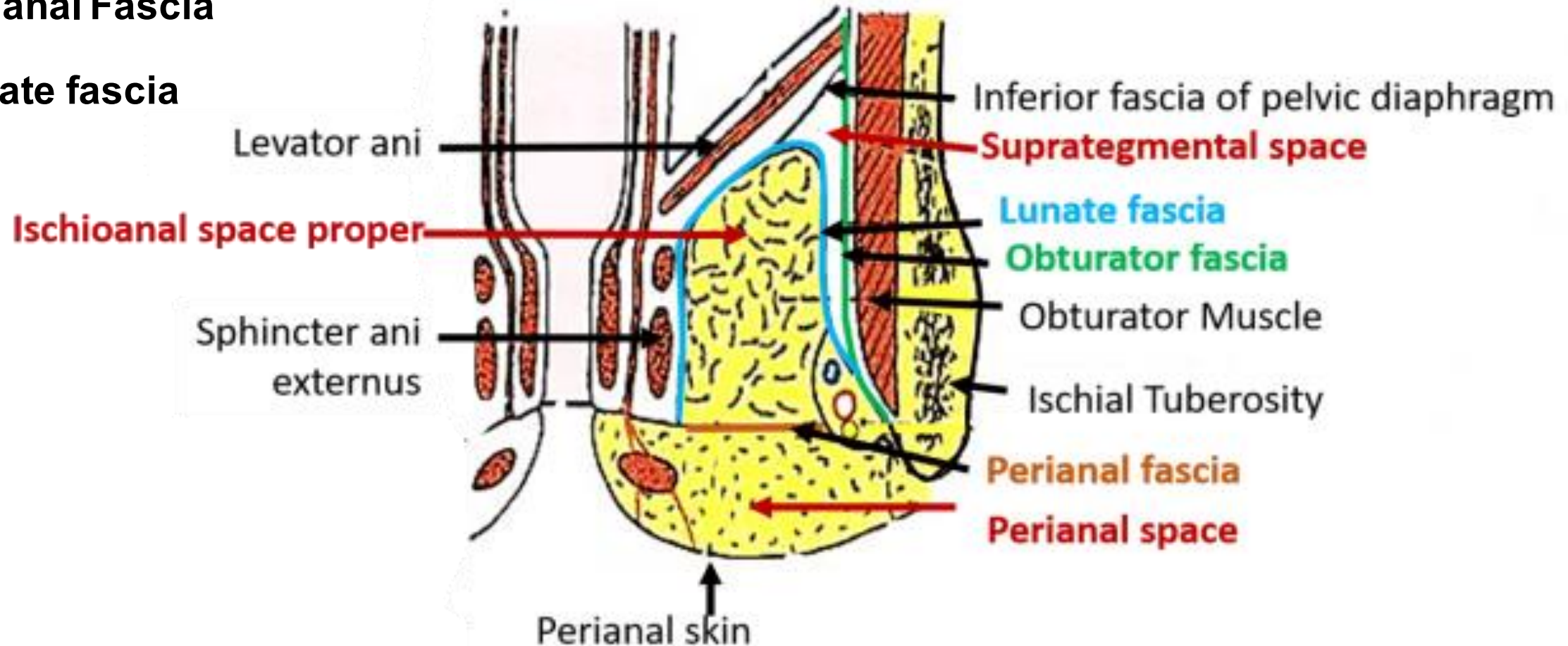
- **Laterally** – Obturator internus covered with obturator fascia, ischial tube
- **Medially**- Levator ani muscle with anal fascia & External anal sphincter
- **Apex** – Fusion of anal fascia & obturator fascia
- **Base** – Skin & superficial fascia



- **In front** – Superficial & deep transverse perinei muscles & perineal membrane
- **Behind** – Sacrotuberus ligament & lower fibres of gluteus maximus

Fasciae of Ischioirectal / Ischioanal Fossae

- Obturator fascia
- Anal fascia
- Perianal Fascia
- Lunate fascia



OBTURATOR FASCIA (yellow arrow)

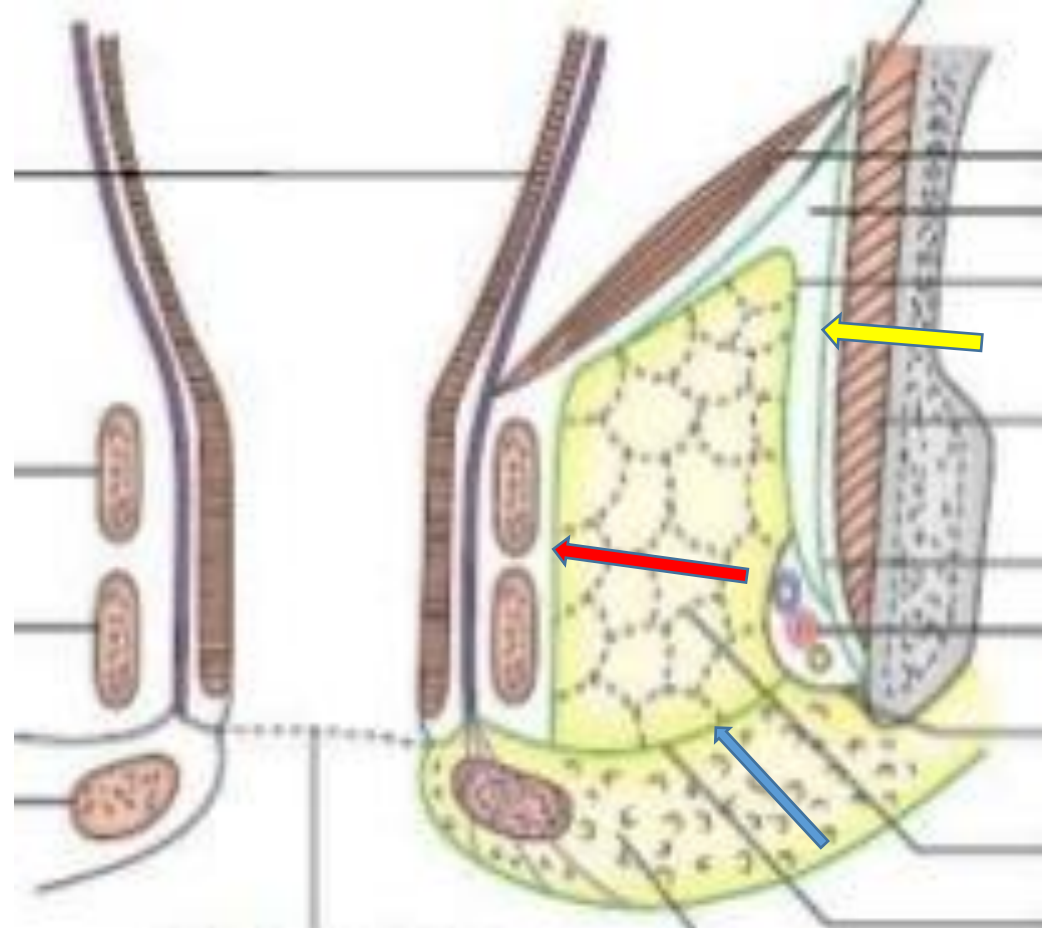
fascia of obturator internus muscle,
covers the pelvic surface of the muscle
and is attached around the margin of its
origin

ANAL FASCIA (red arrow)

The anal fascia is the inferior layer of the
diaphragmatic part of the pelvic fascia

PERIANAL FASCIA (blue arrow)

Lateral most septum derived from fusion of
longitudinal muscle of rectum and levator
ani



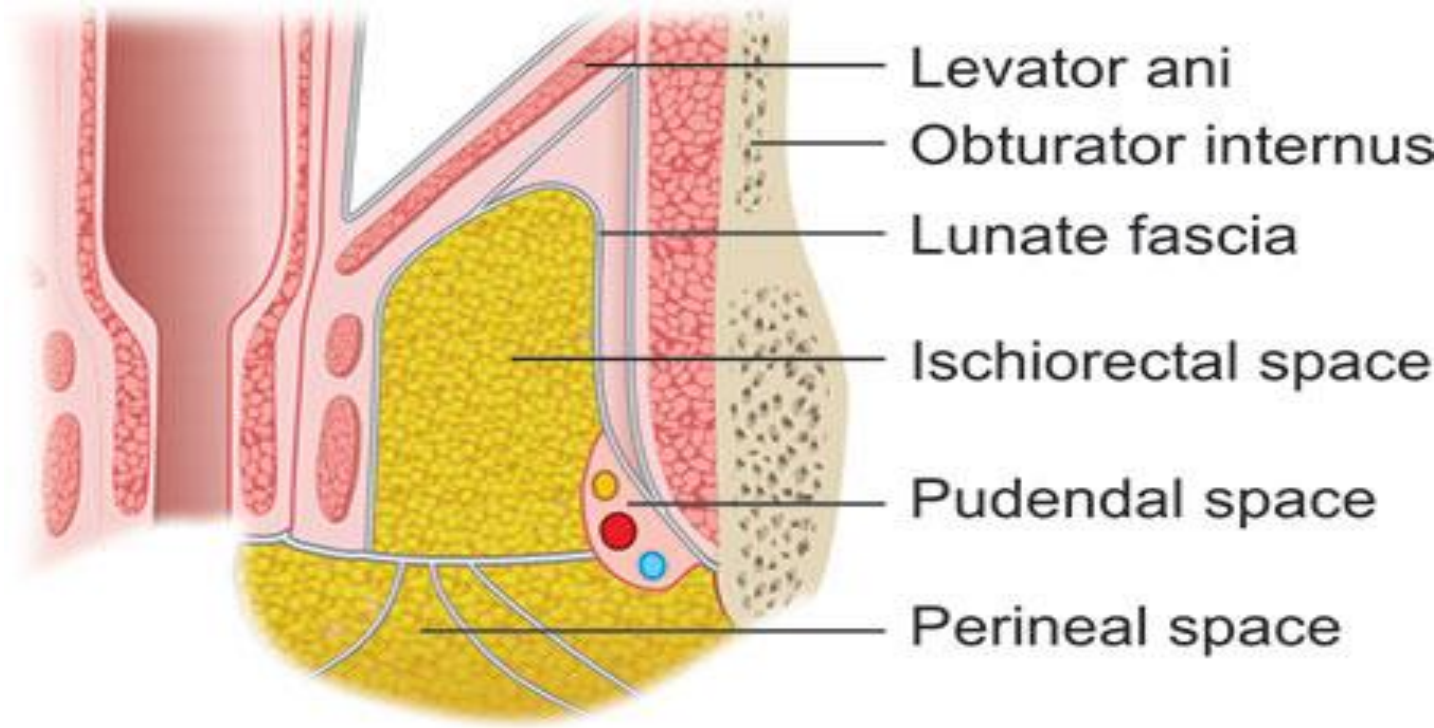
Diagrammatic coronal section through anal triangle

LUNATE FASCIA- (red arrow)

- lines the deepest part of fossa
- arched shaped

Laterally-

- Covers the obturator fascia, forms medial wall of pudendal canal & blends with periosteum of ischial tuberosity



Coronal section through anal triangle

Medially –

Covers the anal fascia, blends with it at white line of Hilton

Summit-

Called tegmentum

Subdivisions of Ischioanal fossa

SUPRASEGMENTAL SPACE-

- Above tegmentum
- Between apex of fossa and tegmentum
- Contains loose fat

ISCHIORECTAL SPACE

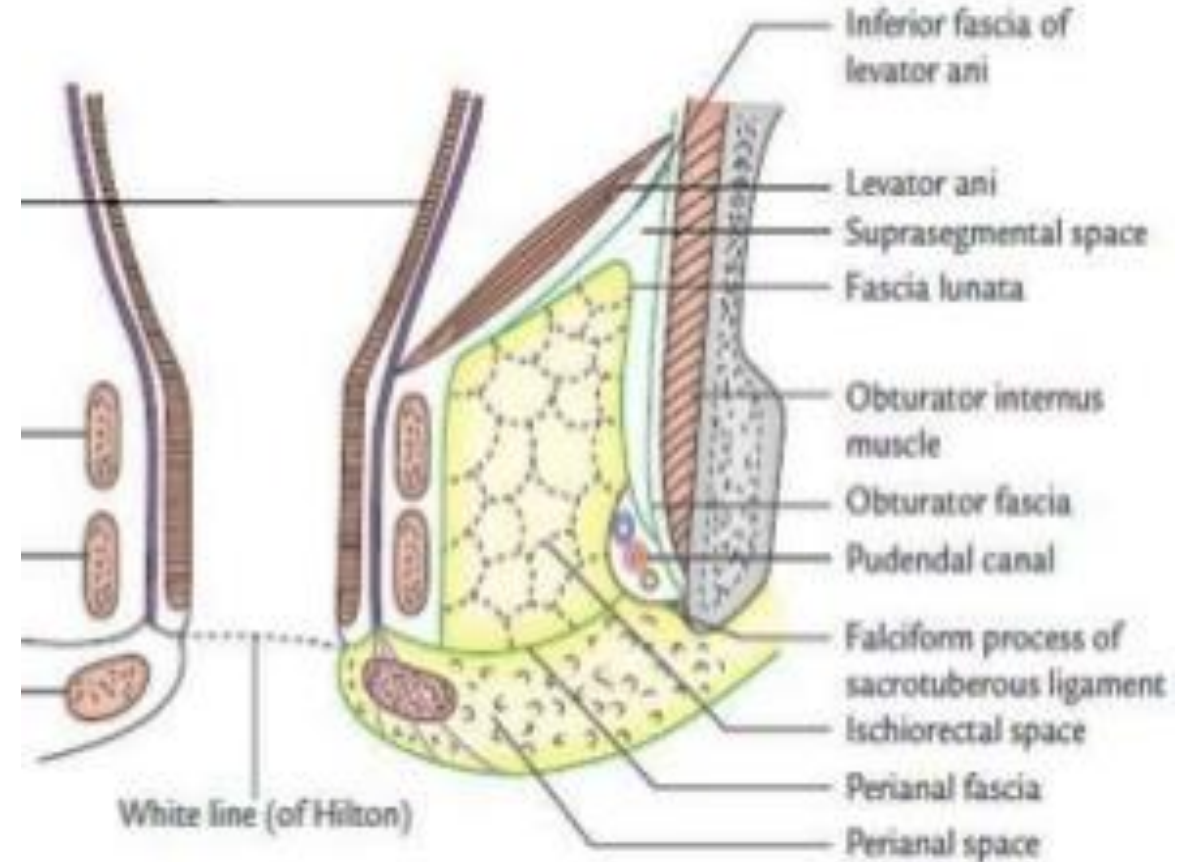
- Between lunate fascia and perianal fascia
- Filled with fat traversed by fibrous tissue

PERIANAL SPACE-

Between perianal fascia above and perianal skin below

Subdivided into compartments by fibroelastic septa

Contains loculated fat



Recesses of the fossa

- **ANTERIOR RECESS-**

- forward extension of fossa above perineal membrane/ urogenital diaphragm and below the pelvic diaphragm

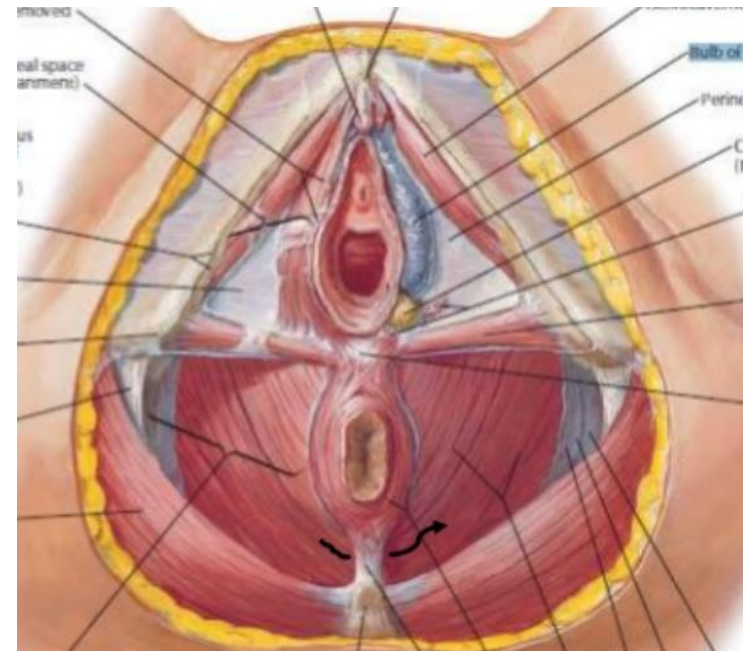
- **POSTERIOR RECESS-**

- backward extension deep to sacrotuberous ligament on the side of coccyx
- Two ischioanal fossae communicate with each other through a gap behind the anal canal

ischioanal fossa

?

anterior recess of the ischioanal fossa



Contents of Ischioanal/ Ischiorectal fossa

Inside the pudendal canal-

- Internal pudendal vessels
- Pudendal nerve

Traversing through fat from lateral to medial

- Inferior rectal vessels & nerve

In the anterior part of fossa

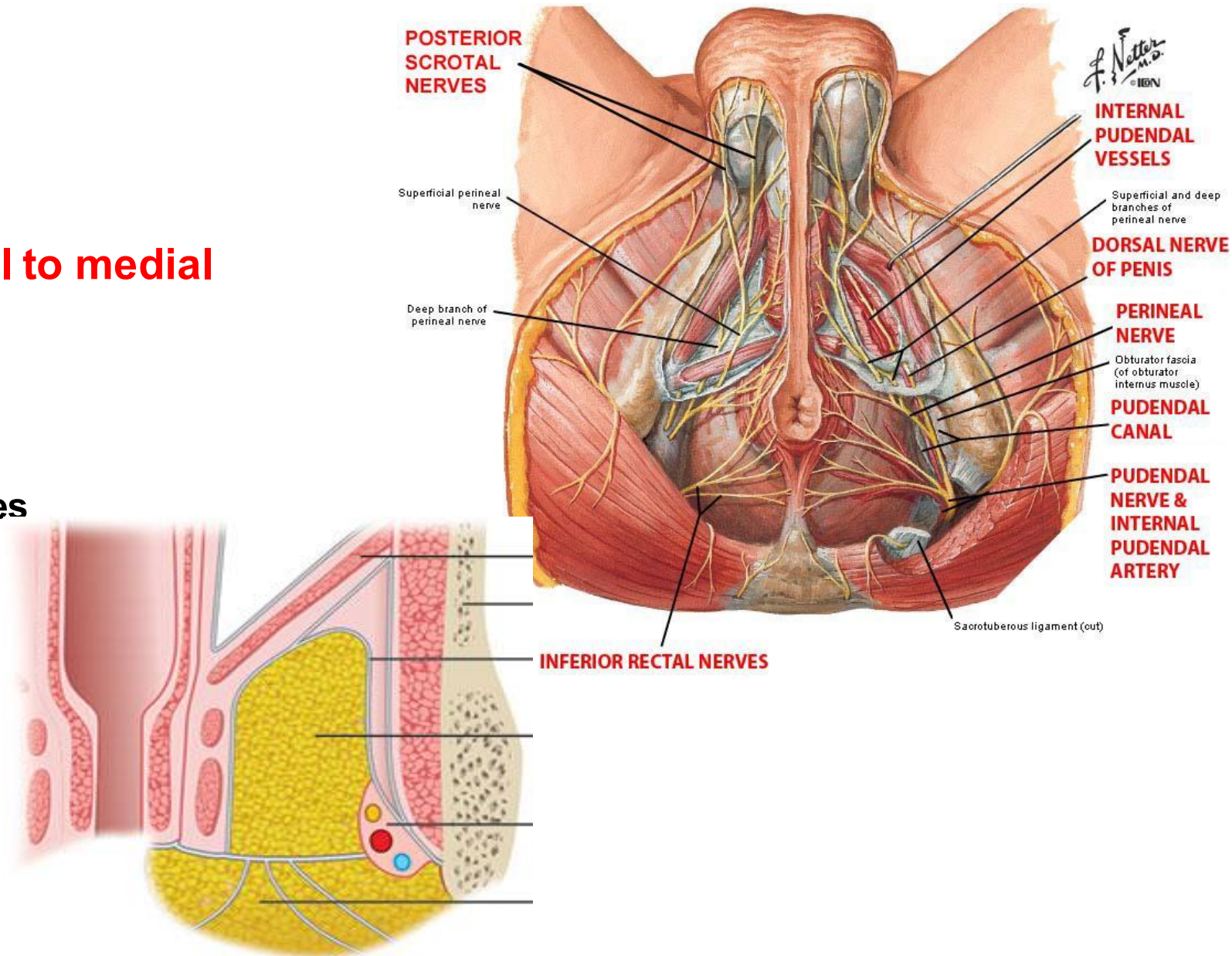
- Posterior scrotal vessels & nerves

In the posterior part of fossa

- Perineal branch of S4
- Perforating branches of S2, S3

Throughout

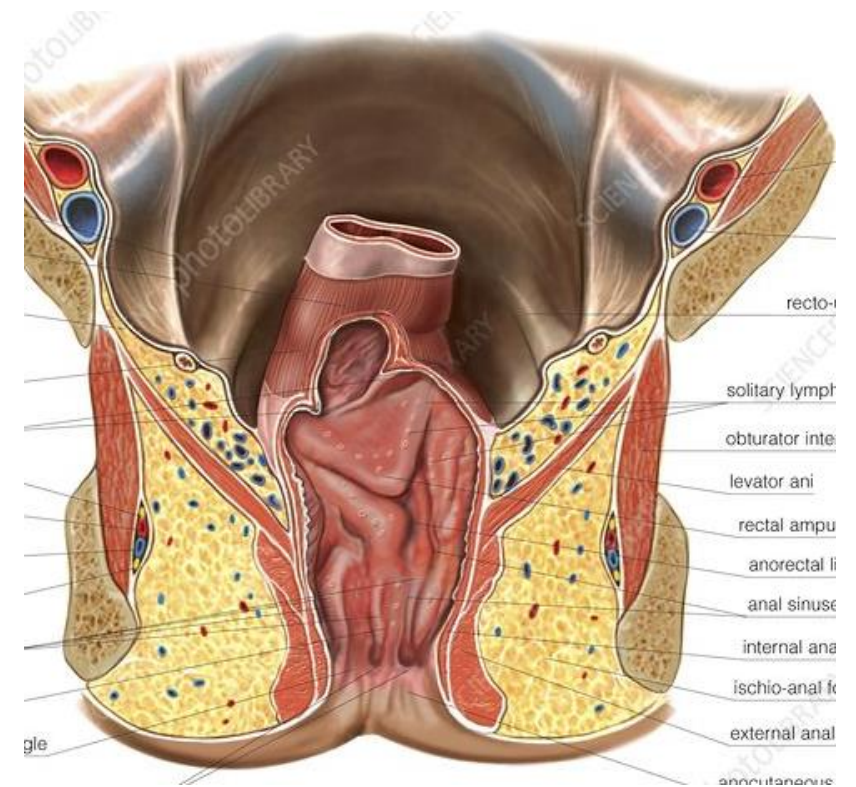
- Fat



Clinical Anatomy

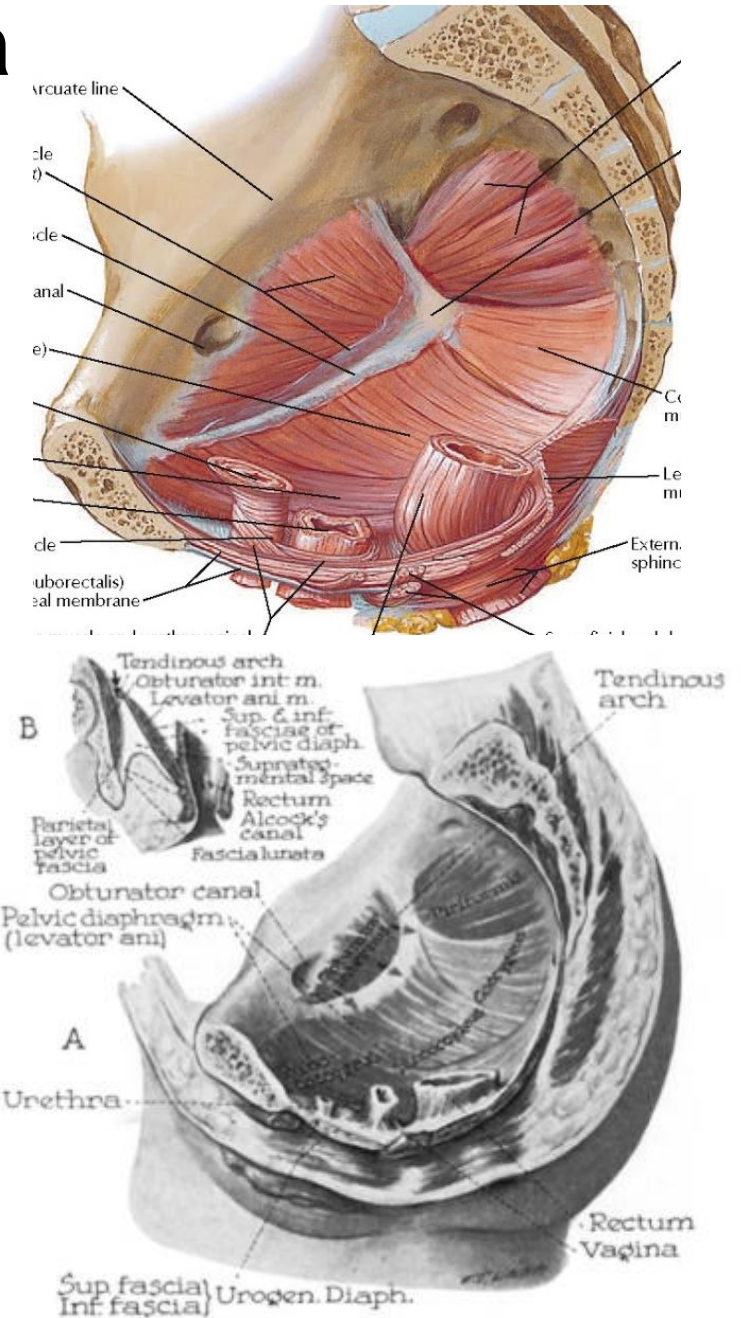
Ischiorectal Fat as support

- Fat provides a cushion like support to rectum & anal canal
- Loss of this fat due to debilitating diseases may cause downward displacement of rectum called Rectal prolapse
- Part of rectum protrudes out from the anus



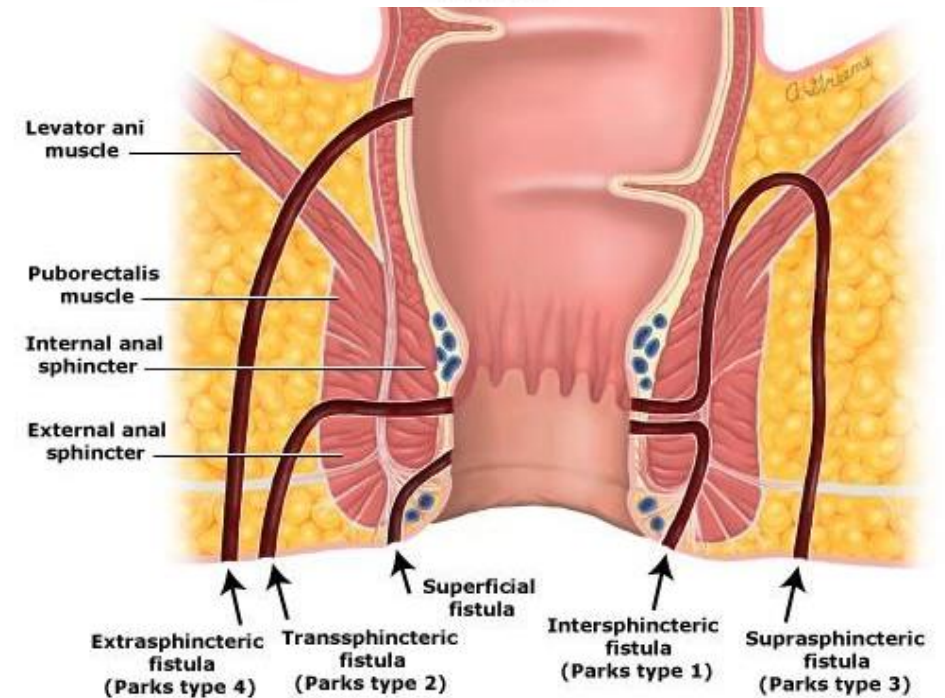
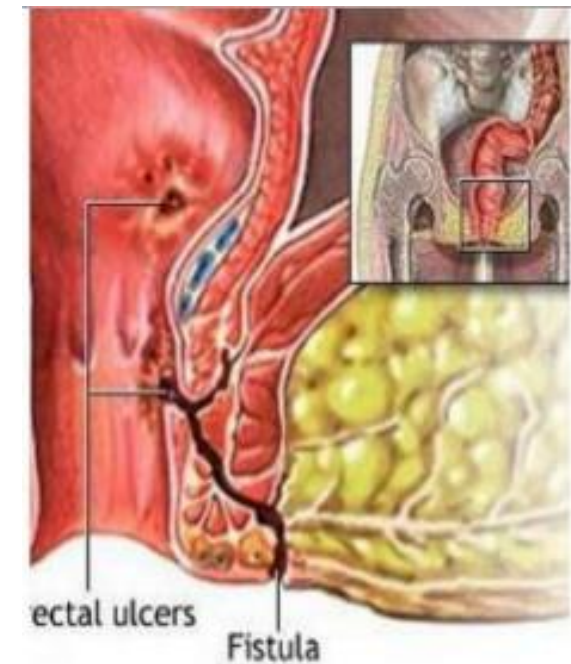
Ischiorectal hernia/ Perineal hernia

- Herniation of peritoneum or fat through **Hiatus of Schwalbe**
- What is hiatus of Schwalbe ?
 - Normally levator ani originates from thickened area of obturator fascia covering the obturator internus muscle - called arcus tendineum
 - Sometimes origin of levator ani takes place from the obturator fascia which may form a tendinous sling between pubic bone & ischial spine. The gap that is present between the tendinous sling and obturator internus is called Hiatus of Schwalbe



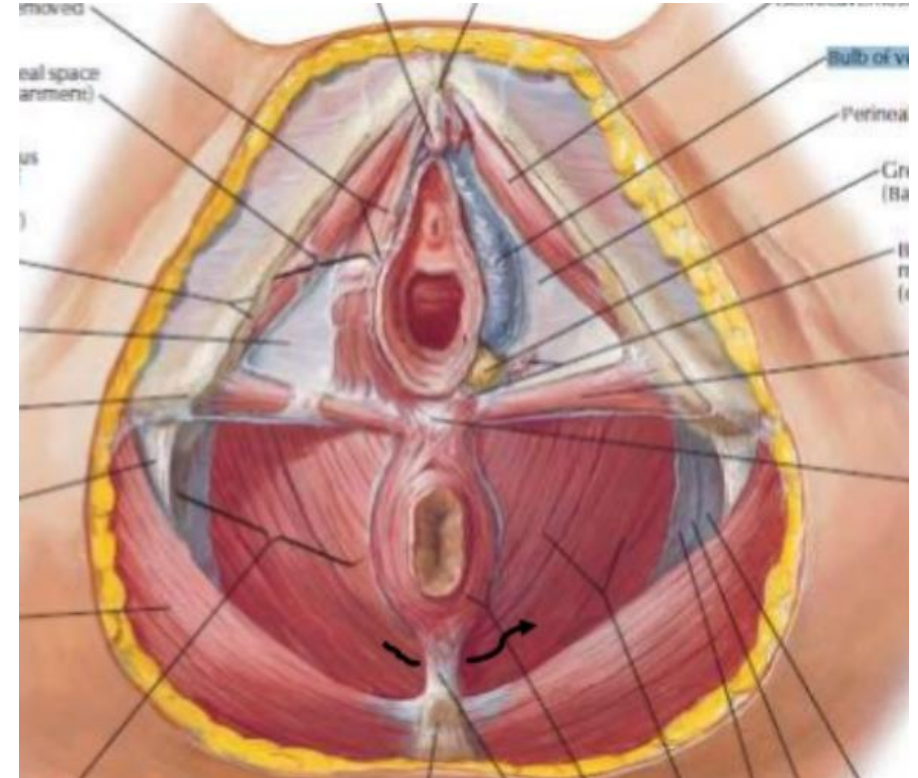
Fistula in Ano

- A fistula-in-ano is an abnormal hollow tract or cavity that is lined with granulation tissue and that connects a primary opening inside the anal canal to a secondary opening in the perianal skin
- An infected tunnel between the skin and the anus
- Caused by bursting of an abscess internally and externally on the surface



Horse shoe abscess

- Infection may pass from fossa of one side to the other readily through the horse shoe shaped recess behind anal canal
- this may lead to formation of horse shoe abscess



Thank
you!