

PERINEAL POUCHES

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I MBBS, Anatomy

COMPETENCIES AND SLOS

AN49.1		Describe & demonstrate the superficial & deep perineal pouch (boundaries and contents)
	49.1.1	at the end of the session the Phase I student shall be able to Define the boundaries, subdivisions of perineum
	49.1.2	Describe the attachments and structures piercing Colles's fascia in male and female
	49.1.3	Describe the boundaries and contents of superficial & deep perineal pouches in both males and female
	49.1.4	Describe the urogenital diaphragm in male & female - attachments, layers, structures piercing
	49.1.5	at the end of the session the Phase I student shall be able to identify structures piercing Colles's fascia in male and female

COMPETENCIES AND SLOS

AN49.2		Describe & identify Perineal body
	49.2.1	at the end of the session the Phase I student shall be able to Describe Perineal body - location, relations, names of muscles inserted with applied anatomy
	49.2.2	identify location of perineal body
AN49.3		Describe & demonstrate Perineal membrane in male & female
	49.3.1	at the end of the session the Phase I student shall be able to Describe attachments, structures piercing perineal membrane in both male & female
	49.3.2	Identify the perineal membrane and structures piercing it

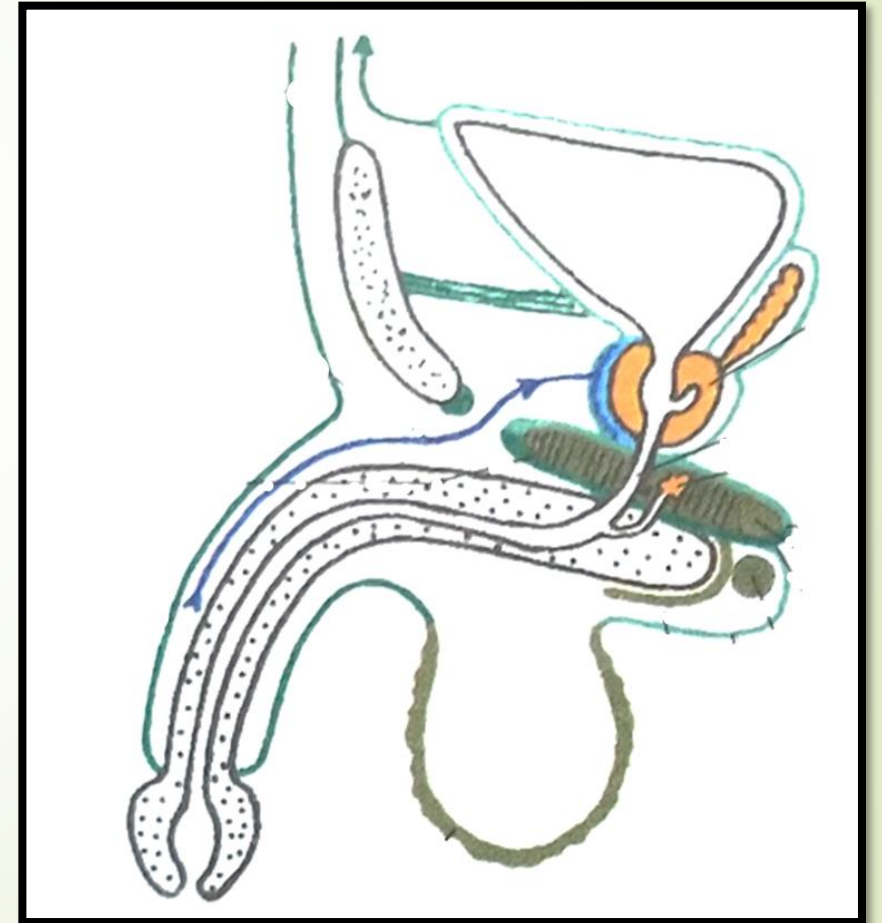


COMPETENCIES AND SLOS

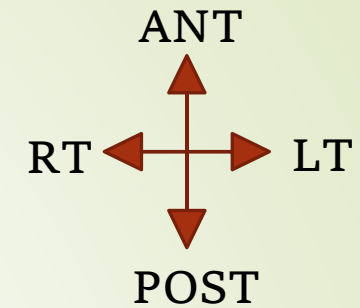
AN49.5		Explain the anatomical basis of Perineal tear, Episiotomy, Perianal abscess and Anal fissure
	49.5.1	at the end of the session the Phase I student shall be able to Explain the anatomical basis of perineal tear,episiotomy

CONTENTS

- Introduction
- Perineal pouches
- Boundaries
- Contents
- Urogenital diaphragm
- Applied anatomy

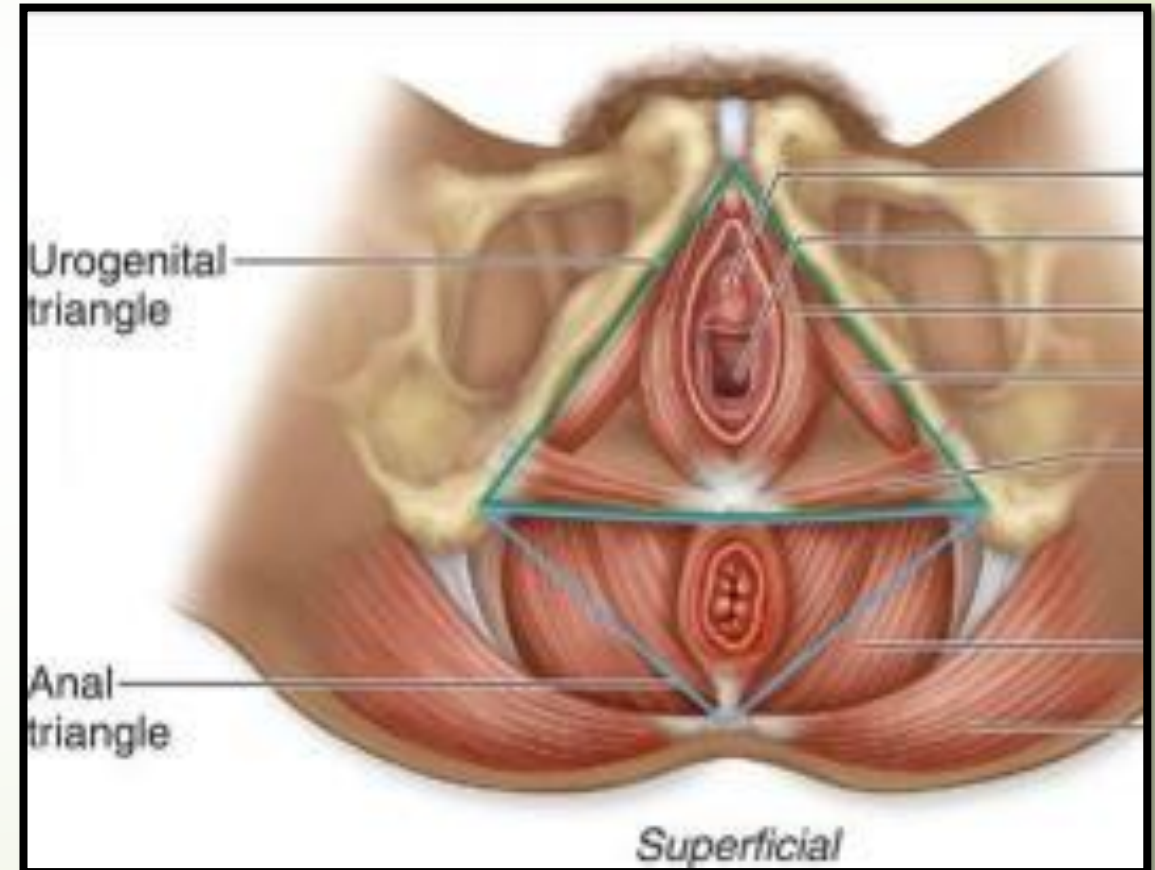


PERINEUM - SUBDIVISIONS

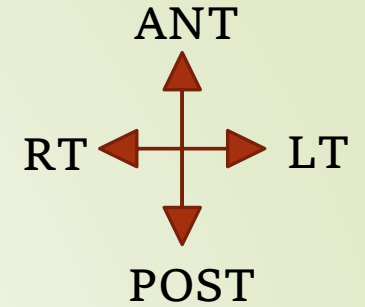


By an imaginary line joining ischial tuberosities

- **Anterior** – urogenital triangle
- **Posterior** – anal triangle



INTRODUCTION - UROGENITAL TRIANGLE

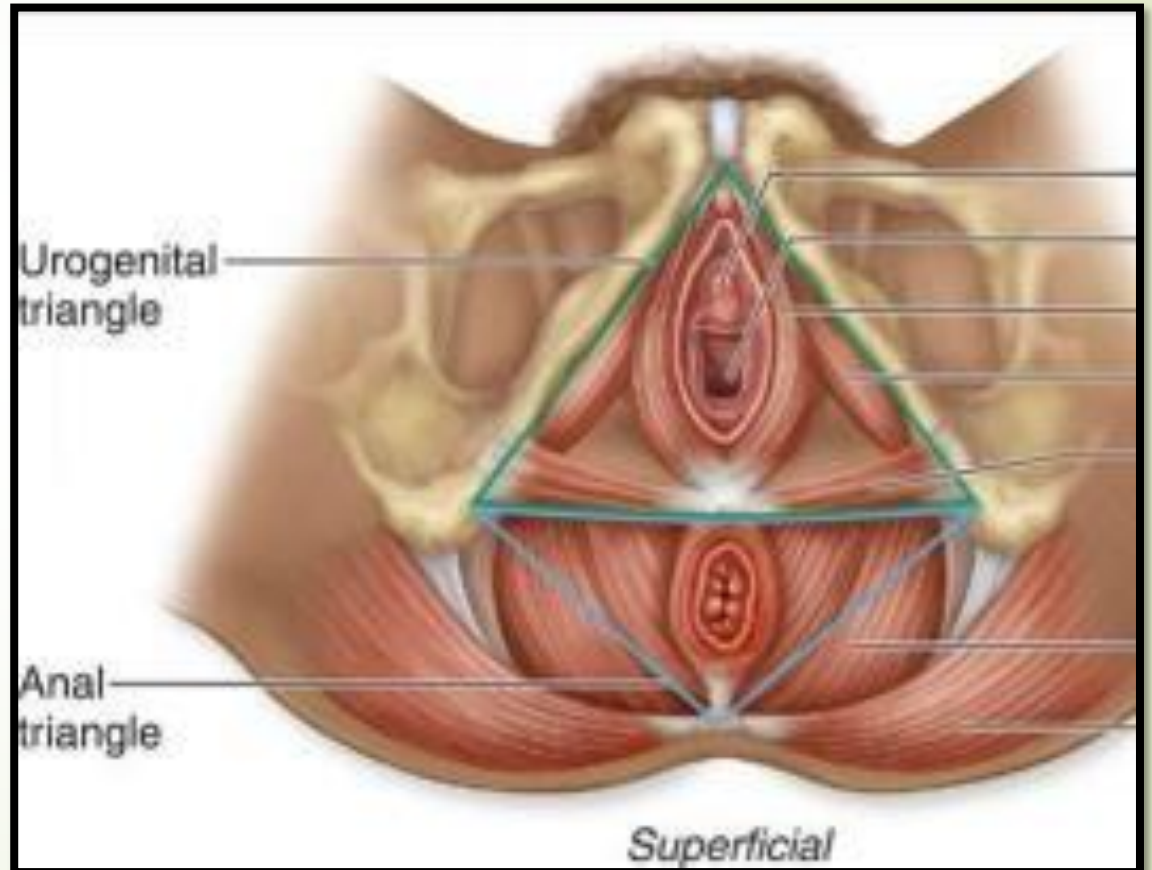


➤ Boundaries –

Anterior – pubic symphysis

Posterior – an imaginary line joining ischial tuberosities

Lateral – ischiopubic rami and ischial tuberosity

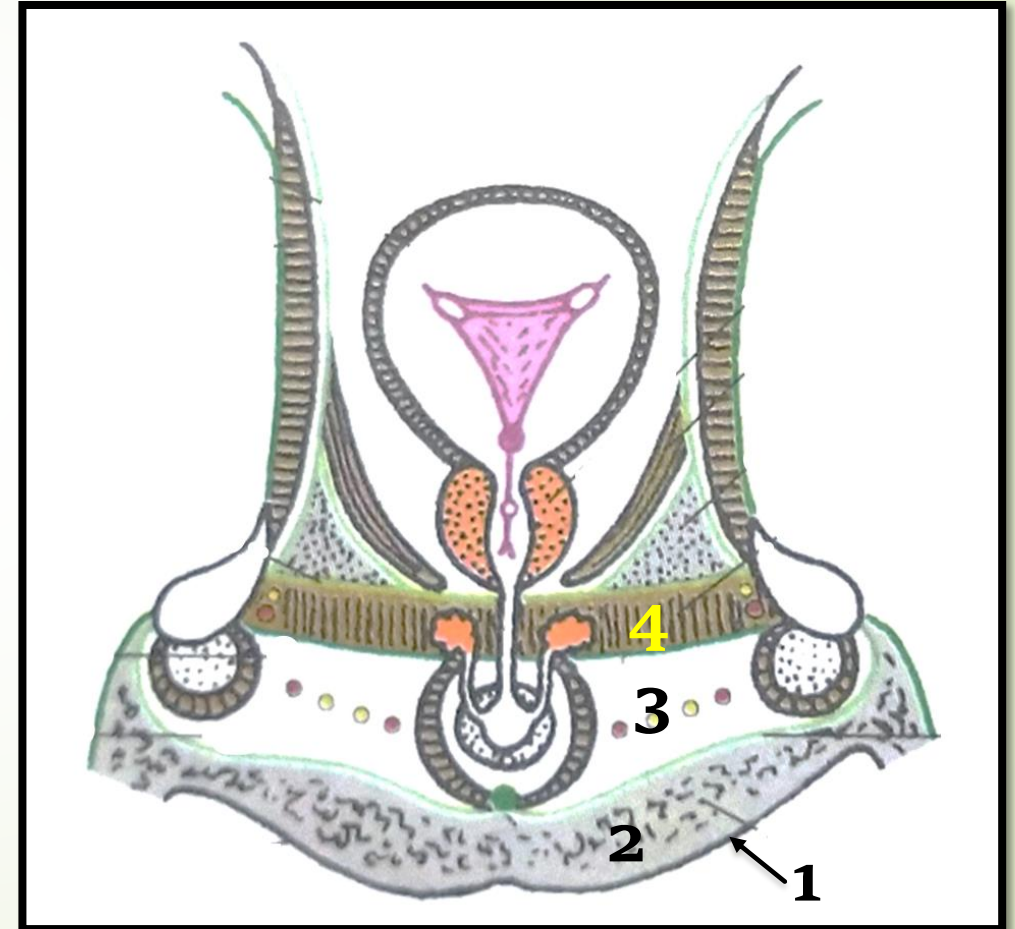


STRUCTURES IN TRIANGLE

Coronal Section

From superficial to deep

1. Skin
2. Superficial fascia fatty layer
3. Superficial perineal pouch
4. Deep perineal pouch



SKIN AND SUPERFICIAL FASCIA

Skin –

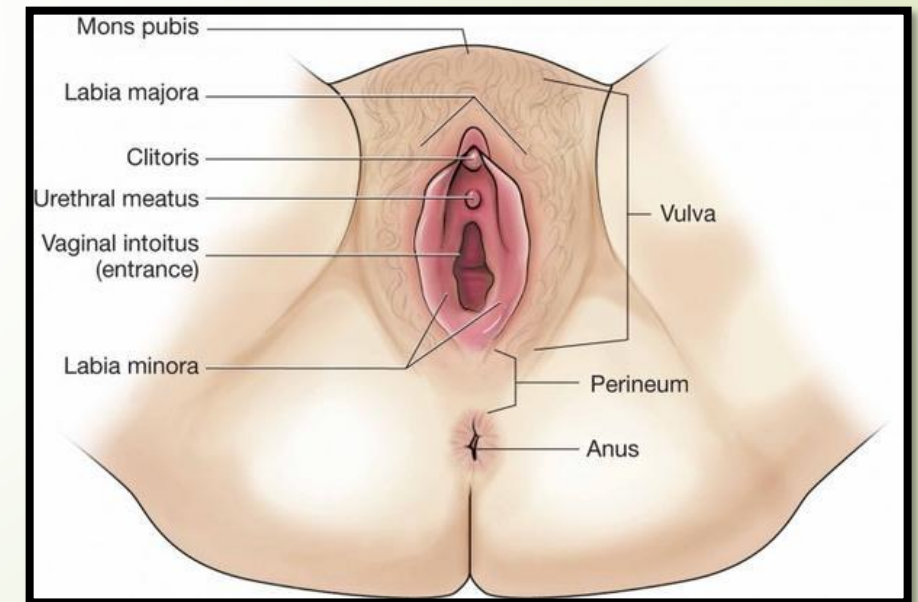
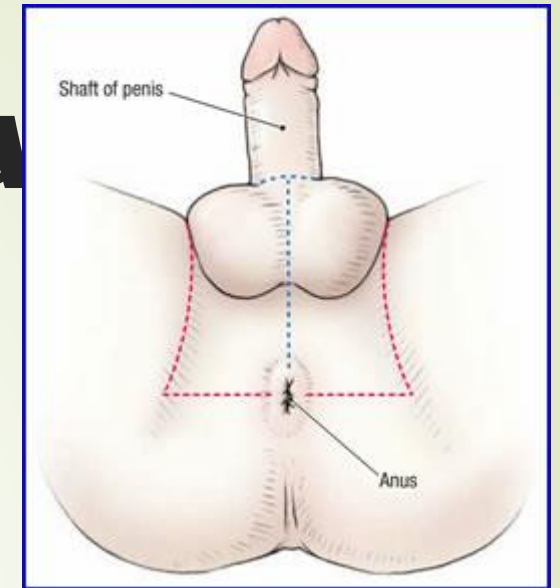
In males –

- Midline raphae

In females –

- Vestibule

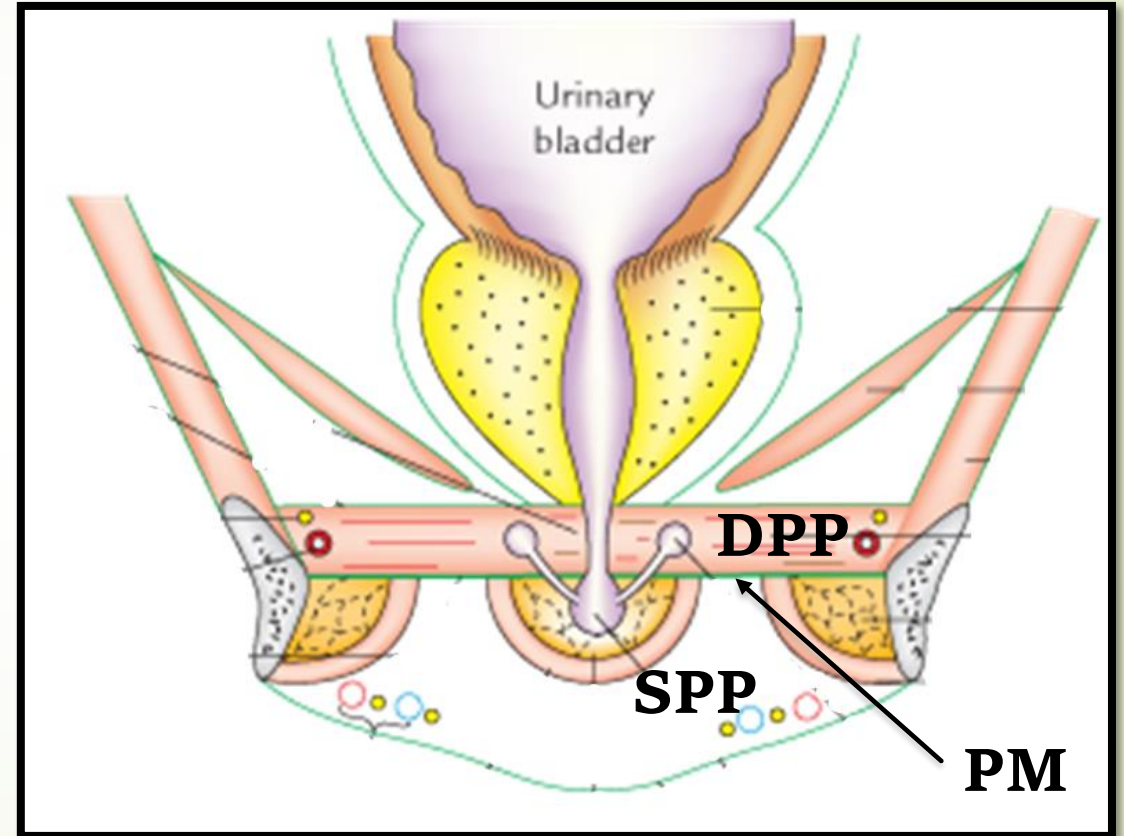
Fatty layer of **superficial fascia** continues with similar fascia of surrounding regions



PERINEAL POUCHES

- Superficial and deep perineal pouches are 2 interfascial spaces across pubic arch, separated by perineal membrane (PM)

Coronal Section



SUPERFICIAL PERINEAL POUCH



Closed on all sides except anteriorly

Boundaries –

1. Inferior/ superficial –

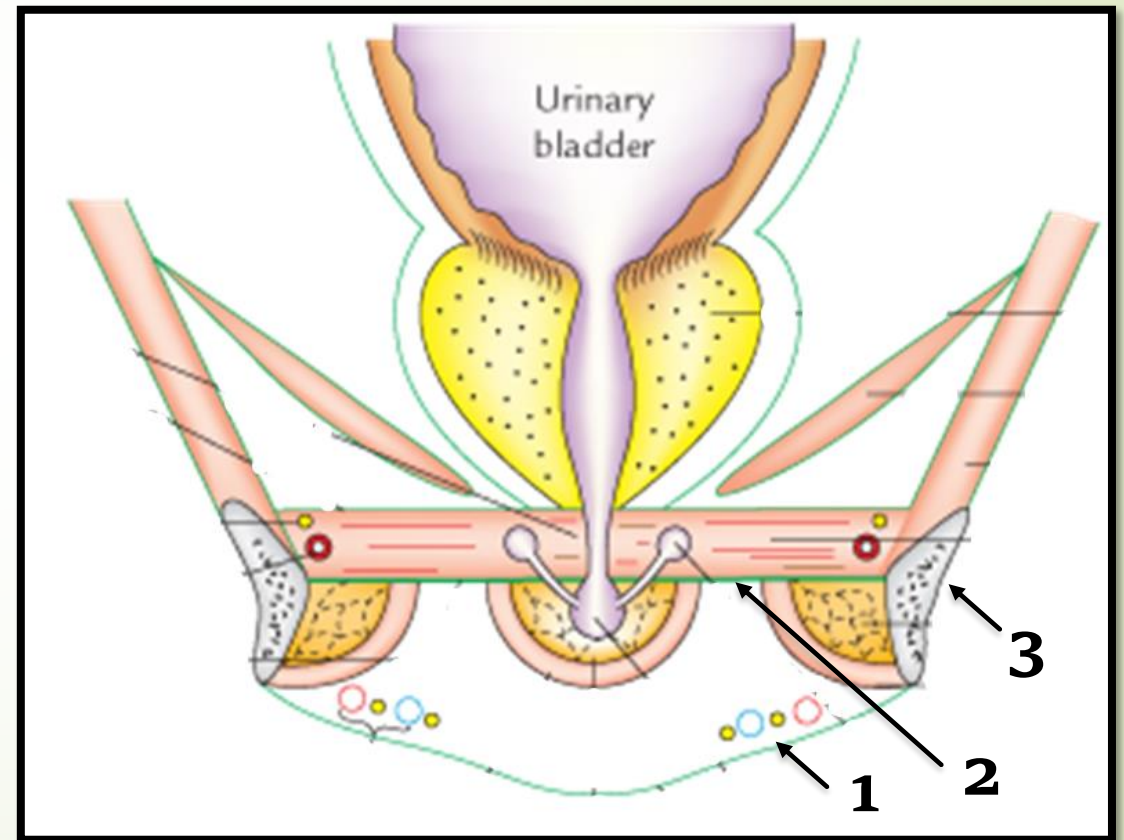
➤ Fascia of Colles

2. Superior/deep –

➤ Perineal membrane

3. On each side –

➤ Ischiopubic ramus



SUPERFICIAL PERINEAL POUCH

Sagittal Section

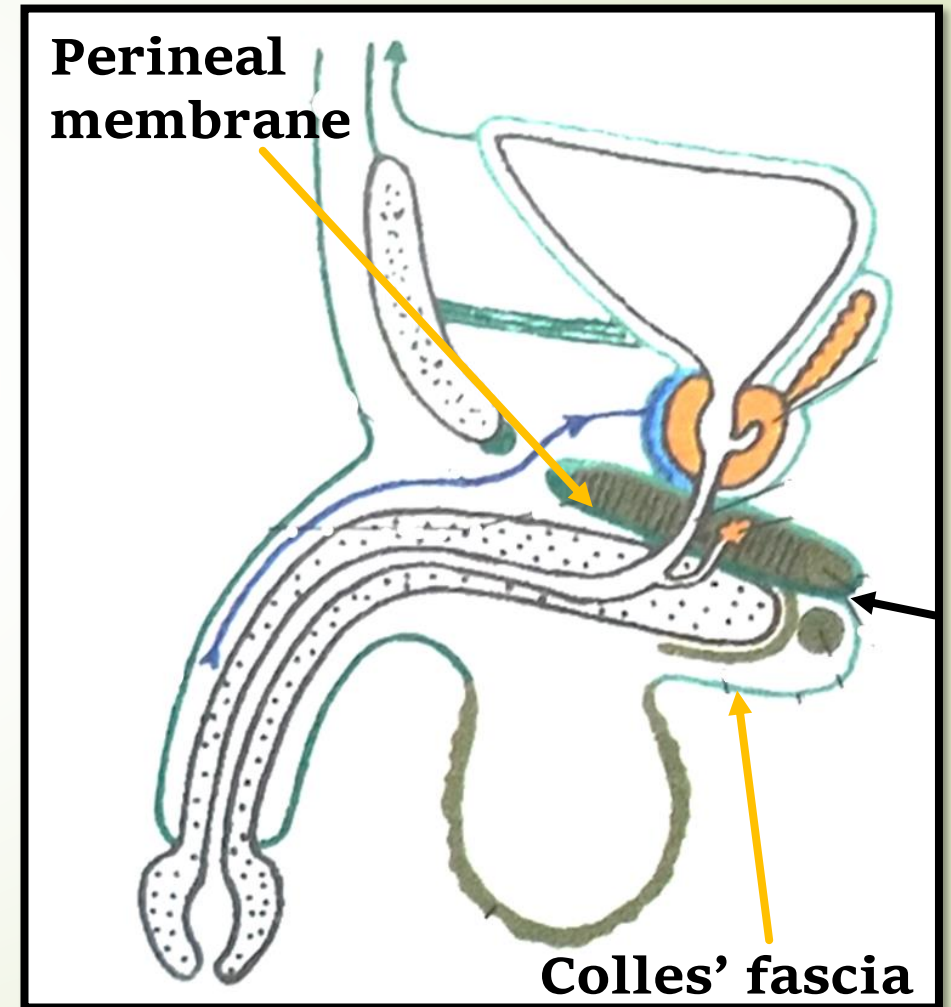
Boundaries –

➤ Posterior –

- Closed by union of Fascia of Colles' with perineal membrane

➤ Anterior –

- Open and continuous with space between fascia of Scarpa and external oblique aponeurosis



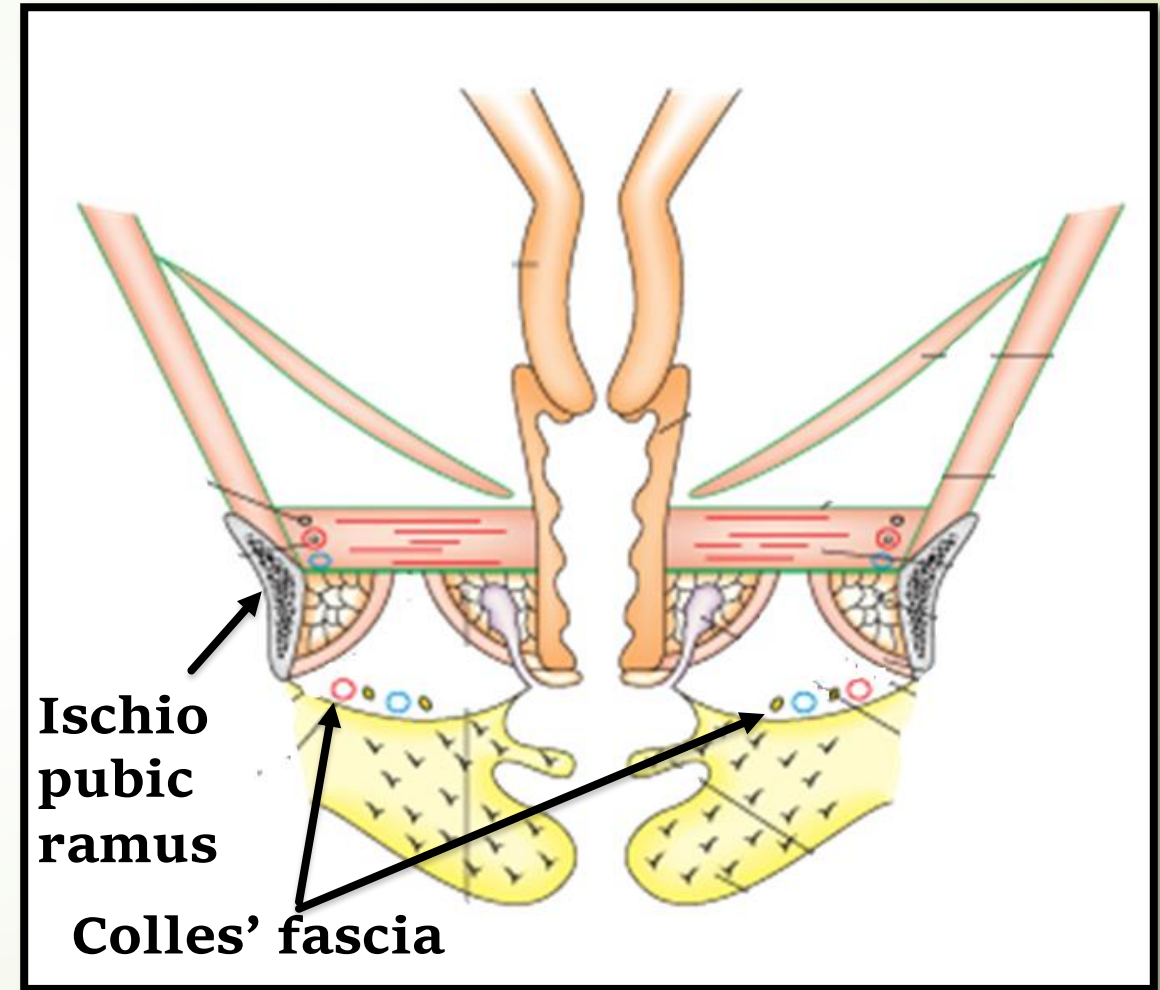
FASCIA OF COLLES

Coronal Section – Female

Strong membranous layer of superficial fascia

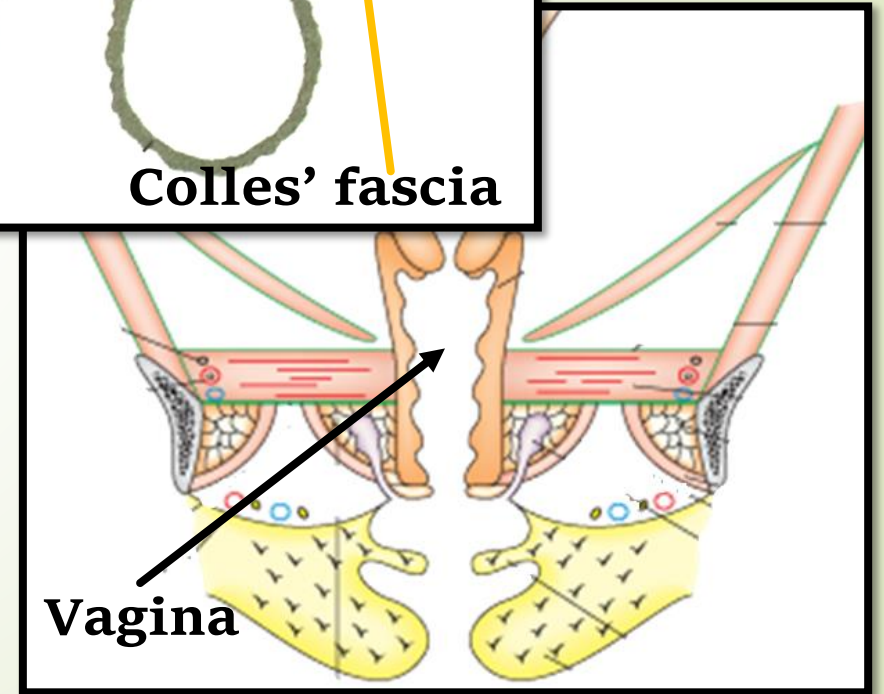
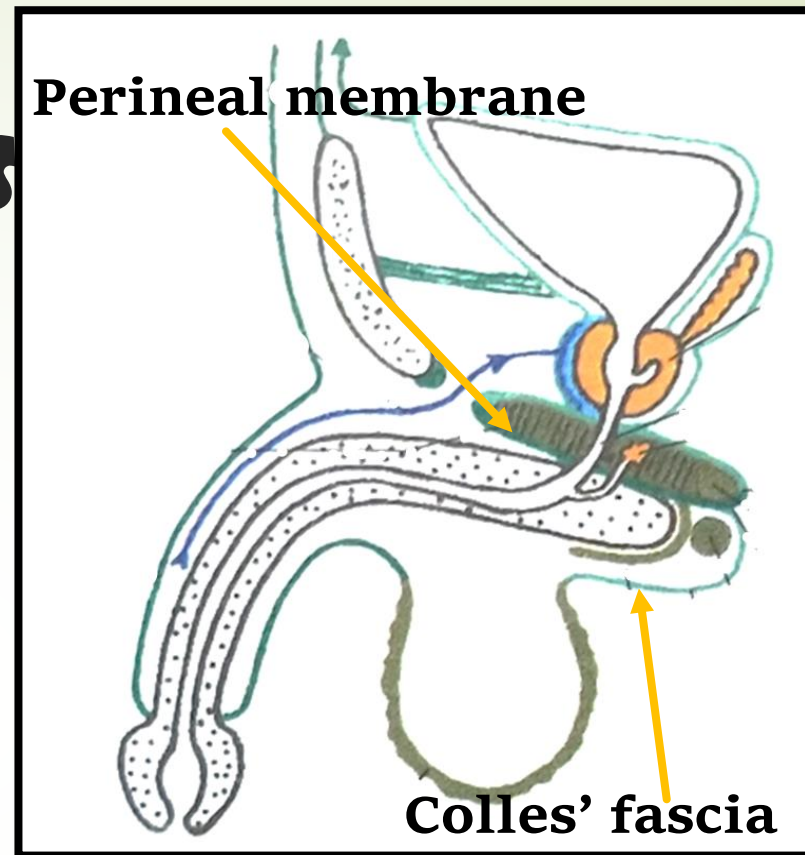
Attachments –

- On each side – lower border ischiopubic ramus
- Posterior – Blends with perineal membrane



FASCIA OF COLLES

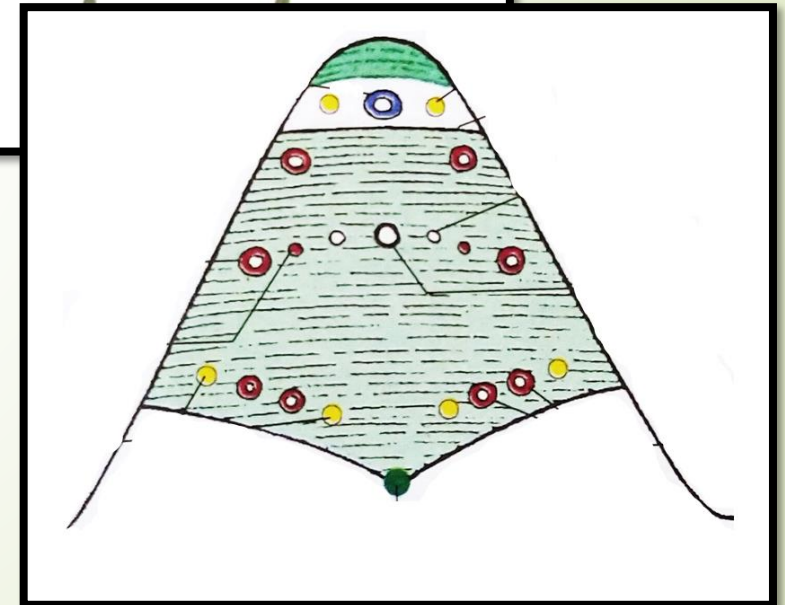
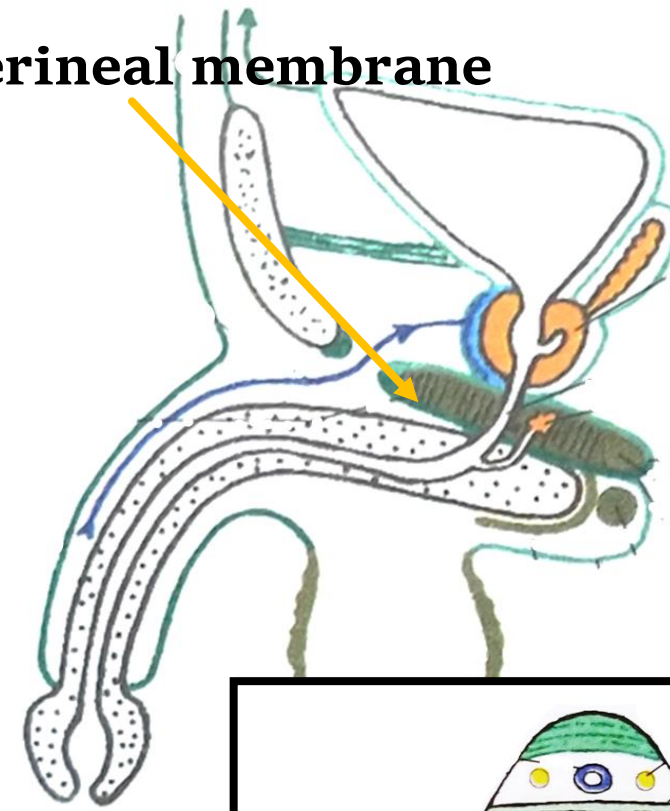
- Anterior –
 - In males – Continuous with dartos muscle and then fascia of Scarpa
- Pierced by –
- Urethra and vagina – in females



PERINEAL MEMBRANE

- Inferior fascia of urogenital diaphragm
- Strong, triangular sheet of fascia separating superficial and deep perineal pouches
- More tough in males due to attachment of root of penis

Perineal membrane



Ant
↕
Post

PERINEAL MEMBRANE

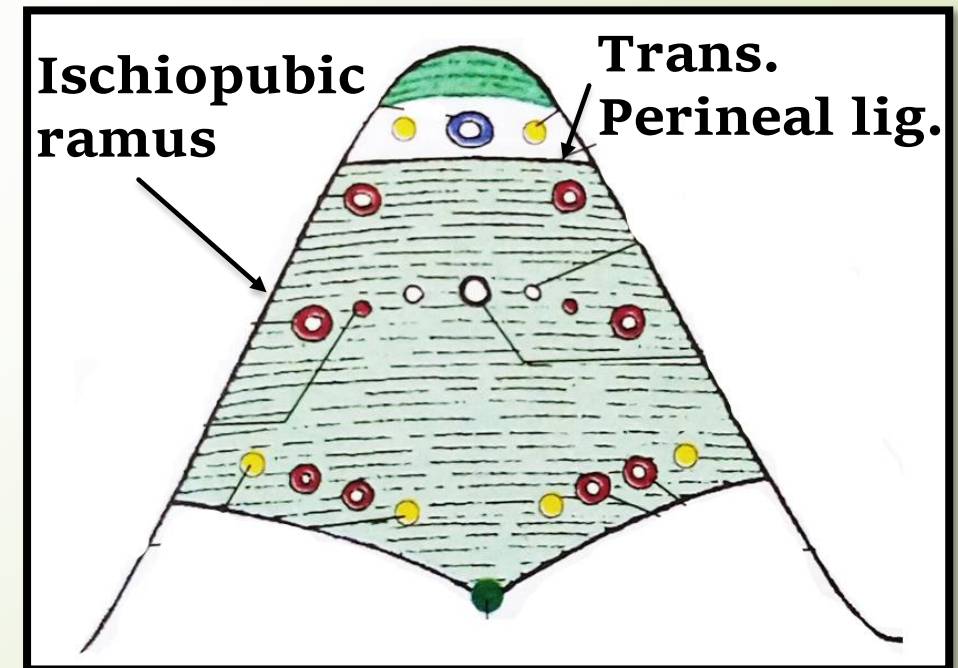
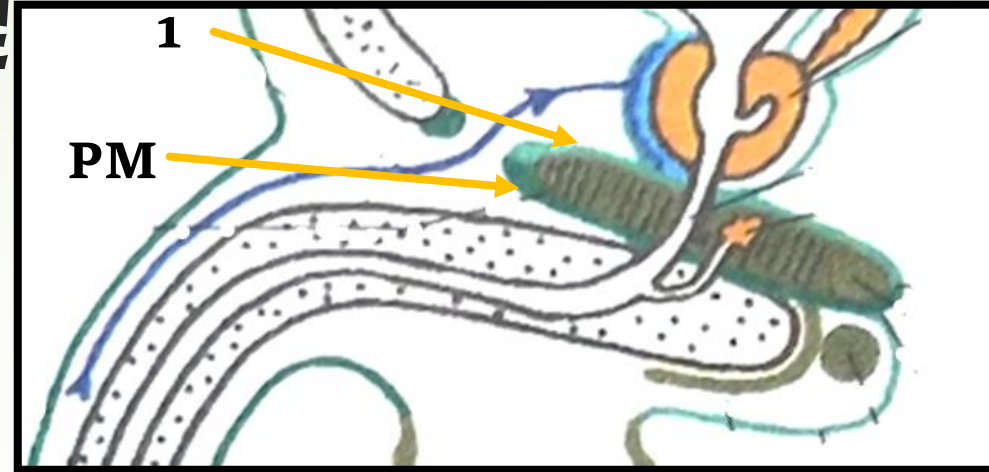
Attachments –

On each side –

- Inner surface of ischiopubic ramus

Anterior –

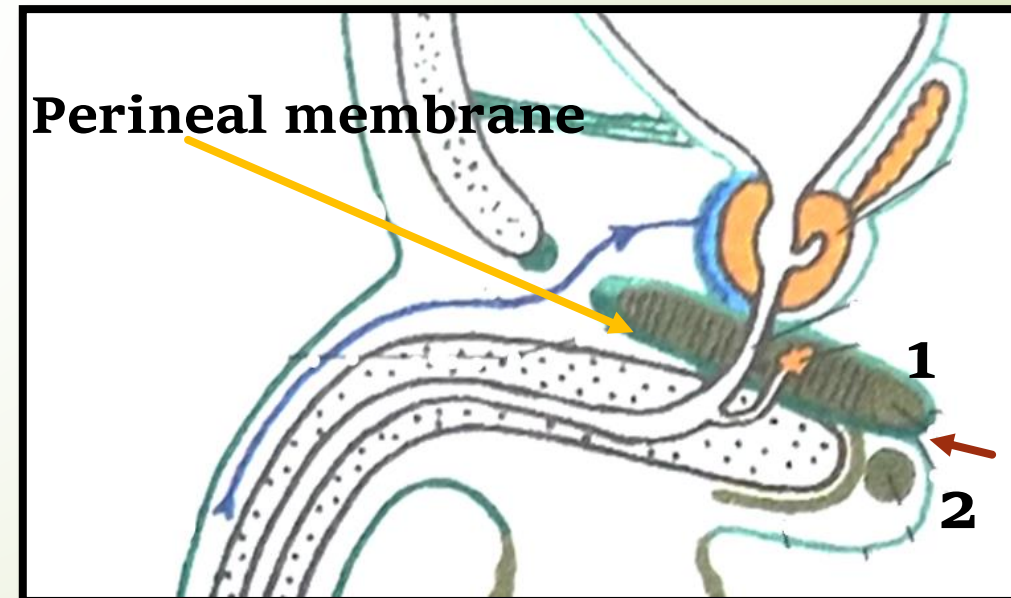
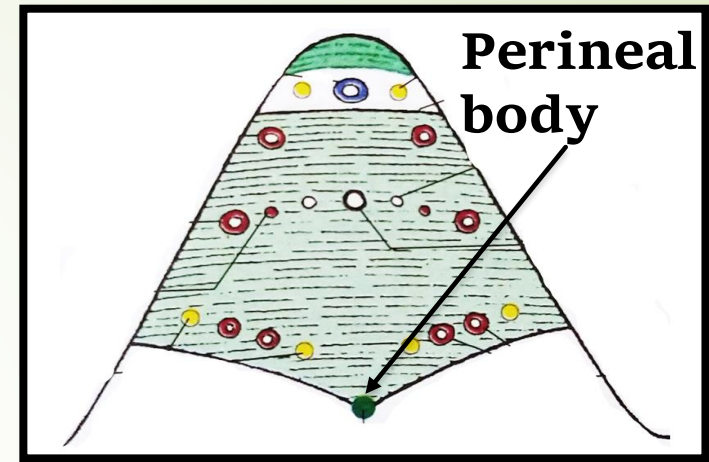
- Continues with superior fascia of urogenital diaphragm(1) closing deep perineal pouch
- Thickens to form **transverse perineal ligament**



PERINEAL MEMBRANE

Posterior –

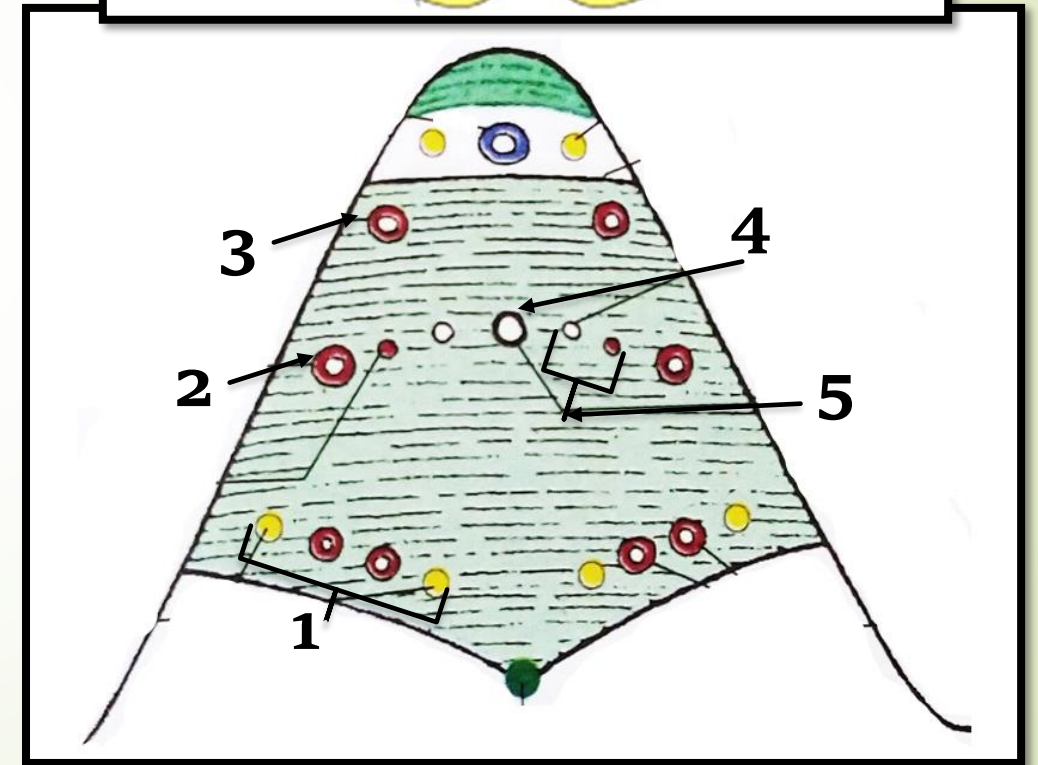
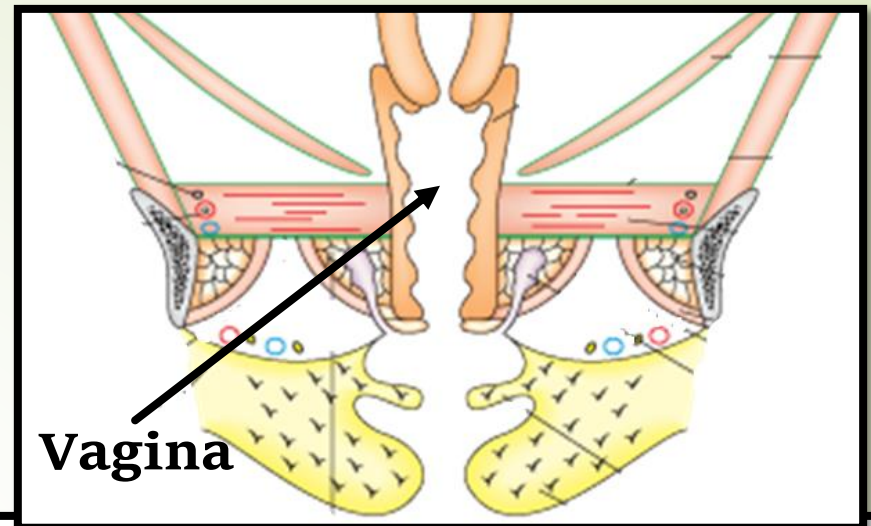
- Attaches to perineal body in midline
- On each side splits in to 2 layers
 1. Upper layer continues with superior fascia of urogenital diaphragm closing deep perineal pouch
 2. Lower layer continues with fascia of Colles closing superficial perineal pouch



PERINEAL MEMBRANE

It is pierced by –

1. Posterior scrotal/ labial vessels and nerves
2. Deep artery of penis/ clitoris
3. Dorsal artery of penis/ clitoris
4. Urethra
5. In male – bulbourethral gland duct and artery to bulb of penis
6. In female - vagina



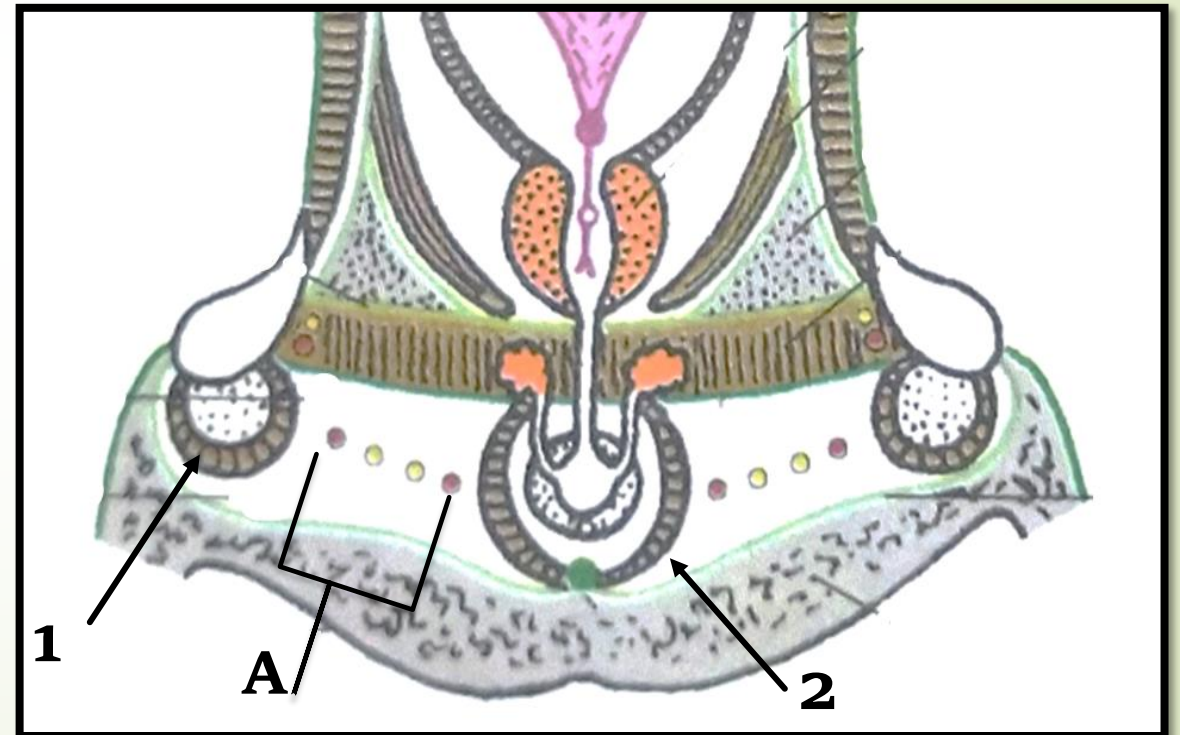
SUPERFICIAL PERINEAL POUCH CONTENTS

Muscles –

1. Ischiocavernosus
2. Bulbospongiosus
3. Superficial transverse perinei

Vessels –

- A. Posterior scrotal/
labial vessels
- B. Transverse perineal
vessels



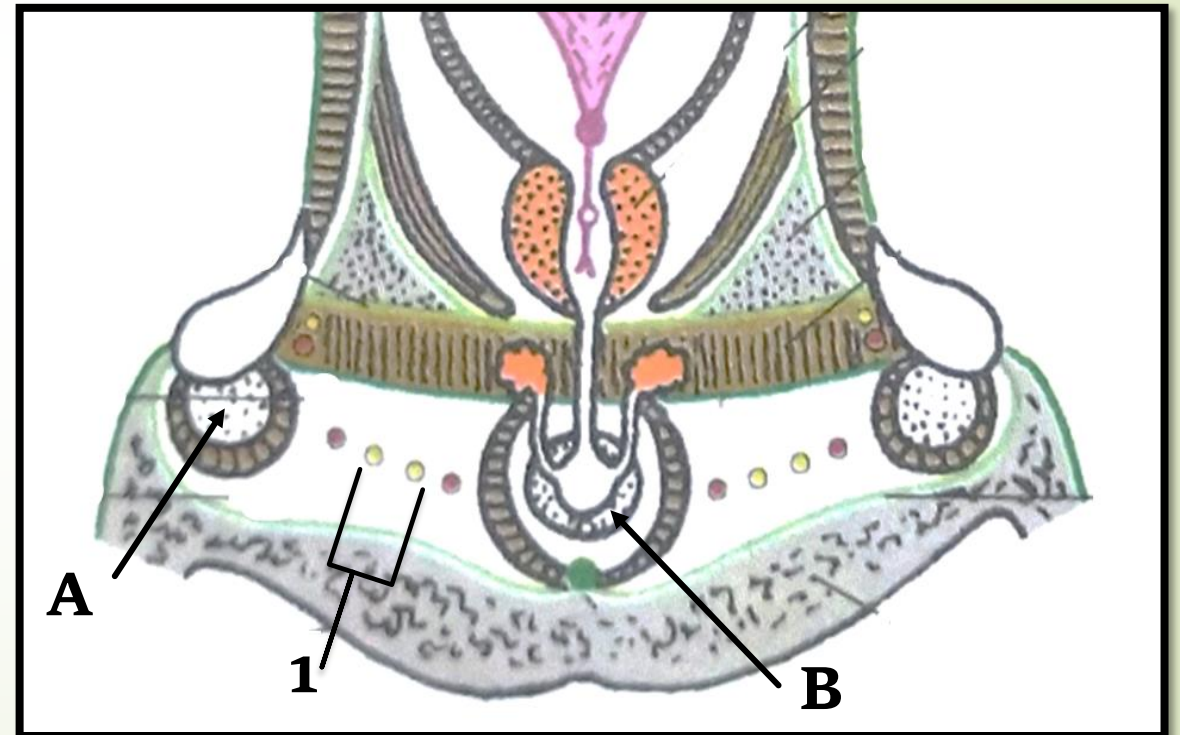
SUPERFICIAL PERINEAL POUCH CONTENTS

Nerves –

1. Posterior scrotal/ labial nerves
2. Perineal branch of posterior femoral cutaneous nerve

Others –

- A. Crus penis/clitoris
- B. In male – bulb of penis with spongy urethra
- C. In female – urethra, vagina, bulb of vestibule and Bartholin's glands



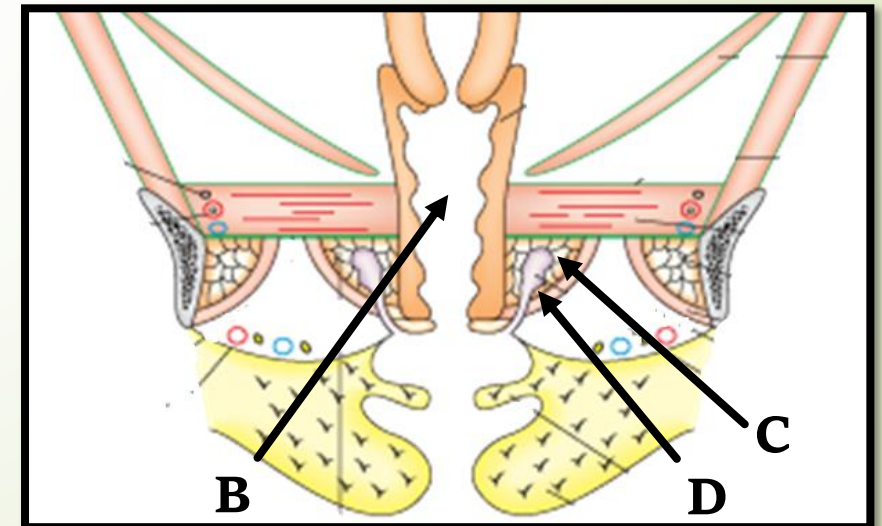
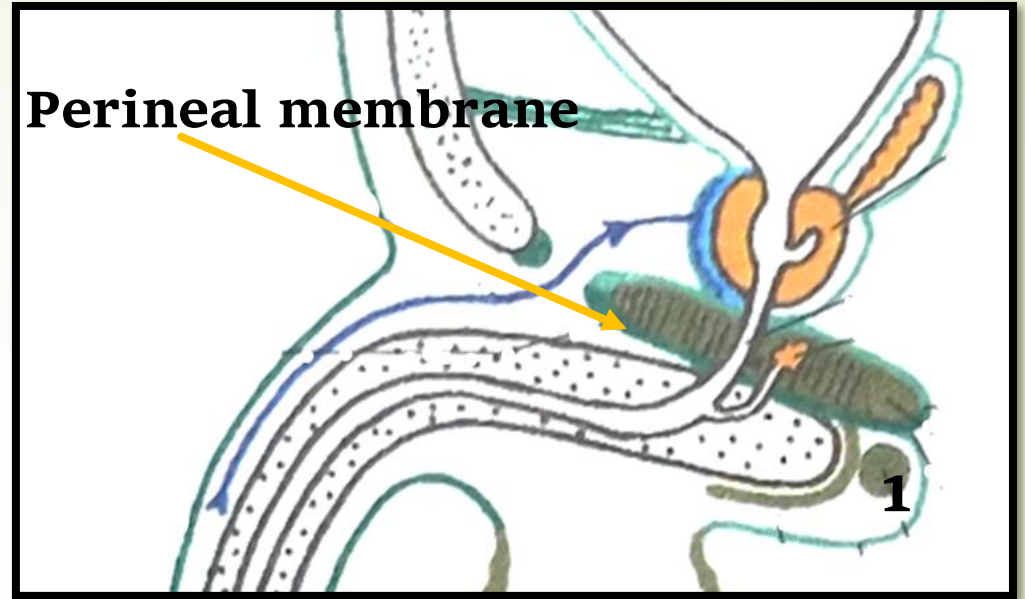
SUPERFICIAL PERINEAL POUCH CONTENTS

Muscles –

1. Superficial transverse perinei

In female –

- A. Urethra
- B. Vagina
- C. Bulb of vestibule
- D. Bartholin's glands



DEEP PERINEAL POUCH

Closed on all sides

Boundaries – (Lower diag.)

1. Inferior/ superficial –

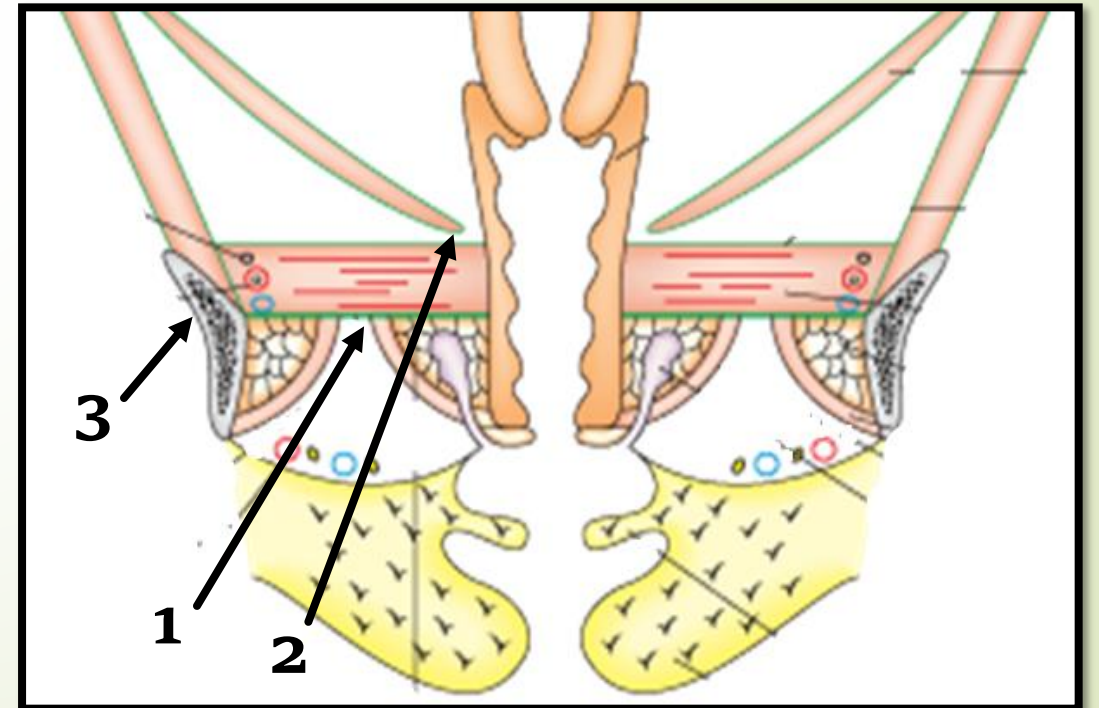
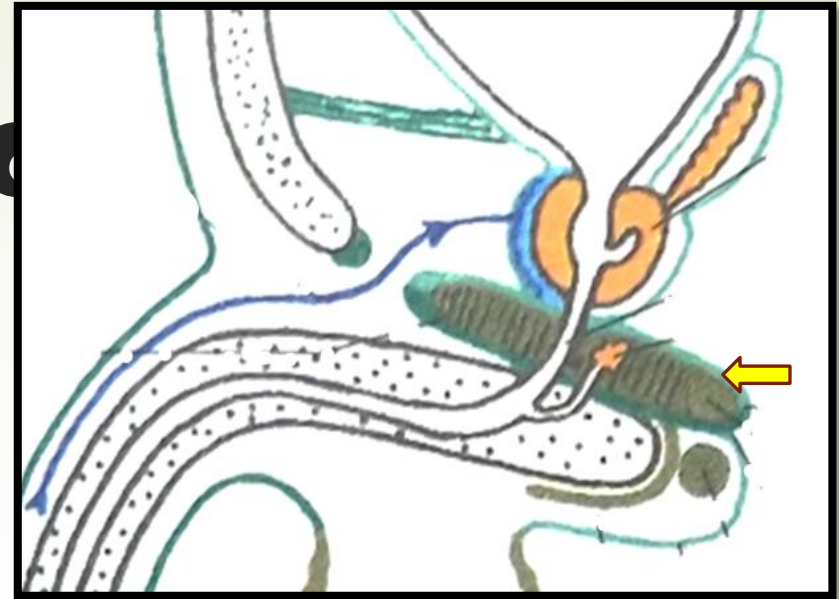
► Perineal membrane

2. Superior/deep –

► Superior fascia of urogenital diaphragm

3. On each side –

► Ischiopubic ramus



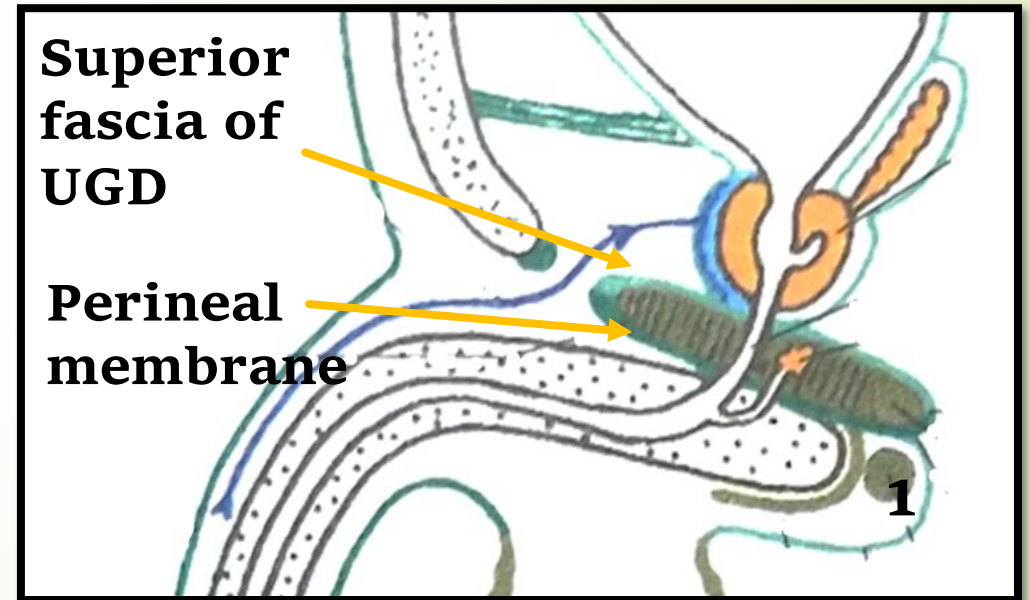
DEEP PERINEAL POUCH - BOUNDARIES

➤ Posterior –

- Closed by union of Superior fascia of urogenital diaphragm with perineal membrane

➤ Anterior –

- Transverse perineal ligament
- Closed by union of Superior fascia of urogenital diaphragm with perineal membrane



SUPERIOR FASCIA OF UROGENITAL DIAPHRAGM

Thin fascia derived from pelvic fascia

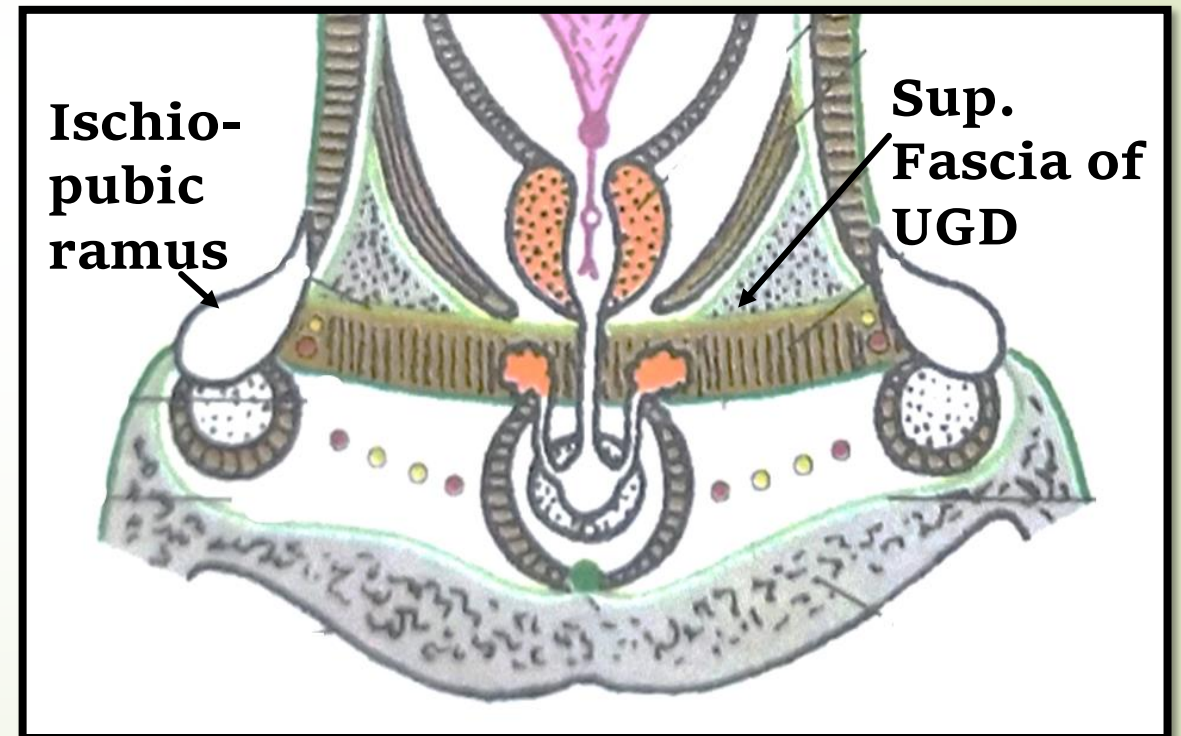
Attachments –

On each side –

- Ischiopubic ramus

Anterior and posterior –

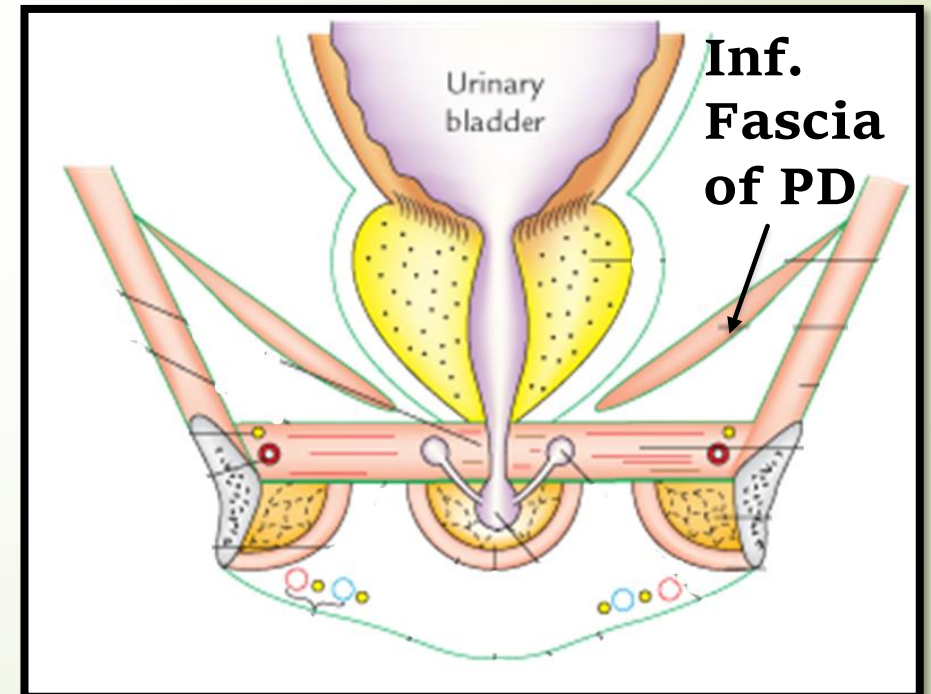
- Unites with perineal membrane and closes perineal pouch



SUPERIOR FASCIA OF UROGENITAL DIAPHRAGM

Attachments –

- In midline –
- Reflects from side of urethra and continues with inferior fascia of pelvic diaphragm



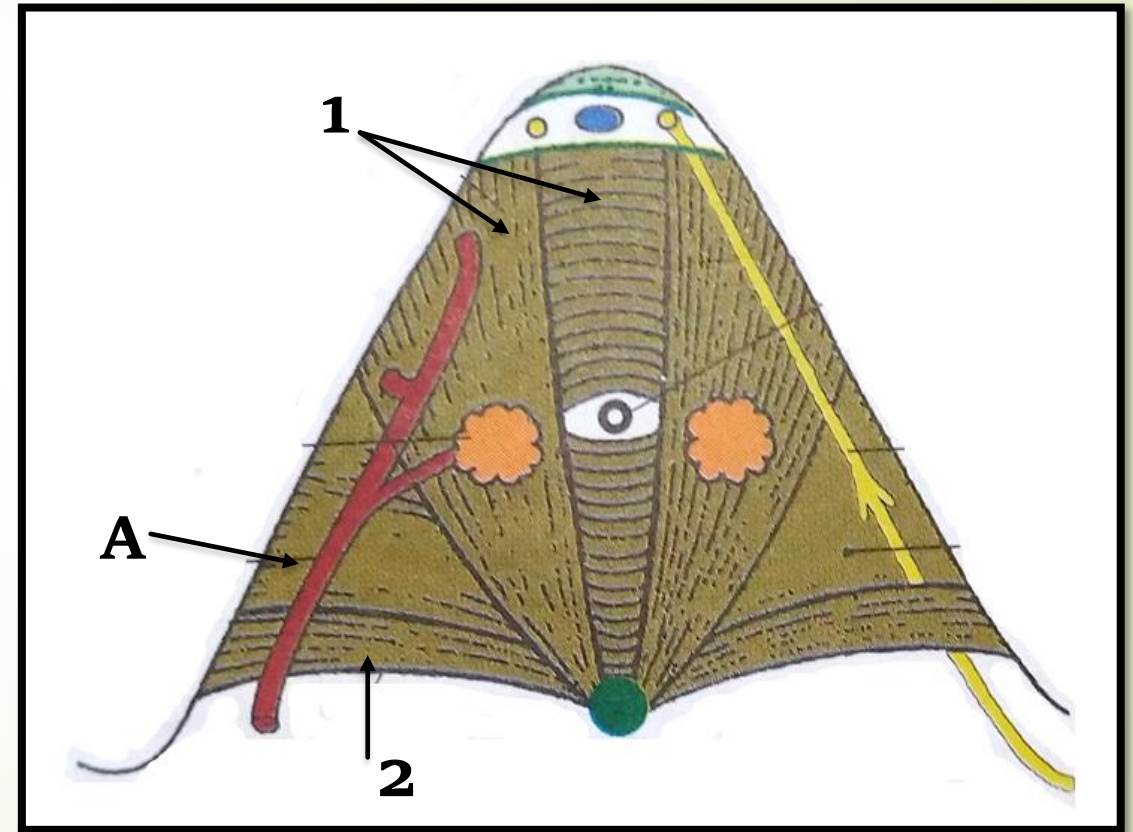
CONTENTS OF DEEP PERINEAL POUCH

Muscles –

1. Sphincter urethrae
2. Deep transverse perinei

Vessels –

- A. Internal pudendal artery and its branches
- B. Deep and dorsal arteries of penis/clitoris
- C. Artery to the bulb of penis/ vestibule



CONTENTS OF DEEP PERINEAL POUCH

Nerves –

1. Dorsal nerve of penis/
clitoris

Other structures –

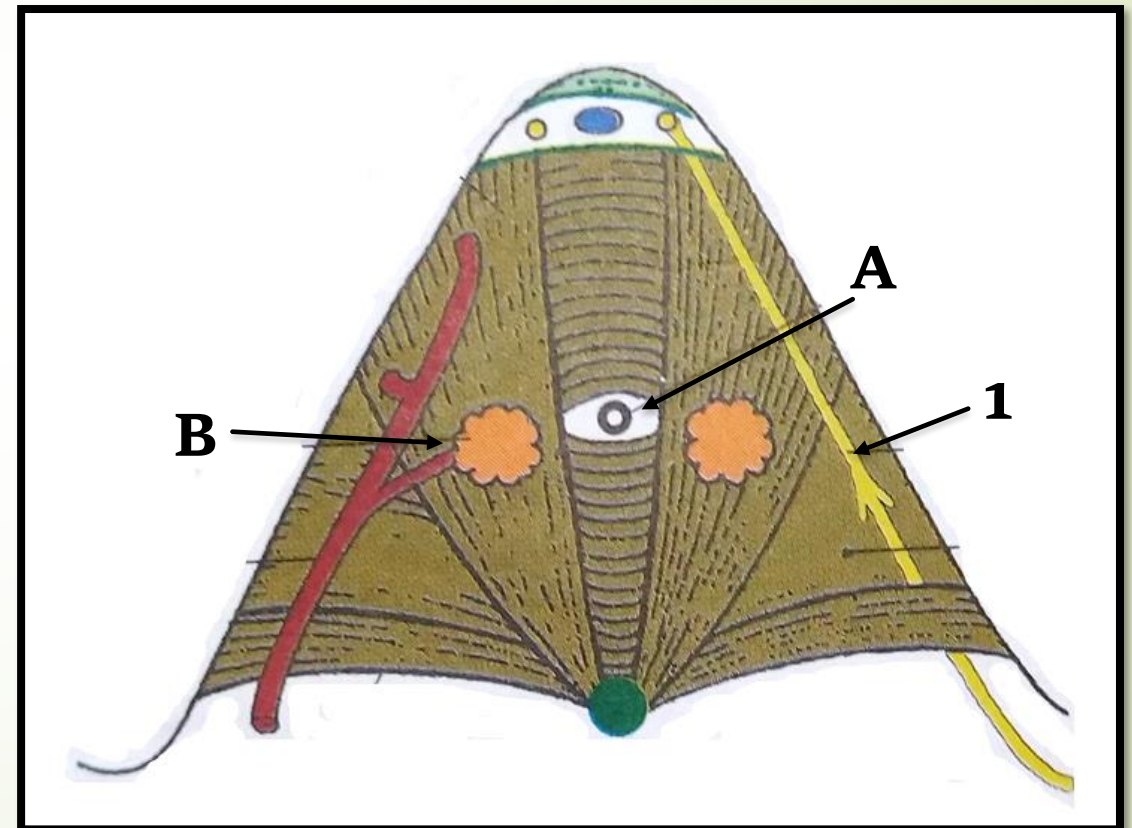
A. Urethra

B. In males –

➤ Bulbourethral glands

C. In females –

➤ Vagina



CONTENTS OF DEEP PERINEAL POUCH

Nerves –

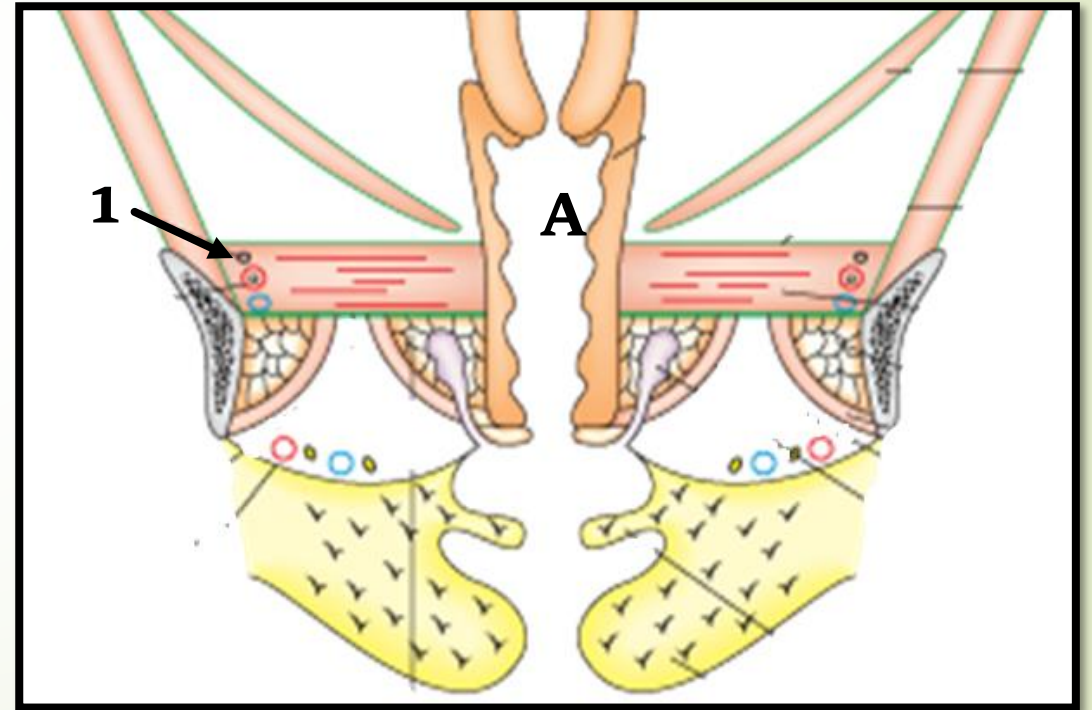
1. Dorsal nerve of penis/
clitoris

Other structures –

A. In females –

➡ Vagina

Coronal Section – Female



Boundaries SPP-

1. Inferior/ superficial –

➤ Fascia of Colles

2. Superior/deep –

➤ Perineal membrane

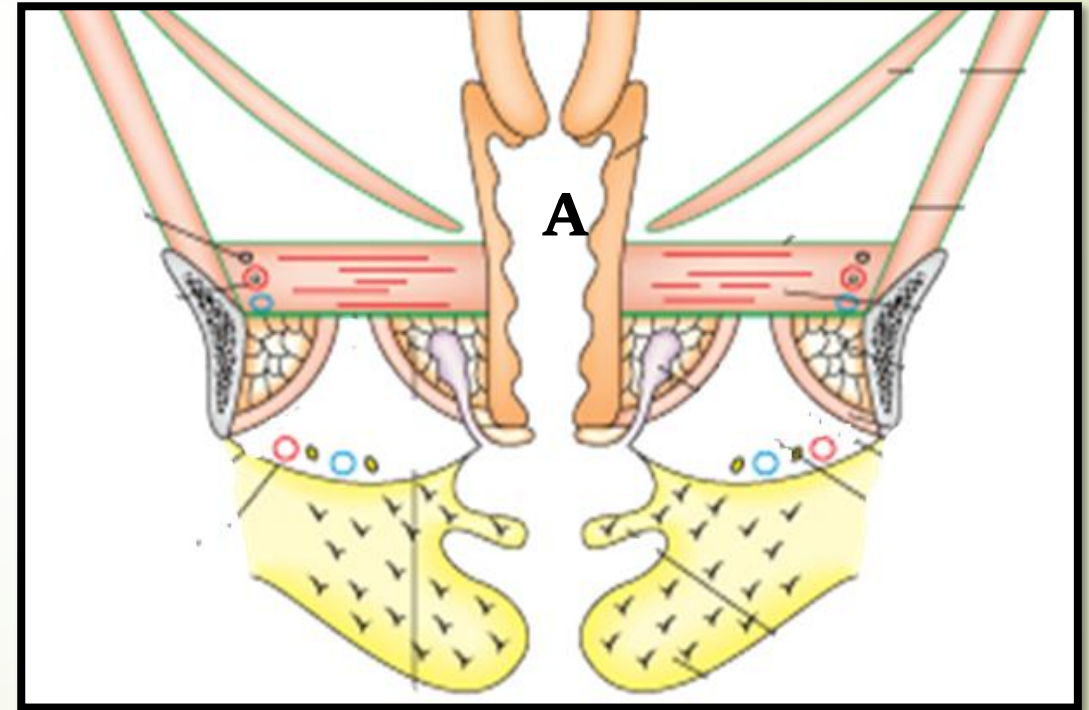
3. Posterior –

➤ Closed by union of Fascia of Colles' with perineal membrane

4. Anterior –

➤ Open and continuous with space between fascia of Scarpa and external oblique aponeurosis

LET'S REVISE



LET'S REVISE

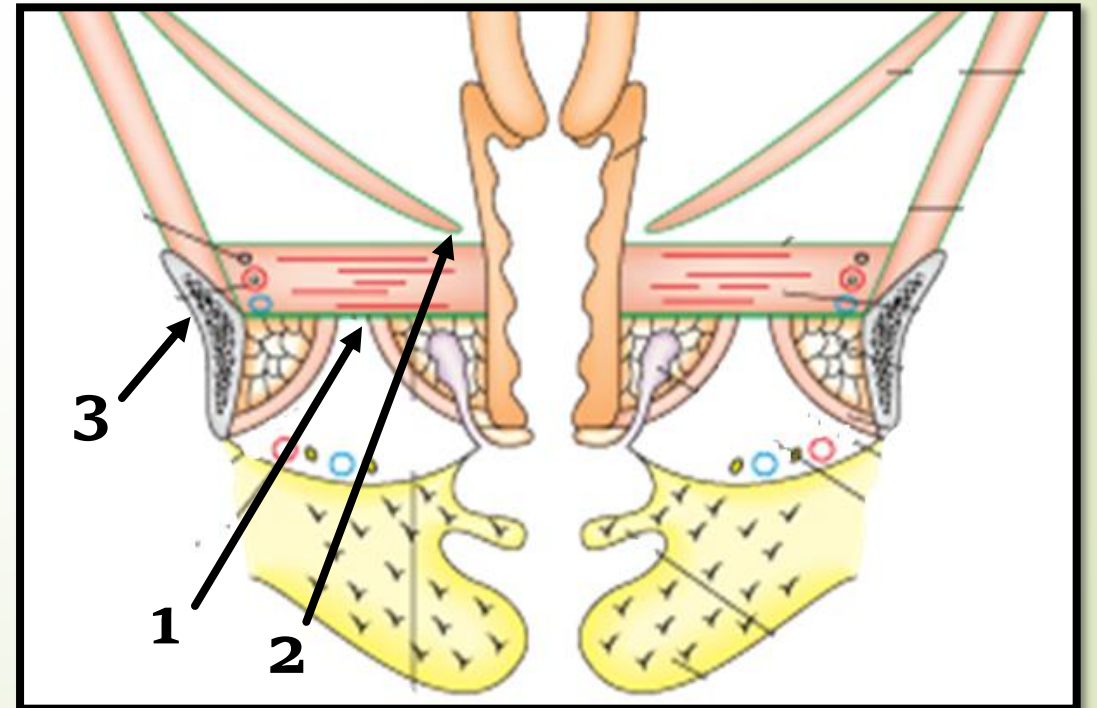
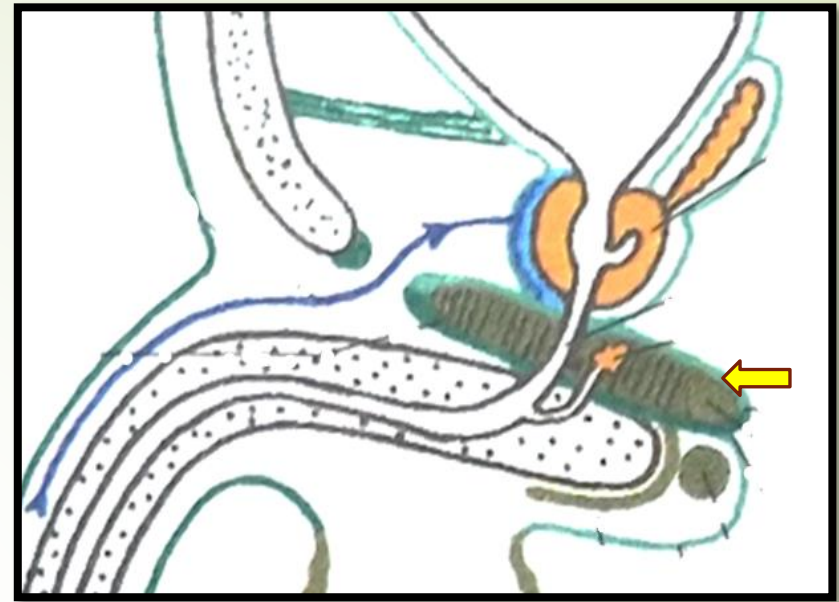
Boundaries DPP–

1. Superior/deep –

- Superior fascia of urogenital diaphragm

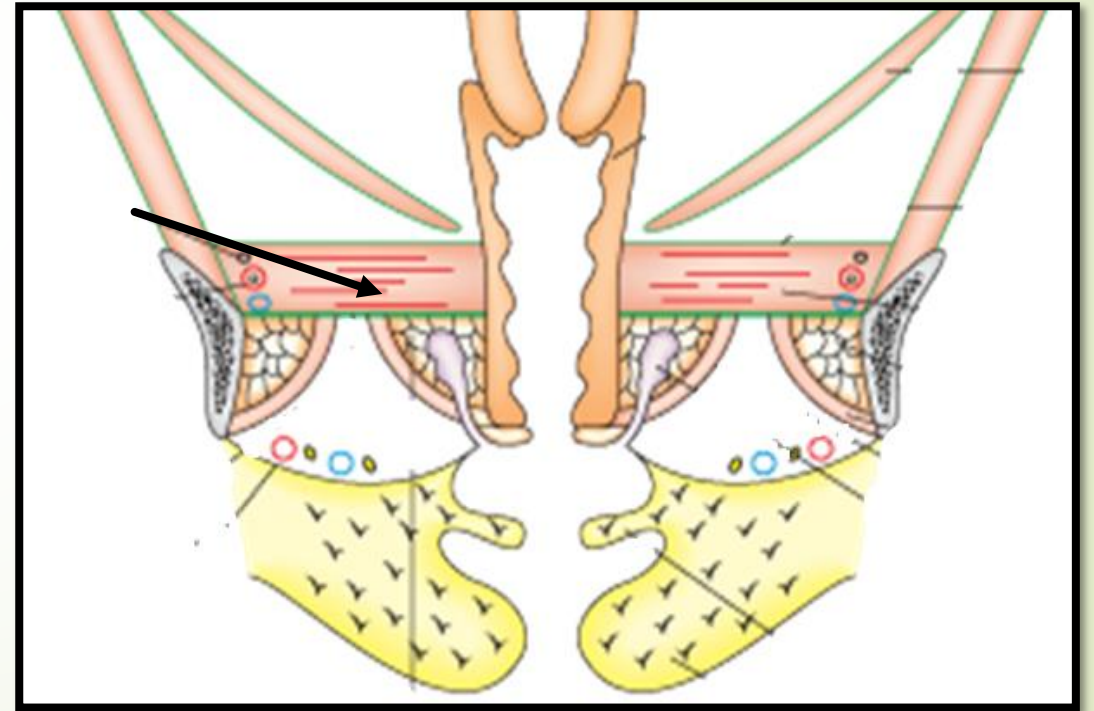
2. Anterior –

- Transverse perineal ligament
- Closed by union of Superior fascia of urogenital diaphragm with perineal membrane



UROGENITAL DIAPHRAGM

- **Musculofascial partition** across pubic arch which separates pelvic cavity from anterior part of pelvic outlet
- Formed by 2 muscles between 2 fasciae



UROGENITAL DIAPHRAGM

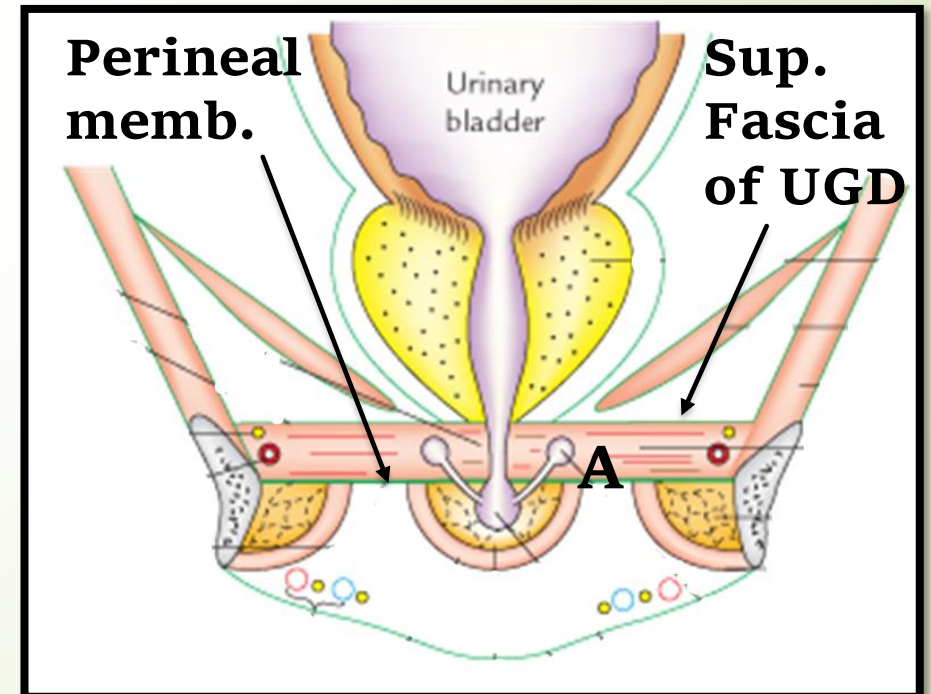
Formation –

2 fasciae –

1. Superior fascia of urogenital diaphragm above
2. Perineal membrane below

2 muscles between 2 fasciae

- A. Sphincter urethrae
- B. Deep transverse perinei



MUSCLES

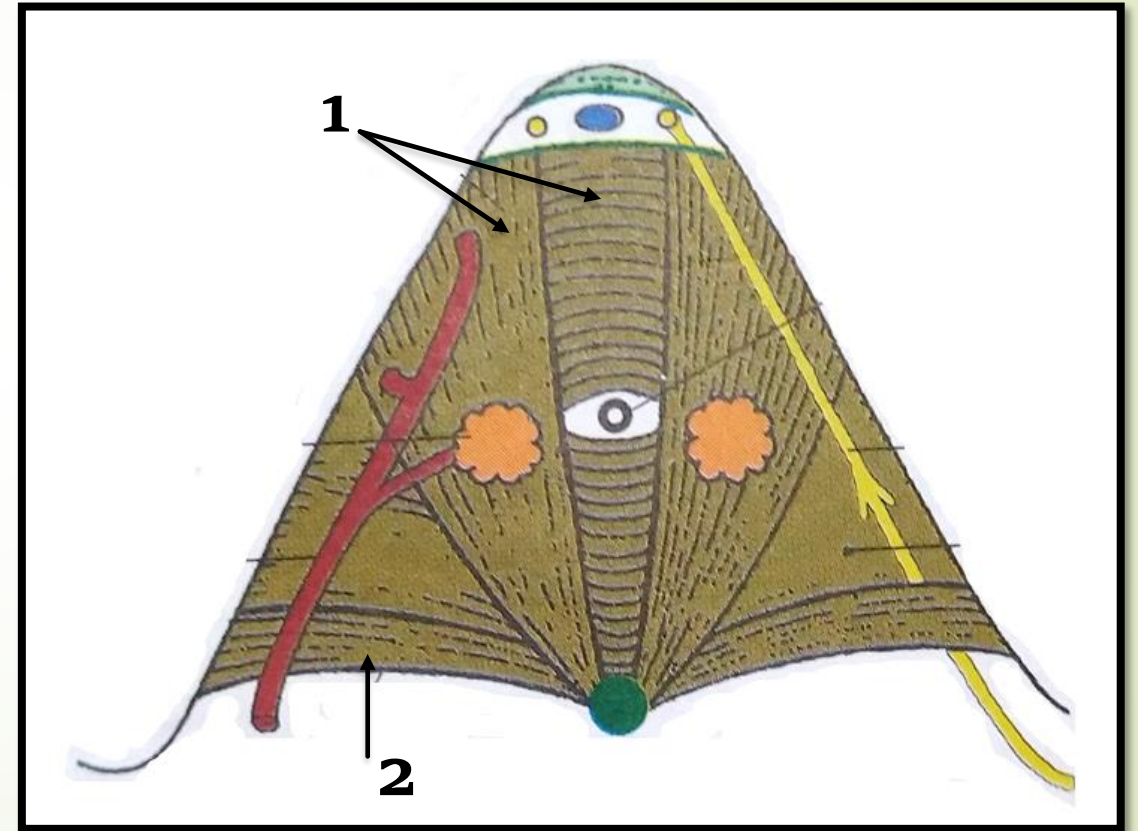
1. Sphincter urethrae –

- Encircles urethra

2. Transverse perinei muscles –

➤ Origin –

- Inner surface of ischiopubic ramus



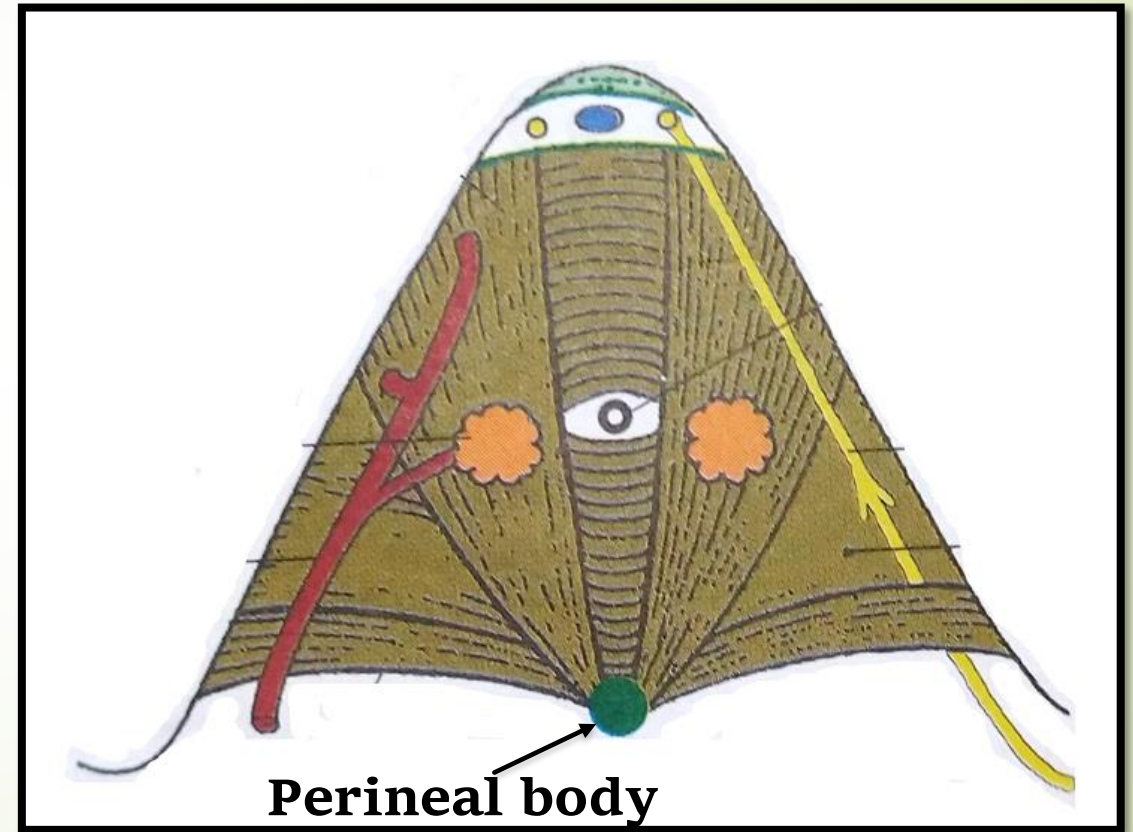
TRANSVERSE PERINEI MUSCLES

Insertion –

➤ In to perineal body

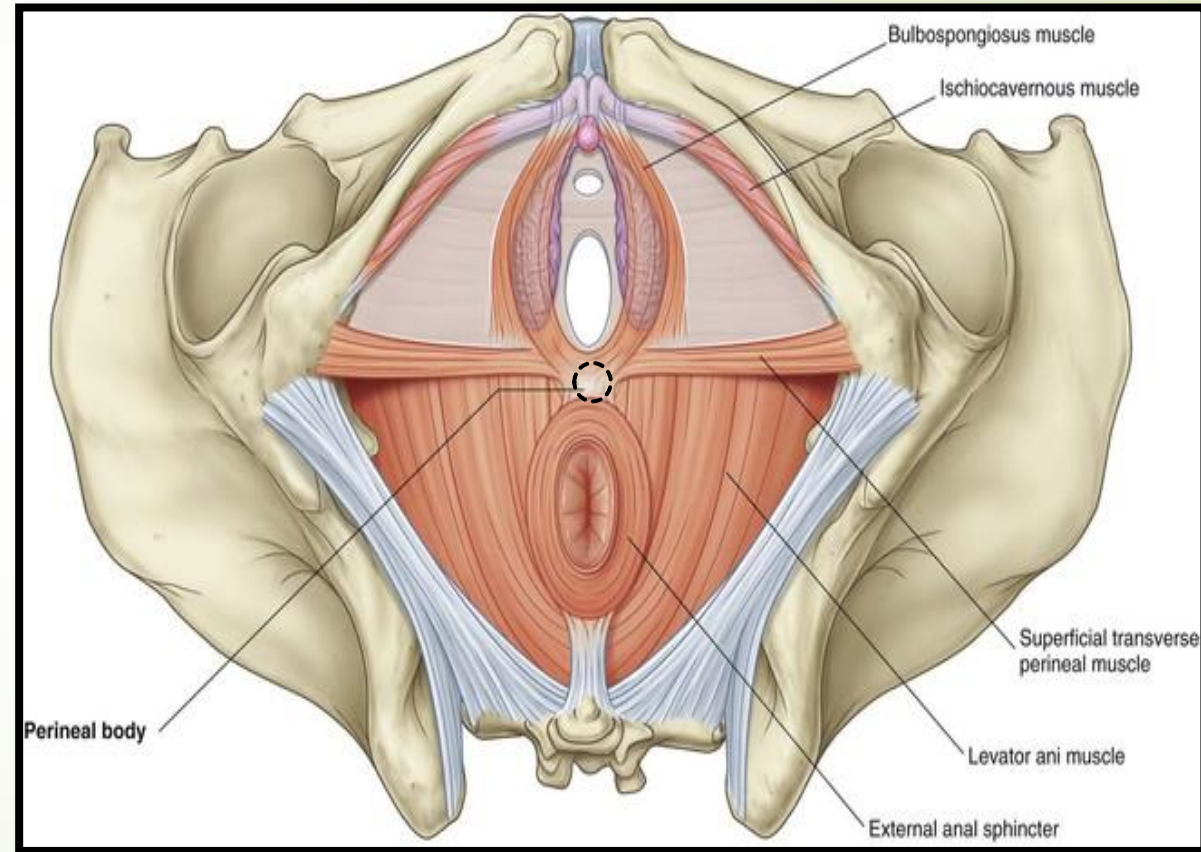
Nerve supply –

➤ Perineal nerve



PERINEAL BODY

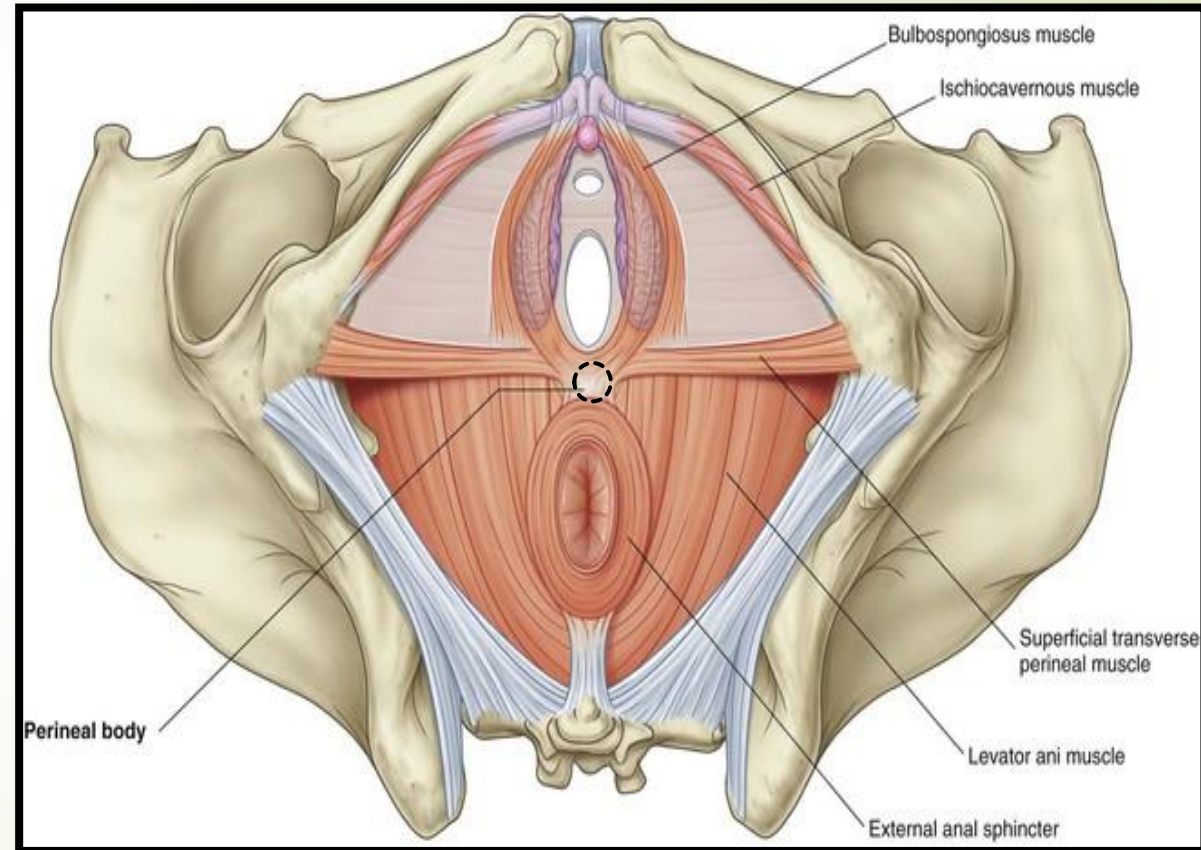
- Pyramidal fibromuscular node
- Between urogenital triangle and anal canal
- One of the important pelvic supports, specially in females
- Receives pelvic and perineal muscles



PERINEAL BODY

Receives perineal muscles –
from deep to superficial –

- Levator ani
- Muscles of deep perineal pouch and external anal sphincter deep part
- Bulbospongiosus, superficial transverse perinei and external anal sphincter superficial part



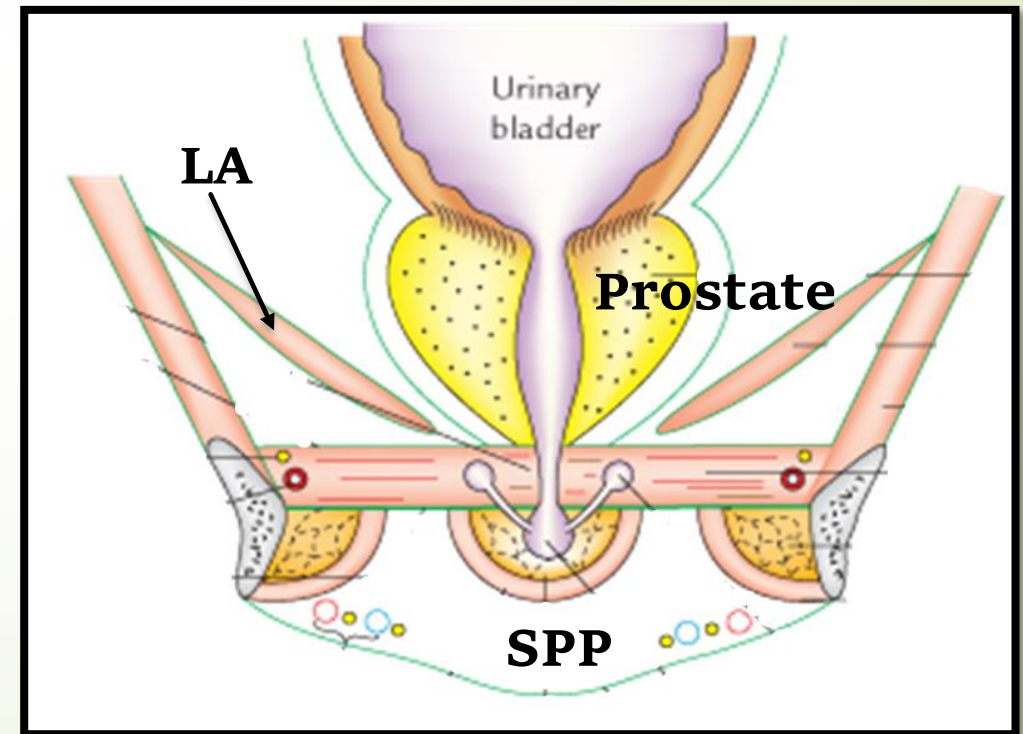
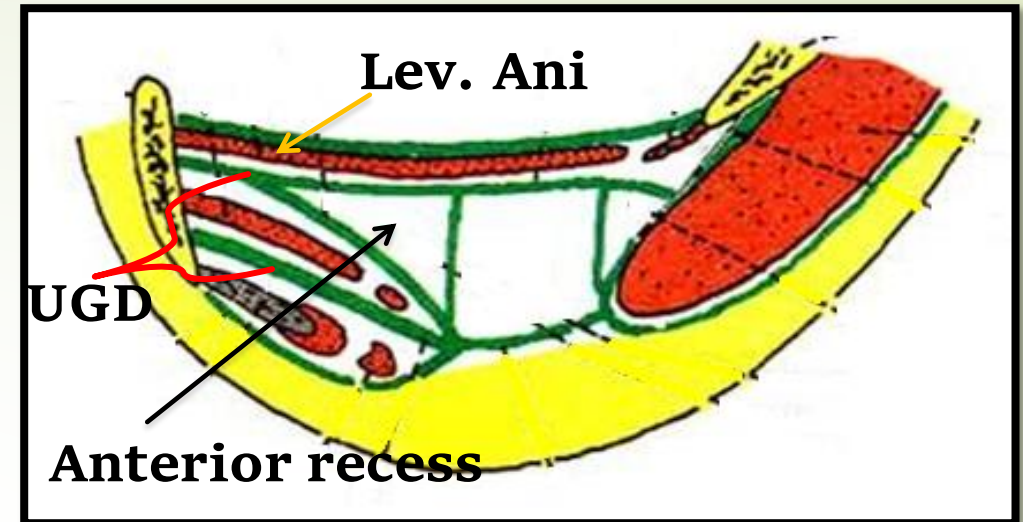
RELATIONS OF UGD

Superior –

- Levator ani
- Anterior recess of ischioanal fossa
- In male – prostate
- In female – urinary bladder

Inferior –

- Superficial perineal pouch



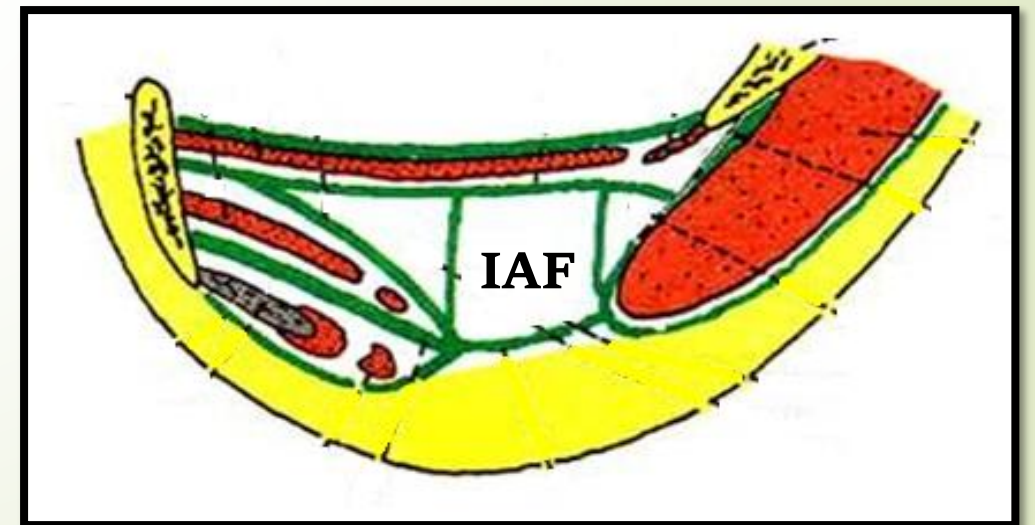
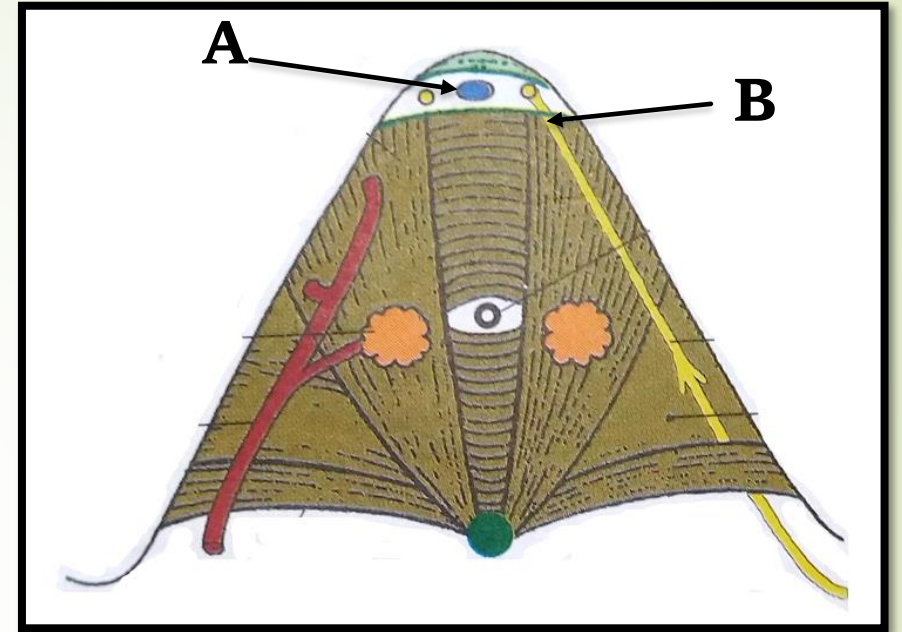
RELATIONS

Anterior –

- Structures passing in front of transverse perineal ligament
 - A. Deep dorsal vein of penis/ clitoris
 - B. Dorsal nerve of penis/ clitoris

Posterior –

- Anal canal and ischioanal fossae



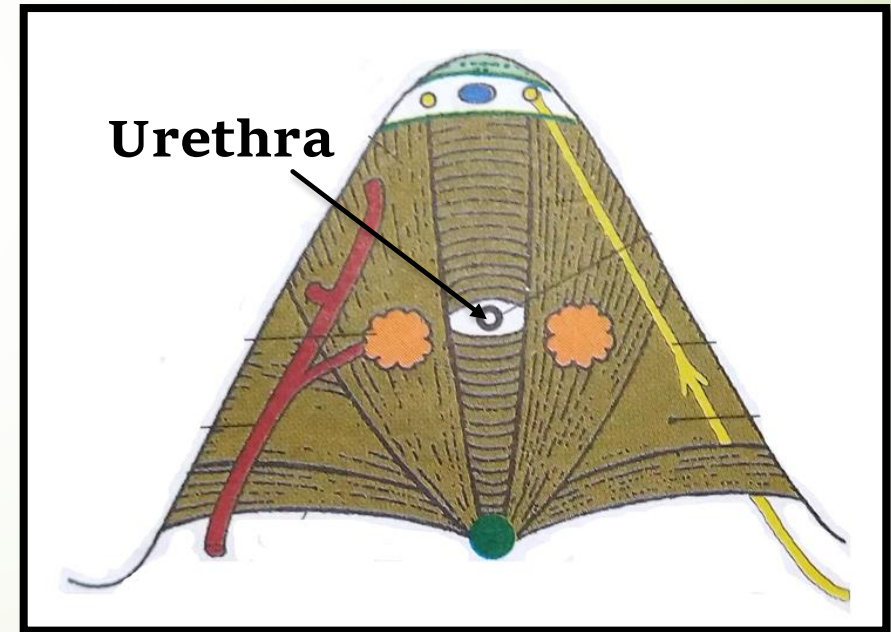
UROGENITAL DIAPHRAGM

Structures piercing

- Urethra
- In females –
 - Vagina

Functions –

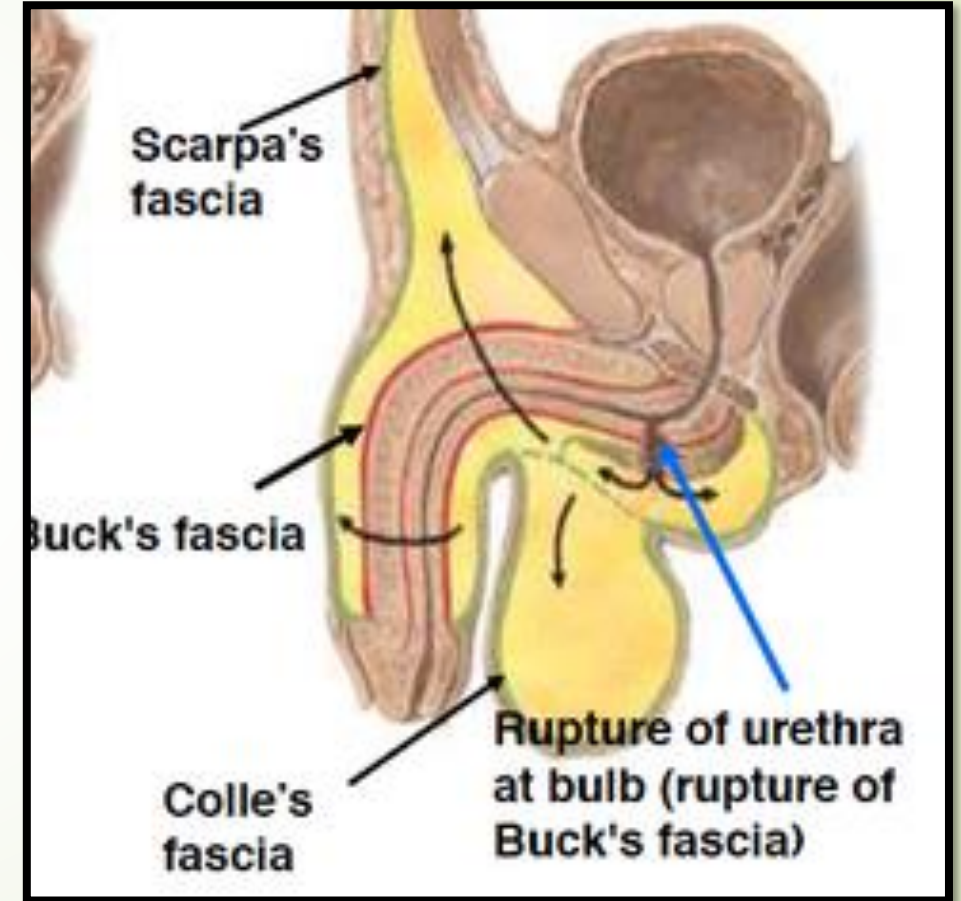
- Support for prostate/ bladder
- Voluntary control of micturition
- Constriction of vagina
- Fixation of perineal body



APPLIED ANATOMY

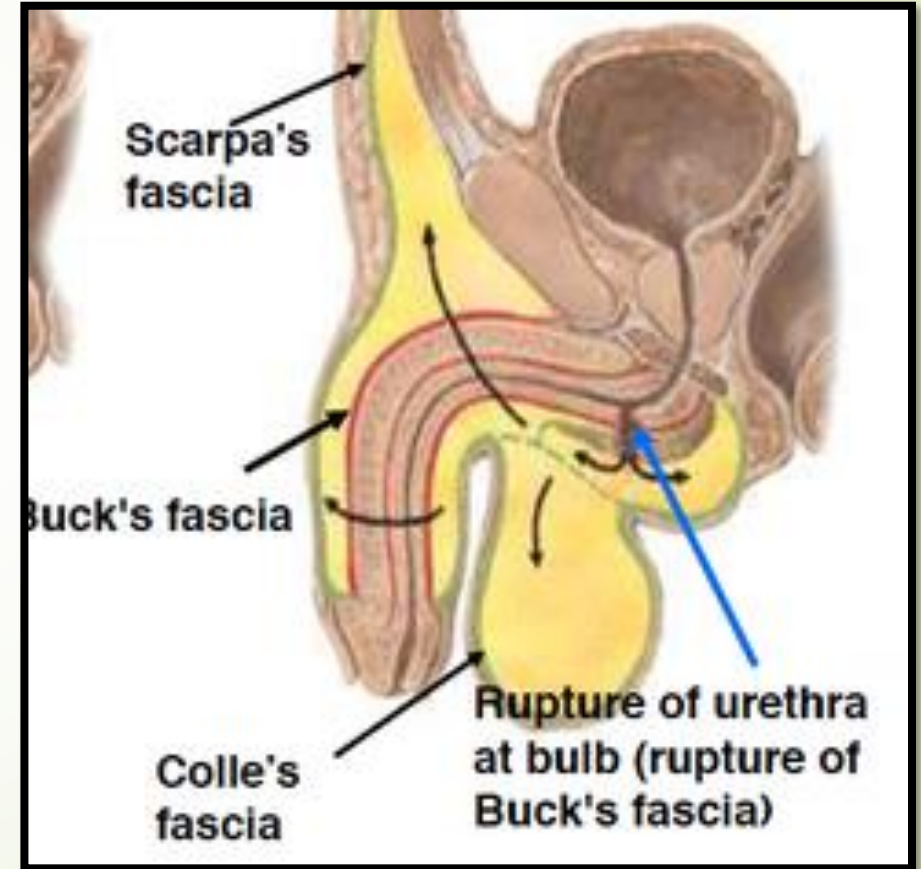
Rupture of membranous urethra –

- Below perineal membrane
- Extravasated urine – in superficial perineal pouch
- Urine will then pass in to continuous space of scrotum (deep to dartos) and penis



APPLIED ANATOMY

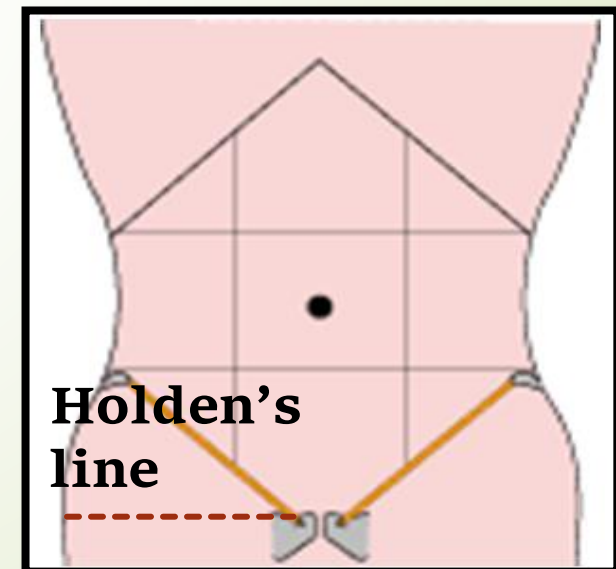
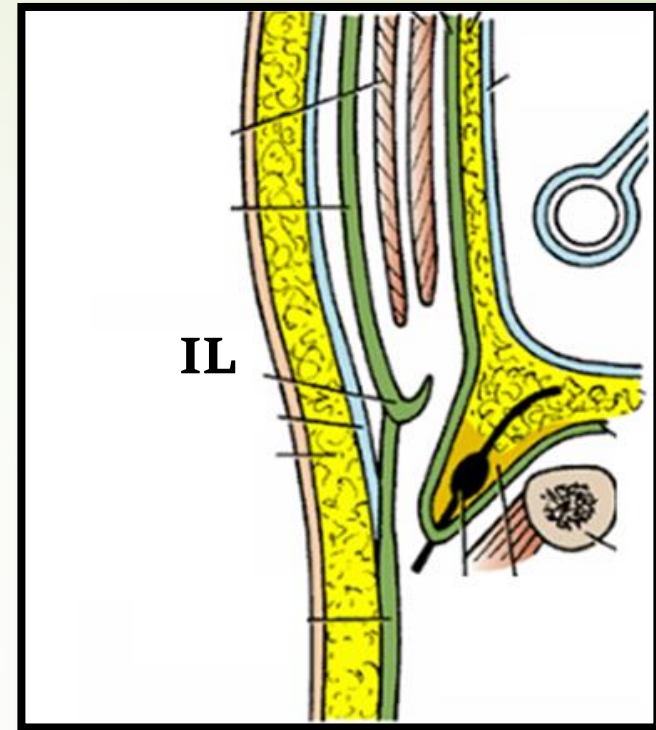
- Then in to anterior abdominal wall between fascia of Scarpa and external oblique aponeurosis
- Downwards in thigh between superficial and deep fascia



APPLIED ANATOMY

► Importance of Holden's line –

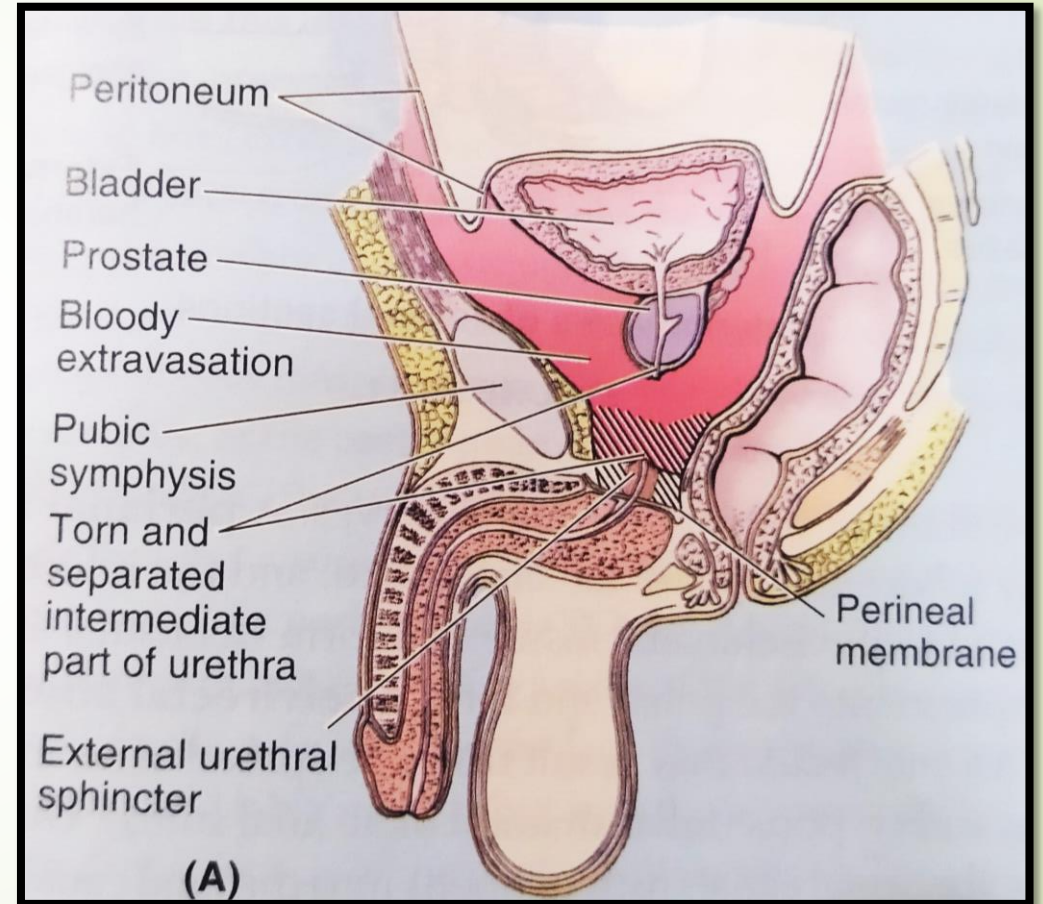
- But it will not enter thigh below Holden's line
- Holden's line –
- Horizontal line passing laterally from pubic tubercle
- Line of fusion of fascia lata and fascia of Scarpa



APPLIED ANATOMY

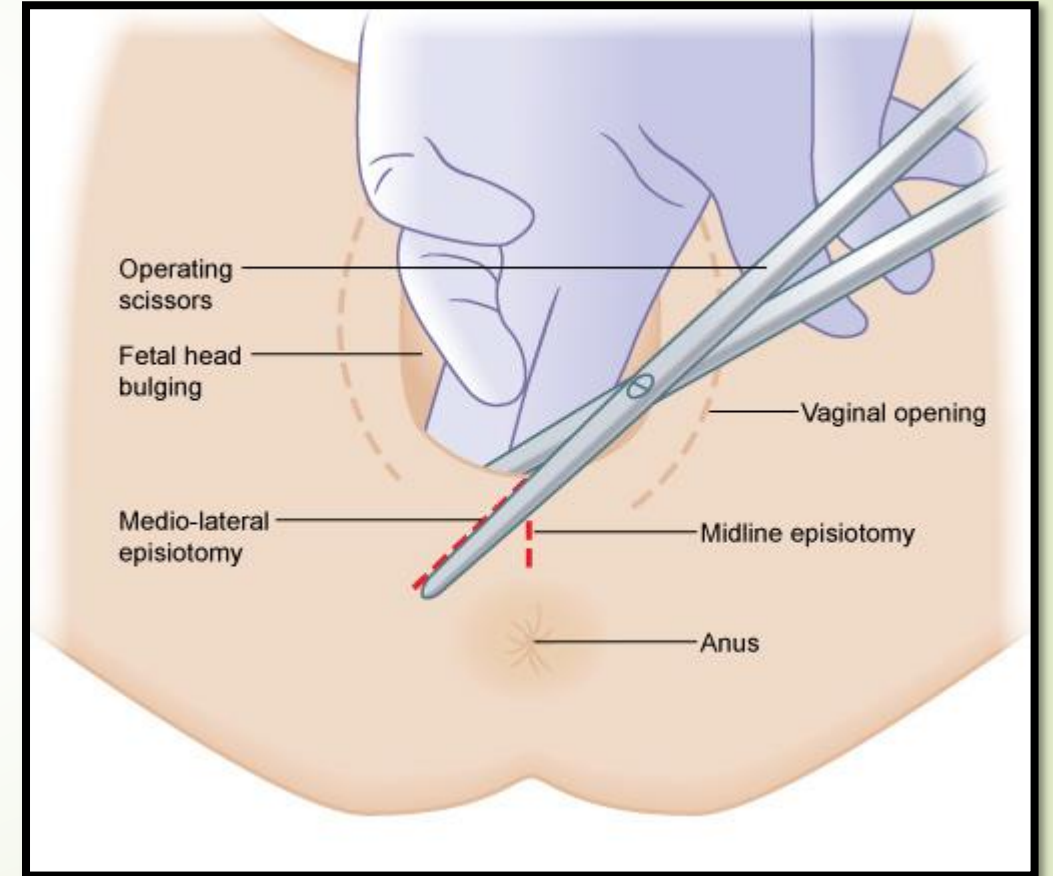
Rupture of urethra in deep perineal pouch –

- Urine collection in deep pouch
- Then upwards around prostate and bladder in extraperitoneal space



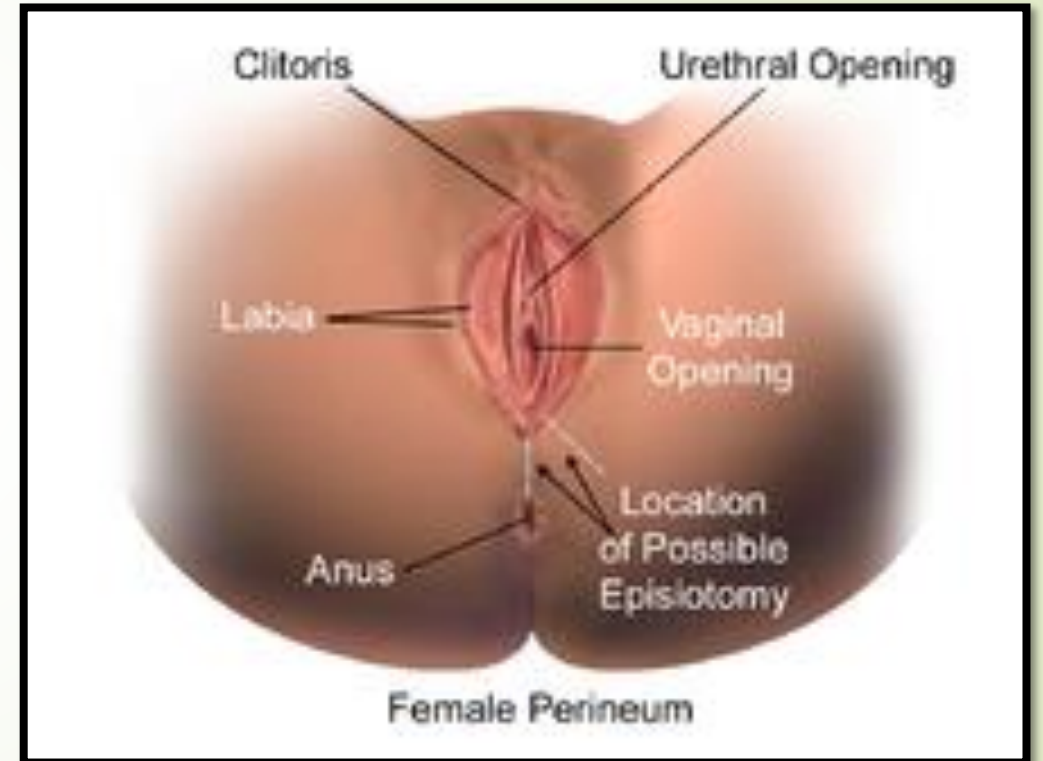
EPISIOTOMY & PERINEAL TEAR

- Episiotomy –
- Surgical incision of perineum and vaginal wall
- During vaginal delivery
- To widen vaginal orifice
- To avoid uncontrolled perineal tears



EPISIOTOMY

- Usually preferred is mediolateral episiotomy to median episiotomy
- **Median/ midline episiotomy** cuts through perineal body
 - Also in inadvertent extension may damage anal sphincter





ASSIGNMENT

SAQs – 5marks

- Superficial perineal pouch – Boundaries and contents
- Deep perineal pouch – Boundaries and contents
- Perineal membrane
- Urogenital diaphragm

Thank you

