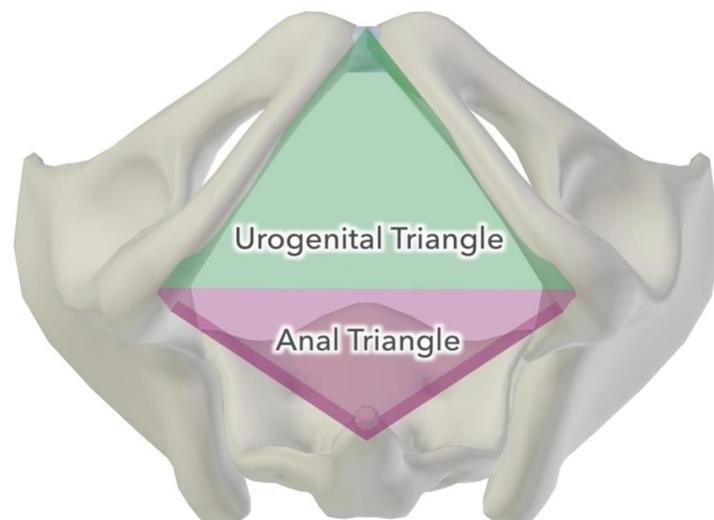
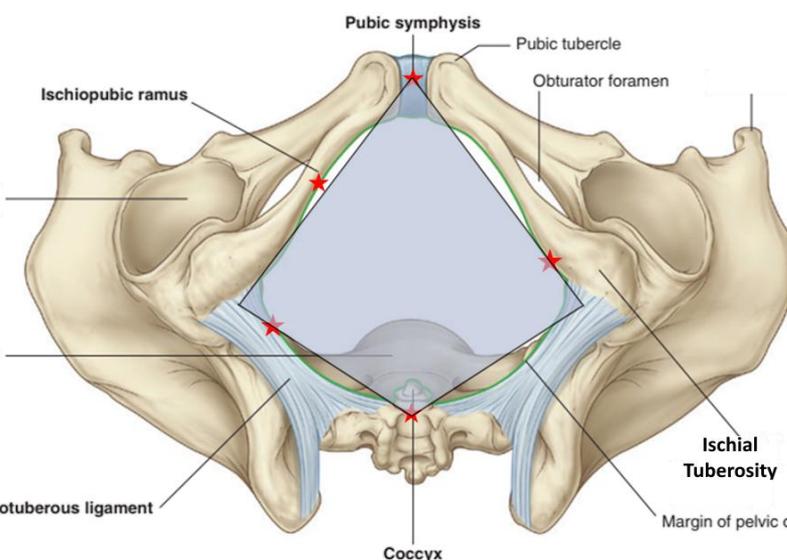


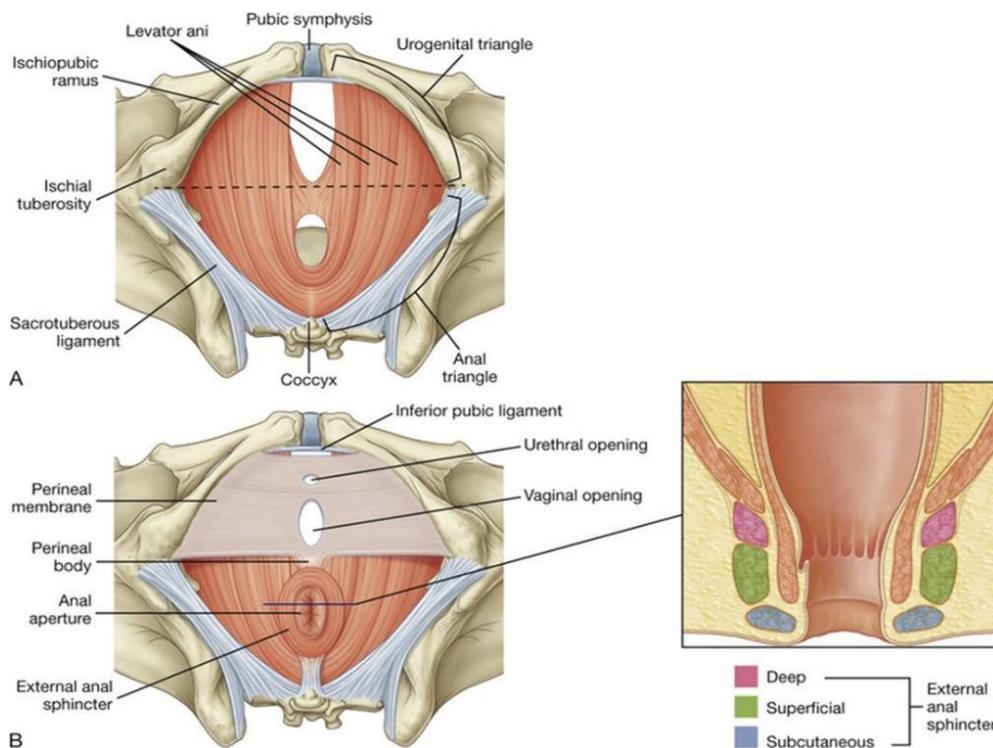
The perineum

Def & shape	<ul style="list-style-type: none"> ➤ The lower part of pelvic cavity below the pelvic diaphragm. ➤ A diamond-shaped region when seen from below. 	
Site	➤ Inferior to pelvic diaphragm, between the thighs.	
Boundaries	Anterior	Lower border of symphysis pubis
	Posterior	Coccyx
	Laterally	Ischiopubic rami, Ischial tuberosity & Sacrotuberous ligament
	Roof (Ceiling)	Pelvic diaphragm (levator ani & coccygeus)
Divisions	Divided by a line between 2 ischial tuberosities into:	
	Urogenital triangle (ant) <u>Contains:</u> <ul style="list-style-type: none"> ✓ Two perineal pouches ✓ External genitalia ✓ Openings of urinary system <u>Function:</u> <ul style="list-style-type: none"> ✓ Anchors external genitalia 	Anal triangle (post) <u>Contains:</u> <ul style="list-style-type: none"> ✓ Anal canal ✓ Anus ✓ External anal sphincter ✓ Ischiorectal fossa
Neurovascular supply	The pudendal nerve (S2 to S4) and the internal pudendal artery are the major nerve and artery of the region.	



The anal triangle

Boundaries	Anteriorly	Imaginary line between the 2 ischial tuberosities.
	Posteriorly	Coccyx
	On each side	Sacro-tuberous ligament.
	Roof	Levator ani and coccygeus.
Contents	<ul style="list-style-type: none"> ➤ Anal canal ➤ External anal sphincters ➤ Ischio-rectal fossa 	
The ischio-rectal fossa	The ischio-anal fossae allow movement of the pelvic diaphragm and expansion of the anal canal during defecation.	



The perineal membrane

▪ The Perineal Membrane:

- It is a **thick, triangular sheet of fibrous tissue** that stretches across the **pubic arch**, filling the **urogenital triangle**.
- It has a **free posterior border**, which is **anchored in the midline to the perineal body**, and is **attached laterally to the pubic arch**.

▪ Relation to Surrounding Structures:

- There are two fascial spaces related to the superior and inferior surfaces of the perineal membrane:

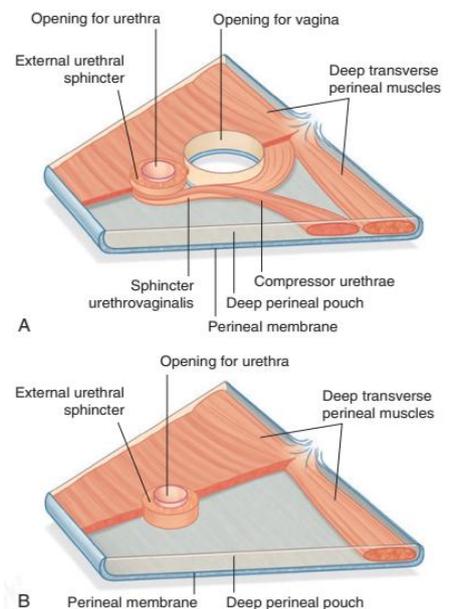
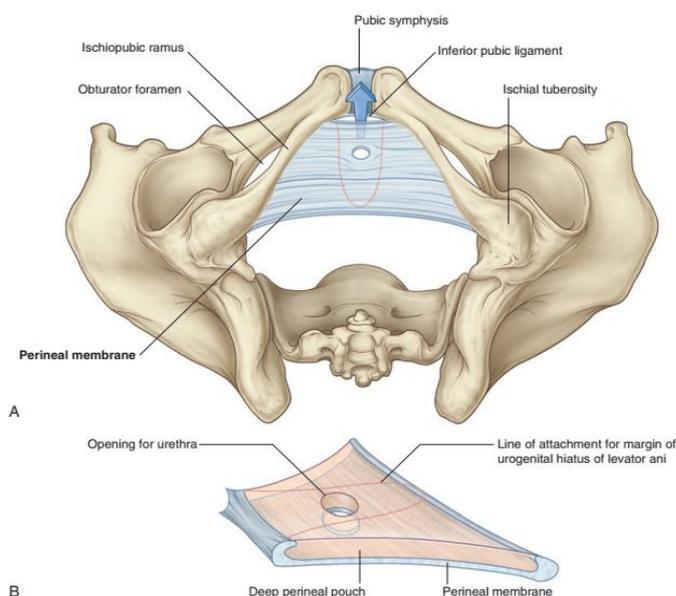
Surface	Fascial space	Details
Superior	Deep perineal pouch	Formed by the pelvic fascia attaching to all sides; a completely closed space containing skeletal muscle and neurovascular tissues. Among these muscles is the external urethral sphincter .
Inferior	Superficial perineal pouch	Formed by membranous fascia (of anterior abdominal wall) attaching to sides and posterior border but not the apex , making it an incompletely closed space .

▪ Functional importance:

- The perineal membrane and the deep perineal pouch provide **support for the external genitalia**, which are attached to the inferior surface of the membrane.
- These structures (perineal membrane & deep perineal pouch) also contribute to the **support of pelvic viscera**, playing a critical role in pelvic organ integrity.

▪ Urethral and Vaginal Passage:

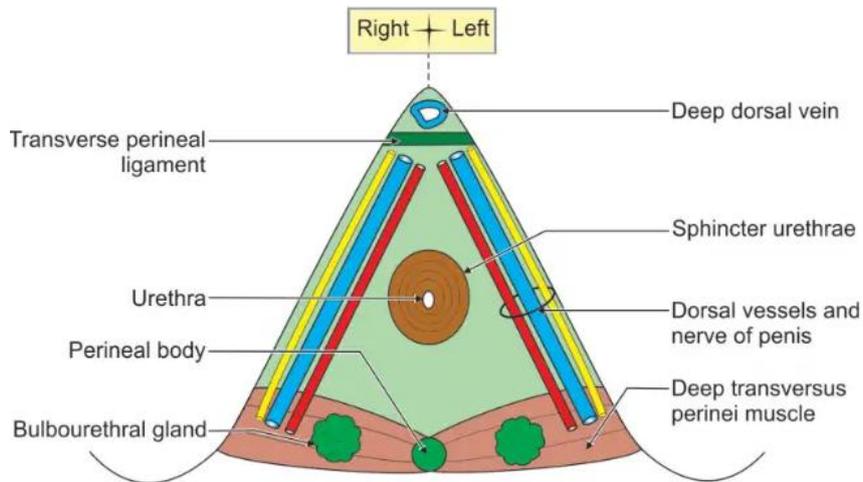
- The urethra exits the pelvic cavity and enters the perineum by passing through the deep perineal pouch and perineal membrane.
- In females, the **vagina** also passes through these structures, **posterior to the urethra**.



▪ Structures piercing the perineal membrane:

- These structures pass through the deep perineal pouch, perineal membrane, and then enter the superficial pouch, they are:

Male	➤ Bulbourethral ducts	Both	➤ Urethra
Female	➤ Vagina		➤ Artery of bulb of penis/clitoris
			➤ Terminal branches of pudendal artery
			➤ Dorsal nerve of penis/clitoris



Fascial Layers of the Perineum

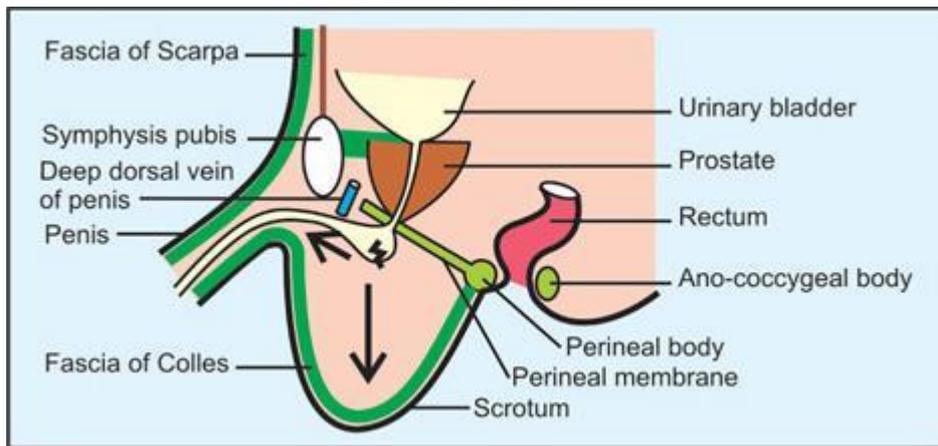
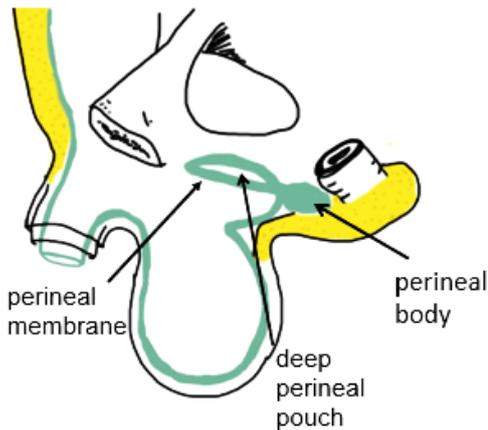
1. Superficial Fascia of the Perineum

- Like that of the inferior anterior abdominal wall, consists of:

Superficial fatty layer	<u>In males</u> , replaced by dartos muscle in the scrotum.
Deep membranous layer	Also called Colles' fascia , attaches posteriorly to the posterior border of the perineal membrane and forms the superficial perineal pouch , which is open anteriorly.

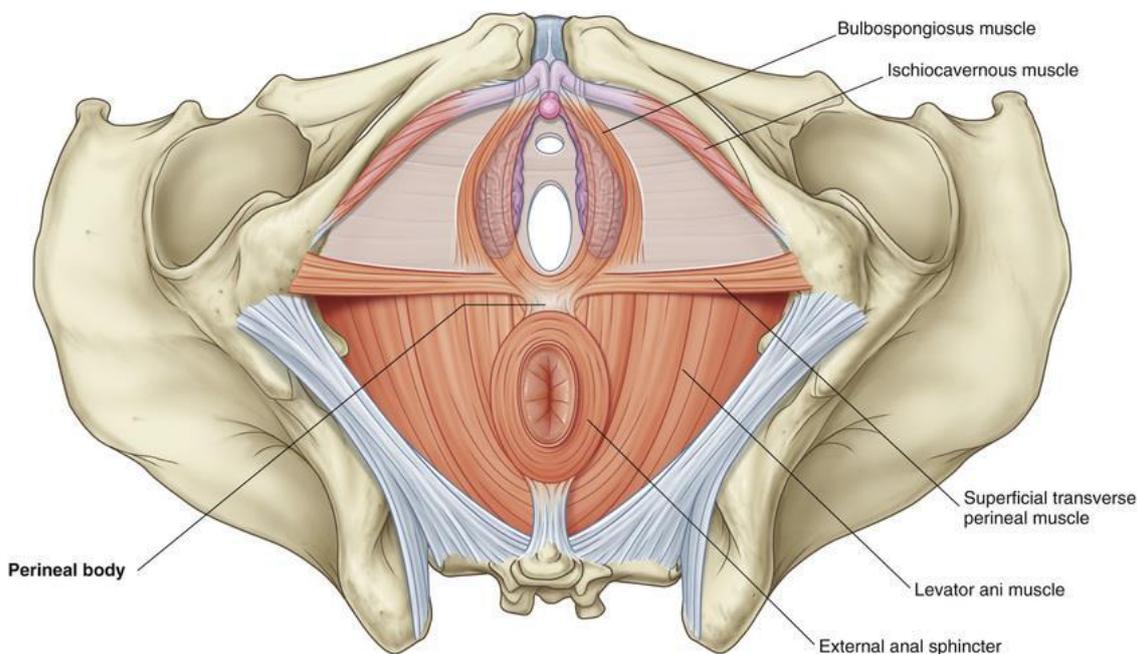
2. Pelvic Fascia

- Lies **above** the perineal membrane.
- **Attaches to all sides** of the perineal membrane.
- Forms a **completely closed space** called the **deep perineal pouch**.



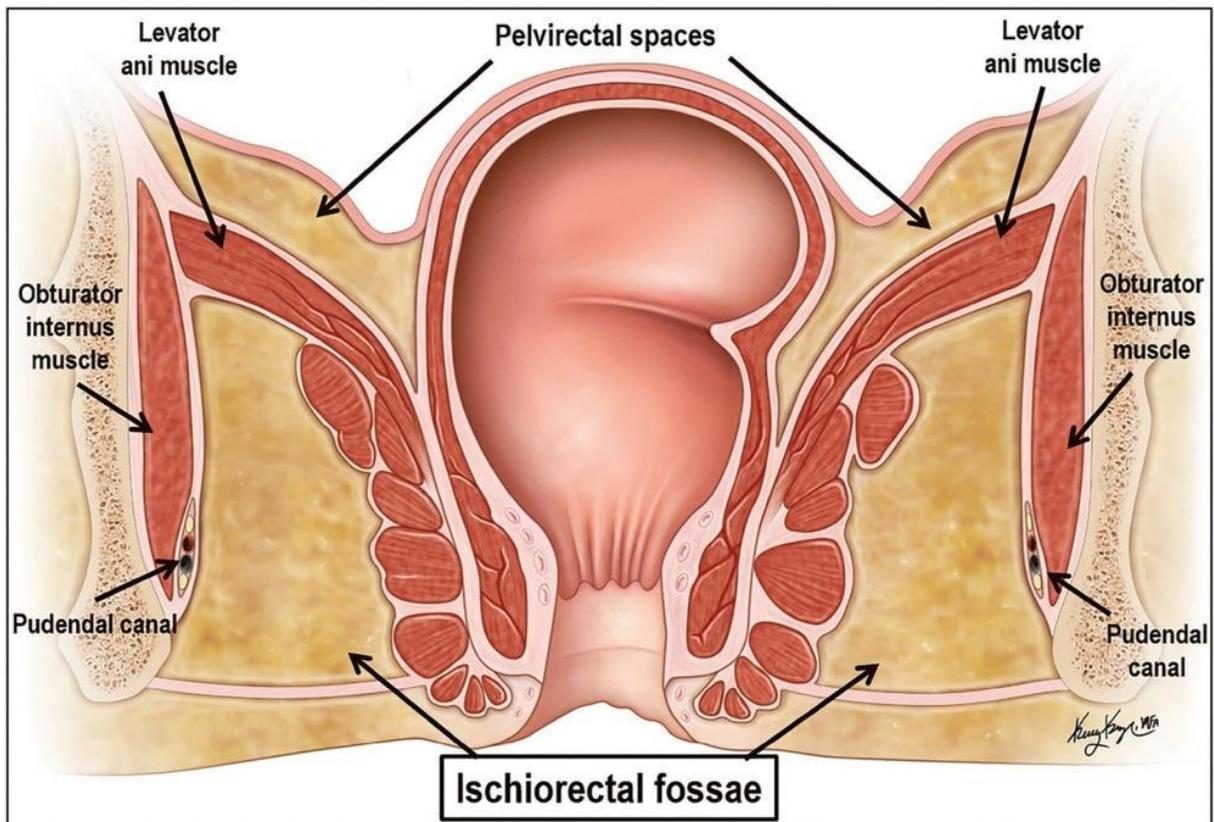
The perineal body

Definition	➤ A fibromuscular mass located in the midline of the perineum.	
Site	<ul style="list-style-type: none"> ➤ In males: Between anal canal and bulb of penis. ➤ In females: Between anal canal and lower part of vagina 	
Muscle attachment	Anterior	Bulbospongiosus
	Posterior	External anal sphincter (superficial and deep parts)
	Lateral	Transverse perineal muscles
	Superior	Levator ani
Function	<ul style="list-style-type: none"> ✓ Provides important support to pelvic organs, especially in females ✓ Damage during labor may result in uterine or pelvic organ prolapse. 	



The Ischio-Rectal (Ischio-Anal) Fossa

Def & Shape	➤ Wedge-shaped conical space (gutters) on either side of the anal canal.	
Function	➤ It gives space of the anal canal to dilate during the process of defecation (Allows expansion of the anal canal during defecation).	
Boundaries	Apex	Origin of levator ani (from obturator fascia "White line")
	Base	Skin and fascia
	Medially	Levator ani and external anal sphincter
	Laterally	Obturator internus and its fascia
Contents	<ul style="list-style-type: none"> ✓ <u>Pad of fat</u> ✓ <u>Inferior rectal vessels & nerves</u> ✓ <u>Pudendal (Alcock's) canal</u>, formed by splitting of obturator fascia, containing: <ul style="list-style-type: none"> ○ Pudendal nerve ○ Internal pudendal vessels. 	



The perineal pouches:

1. Superficial perineal pouch

▪ Boundaries:

Superior (Roof)	Perineal membrane
Inferior (Floor)	Colles' fascia (deep membranous)
Lateral	Fusion of roof and floor
Posterior	Fusion of roof and floor
Anterior	Open

▪ Structures in the superficial perineal pouch:

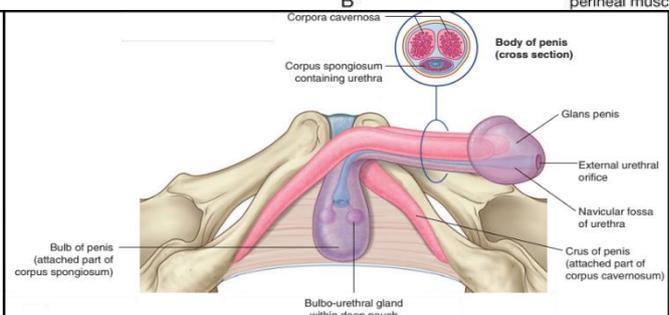
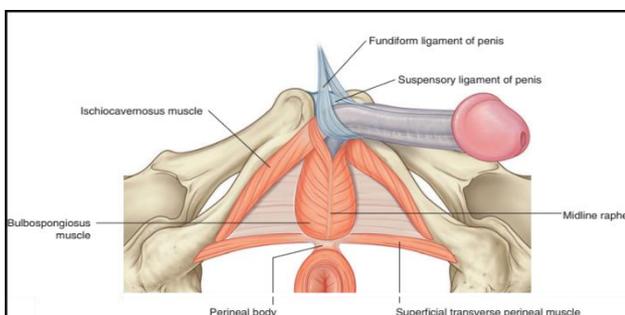
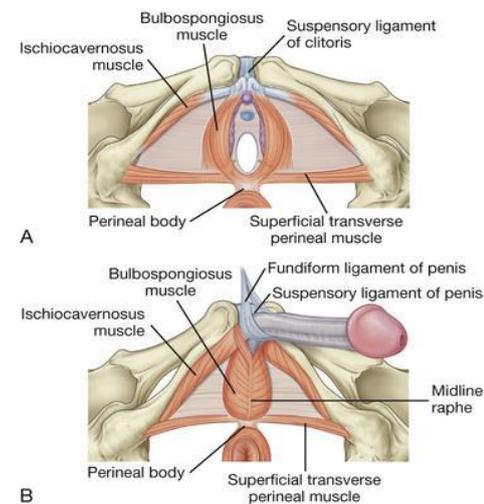
Erectile tissue	<ul style="list-style-type: none"> ✓ Join to form penis (male) or clitoris (female). ✓ Each erectile structure consists of a central core of expandable vascular tissue and its surrounding connective tissue capsule
Skeletal muscles	Associated with parts of the erectile structures attached to the perineal membrane and adjacent bone

▪ Muscles of the superficial perineal pouch contains three pairs of muscles:

- **Ischiocavernosus** → associated with roots of penis/clitoris
- **Bulbospongiosus** → associated with roots of penis/clitoris
- **Superficial transverse perineal muscle** → associated with perineal body

▪ Sex specific structures in the superficial perineal pouch:

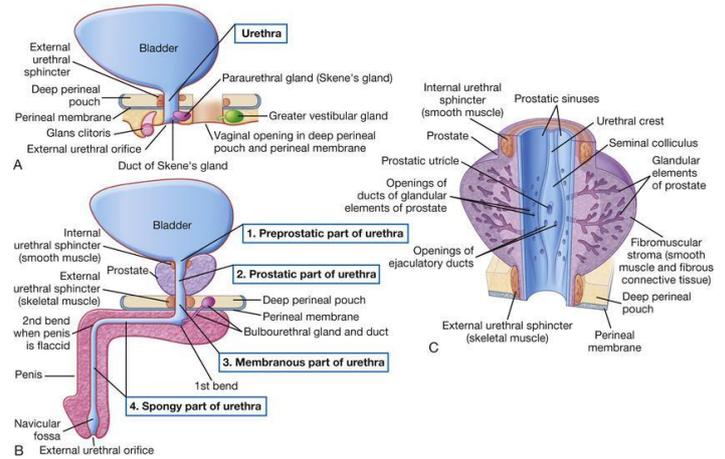
Male	Female
1. Root of penis	1. Root of clitoris
2. Duct of bulbourethral gland	2. Greater vestibular glands
3. Posterior scrotal nerve/vessels	3. Posterior labial nerve/vessels



2. Deep perineal pouch (completely closed space)

▪ Boundaries:

Superior (Roof)	<i>Pelvic fascia</i>
Inferior (Floor)	<i>Perineal membrane.</i>
Lateral	<i>Fusion of roof and floor</i>
Posterior	<i>Fusion of roof and floor</i>
Anterior	<i>Fusion of roof and floor</i>



▪ Content:

Male	Female
1. Urethra → membranous part	1. Urethra → anterior
2. Bulbourethral glands	2. Vagina → posterior
3. Dorsal nerve of penis	3. Dorsal nerve of clitoris
4. External urethral sphincter: around the urethra 5. Deep transverse perineal muscle 6. Internal pudendal vessels	

▪ Erection:

- Erection of the penis and clitoris is a **vascular event** generated by **parasympathetic fibers** (anterior rami of **S2-S4**).
- Fibers travel via **pelvic splanchnic nerves**, enter the **inferior hypogastric part of prevertebral plexus**, and pass through the **deep perineal pouch and perineal membrane**.
- Stimulation of these fibers → Arterial dilation → Blood fills erectile tissues → Erection.

Q1. Which of the following best describes the contents of superficial perineal pouch in female?

- A. It contains spongy urethra and bulbourethral glands
- B. The vagina anterior and the urethra posterior
- C. External urethral sphincter around the urethra
- D. Greater vestibular glands and roots of clitoris
- E. The Internal pudendal vessels and the pudendal nerve

Answer: D

Q2. Which of the following related to perineal membrane?

- A. It is a triangular sheet of muscular tissue stretches across the pubic arch.
- B. The middle of its posterior surface is attached to the external anal sphincters
- C. It fused superiorly with the Colle's fascia to form the deep perineal pouch
- D. It is pierced by duct of greater vestibular glands in females
- E. The perineal membrane and deep perineal pouch provide support for the external genitalia and pelvic viscera

Answer: E