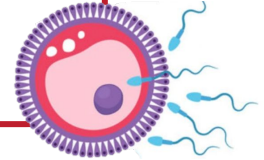


# Female perineum and external genitalia

Reproductive block-Anatomy-Lecture

[Editing file](#)  
[Summary file](#)



## Color index:

- Girls' slides
- Boys' slides
- Main content
- Extra
- important
- Drs' notes



# Objectives

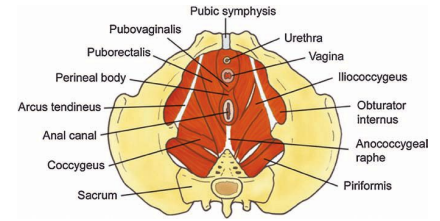
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**At the end of the lecture, students should be able to describe the:**

- **Boundaries of the perineum.**
- **Division of perineum into two triangles.**
- **Boundaries & Contents of anal & urogenital triangles.**
- **Lower part of Anal canal.**
- **Boundaries & contents of Ischiorectal fossa.**
- **Innervation, Blood supply and lymphatic drainage of perineum**

# Perineum

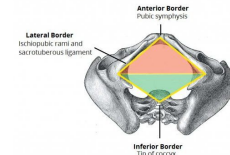
- It is the region of the body below the pelvic diaphragm (The outlet of the pelvis)
- It is a diamond shaped area between the thighs



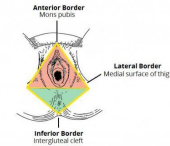
- Perineum Contents:**
1. Lower ends of urethra, Vagina , Anal canal
  2. Perineal body & Anococcygeal body.
  3. External genitalia

Relations	Anterior	Posterior	Lateral
<b>Bony Boundaries</b>	Symphysis pubis	Coccyx	<ul style="list-style-type: none"> <li>• Ischiopubic rami "anteriolateral"</li> <li>• Ischial tuberosities</li> <li>• Sacrotuberous ligaments "Posteriolateral"</li> </ul>
<b>Boundaries</b>	Mons pubis	Inter gluteal folds	Medial surfaces of the thighs

Anatomical Borders:



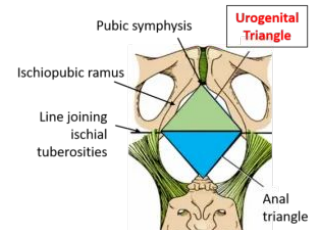
Surface Borders:



By an imaginary line passing through two ischial tuberosities it divided into:

**Anteriorly:** urogenital triangle

**Posterior:** Anal triangle



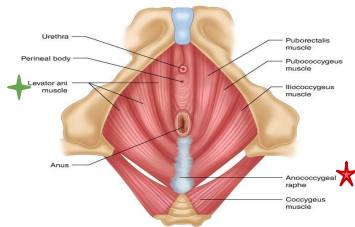
# Perineum Contents

## Anococcygeal Body

- ❑ It is a complex musculotendinous structure
- ❑ Located in the **floor of the pelvis** between the anterior aspect of the coccyx & the posterior wall of the anorectal canal

### Function:

- ❑ Receives insertion of fibers of **levator ani muscle**

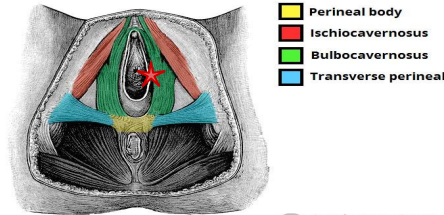


## Perineal Body

- ❑ It is an irregular fibromuscular mass of variable size and consistency
- ❑ Located at **midpoint of the line between the ischial tuberosities**
- ❑ Lies in the subcutaneous tissue, posterior to vaginal vestibule and anterior to the anal canal & anus
- ❑ Forms the central point of the perineum & blends anteriorly with the perineal membrane

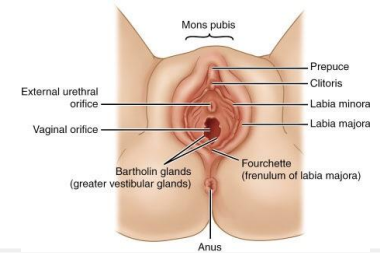
### Function:

- ❑ Gives attachment to perineal muscles
- ❑ Plays an important role in visceral support especially in female



## Female External Genitalia (Vulva)

1. **Mons pubis** : a collection of fat overlying the pubes.
2. **Clitoris**
3. **Labia majora.**
4. **Labia minora.**
5. **Vestibule of vagina:** The interval between the two labia minora.
6. **Vagina & urethra open into the vestibule through urethral orifice anteriorly and vaginal orifice posteriorly.**



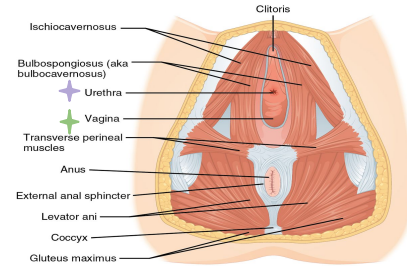
# Urogenital Triangle

## Boundaries

- **Anterior** → symphysis pubis
- **Posterior** → transverse line passing through the 2 ischial tuberosities
- **Lateral** → ischiopubic rami & ischial tuberosities

## Contents

- ❖ Lower parts of **urethra** & **Vagina**
- ❖ External genitalia (Vulva)



## Fascia of Urogenital Triangle (Perineal Fascia)

- ❑ is continuous anteriorly with the fascia of abdomen and consists of:

**01** Superficial layer

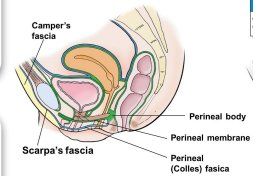
consists of

**02** Deep layer

Deep perineal fascia invests the muscles in the superficial perineal pouch

Superficial fatty layer (**Camper's fascia**) makes up the substance of mons pubis & labia majora and extends into the anal region

Deep membranous layer (**Colle's fascia**): Does not extend to anal region. Becomes fused with the posterior margin of the **perineal membrane**



## Urogenital Diaphragm

- A triangular musculofascial diaphragm (**2 muscles & 2 fascias**) located in the anterior part of the perineum (in the urogenital triangle).
- Fills in the gap between the pubic arch.

- **Composed of:** Sphincter urethrae and the deep transverse perineal muscle enclosed within the superior and inferior layers of fascia of the urogenital diaphragm
- The inferior layer of the fascia is formed by **perineal membrane**

# Perineal Pouches

## Superficial perineal pouches

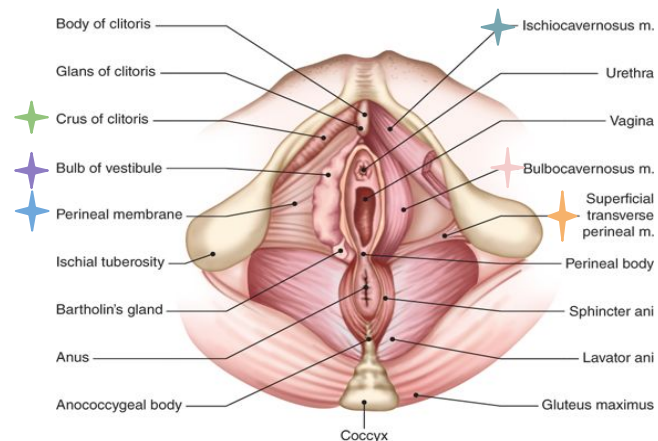
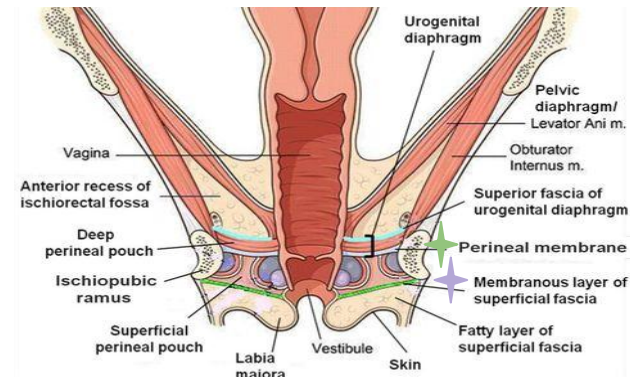
It is the space between the deep **membranous layer of superficial fascia** of perineum (Colle's fascia) and the **perineal membrane**

### Boundaries

- Superior → perineal membrane
- Inferior → membranous layer of superficial fascia
- Lateral → ischiopubic rami

### Contents

- ❖ **Bulbs of vestibule:** on each side of vaginal orifice
- ❖ **Crura of clitoris**
- ❖ **Superficial perineal muscles:**
  - I. **Bulbospongiosus muscle**, surrounds orifice of vagina and covers vestibular bulb
  - II. **Ischiocavernosus muscle**, covers crus of clitoris on each side
  - III. **Superficial transverse perineal muscles**
- ❖ **Greater vestibular glands:** on each side of vaginal orifice
- ❖ **Perineal branch of pudendal nerve** supplying muscles & skin



# Perineal Pouches

## Deep perineal pouches

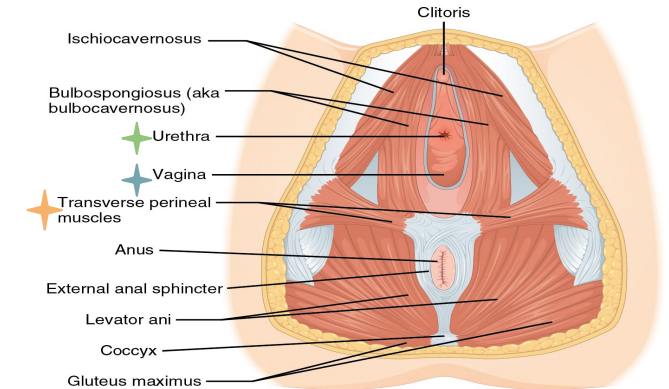
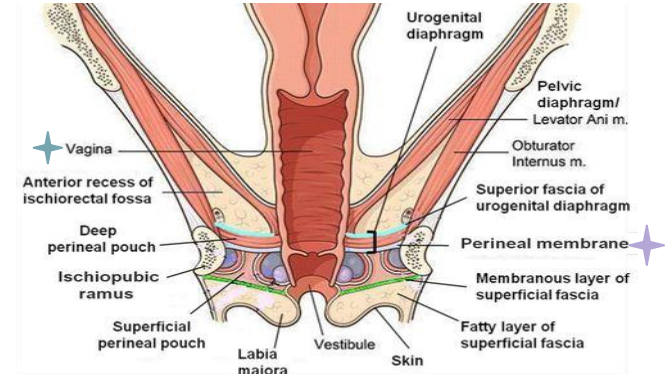
It is a completely closed space deep to the **perineal membrane**

### Boundaries

- Superior → superior fascia of the urogenital diaphragm
- Inferior → inferior fascia of the urogenital diaphragm (perineal membrane)
- Lateral → inferior portion of obturator internus fascia

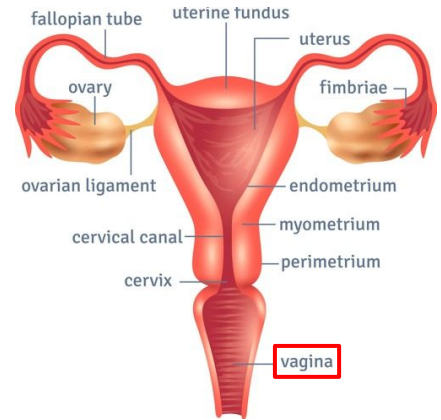
### Contents

- ❖ Lower part of **urethra**
- ❖ Lower part of **vagina**
- ❖ **Sphincter urethrae** and **Sphincter vaginae** muscles, which is pierced by urethra & vagina
- ❖ Deep **transverse perineal muscles**
- ❖ Internal pudendal vessels
- ❖ **Dorsal nerve of clitoris** (branch of **Pudendal** nerve)



# Vagina

- is a muscular canal that extends from the uterus to the external orifice of the genital canal
- It measures about 3 in. (8 cm) long.
- It serves as the excretory duct for the menstrual flow & forms part of the birth canal.
- The **vaginal orifice** in a virgin possesses a thin mucosal fold, called the hymen, which is perforated at its center. **It lies** (vaginal orifice) posterior to the urethral orifice.

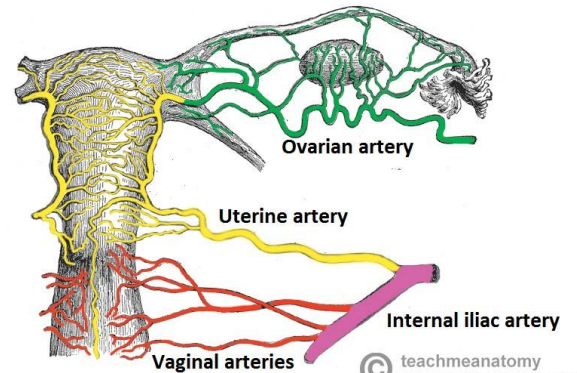


## Arterial Supply

- Vaginal arteries: a branch of the internal iliac artery
- Vaginal branch of the uterine artery

## Venous Drainage

- drain into the internal iliac veins.





# Anal Triangle

## Boundaries:

1 **Anterior** → Transverse line passing through the 2 ischial tuberosities

2 **Lateral** → ischial tuberosity & sacrotuberous ligament

3 **Posterior** → coccyx

## 2-Contents:

### A. Lower part of Anal canal

#### Anal canal

- It is about 1.5 in. long, descending from the rectal ampulla to the anus.

#### Relations (In female):

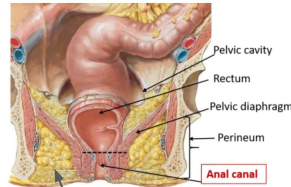
- Anteriorly → Perineal body, urogenital diaphragm, and lower part of vagina
- Posteriorly → Anococcygeal body.
- Laterally → Ischioanal fossae.

#### Divided into: (by the pectinate line)

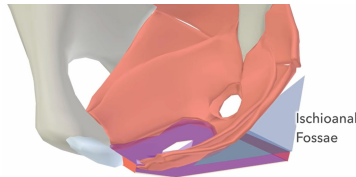
- Upper half: derived from hindgut (endoderm)
- Lower half: derived from the Proctodeum (ectoderm)

The two parts have different blood supply, nerve supply and lymphatic drainage

### B. Anococcygeal body



Ischioanal fossa



### C. Ischioanal fossa on each side

- A fascial lined wedge-shaped space on each side of the anal canal

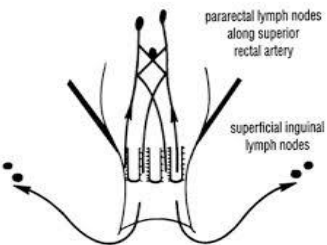
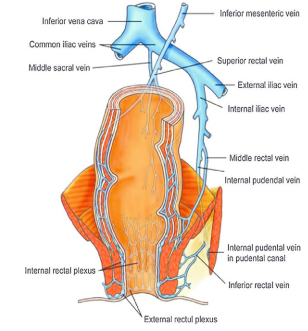
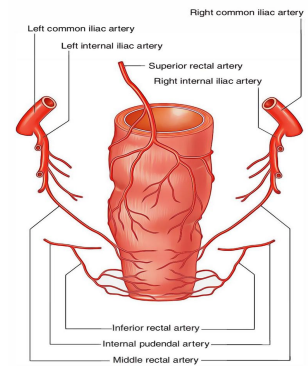
#### Boundaries:

- Base → Skin of the perineum
- Medial wall → Levator ani & anal canal
- Lateral wall → Obturator internus, covered with fascia

#### Contents:

- Dense fat
- Pudendal nerve & internal pudendal vessels within the pudendal canal (A fascial canal formed by obturator fascia, located on the lateral wall of the ischioanal fossa)
- Inferior rectal nerve & vessels crossing the fossa to reach anal canal

# Anal canal supply:

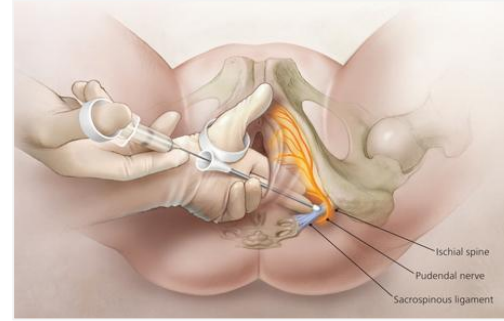


	Arterial supply	Venous drainage	Lymphatic drainage	Nerves ★
Upper half	Superior rectal artery (continuation of the inferior mesenteric artery)	Superior rectal vein <u>drained</u> into the inferior mesenteric vein (portal circulation)	Para-rectal nodes drained into inferior mesenteric lymph nodes and <b>internal iliac lymph nodes</b>	(sensitive to <b>stretch</b> ) Autonomic nerve Visceral motor ( <b>Inferior Hypogastric Plexus</b> ) (sympathetic & parasympathetic)
Lower half	Inferior rectal artery. (branch of internal pudendal artery)	Inferior rectal vein <u>drained</u> into the internal pudendal vein (Systemic circulation)	<b>Superficial</b> inguinal lymph nodes	(sensitive to <b>pain</b> ) Somatic <b>spinal motor &amp; sensory nerves</b> - ( <b>Inferior rectal nerve</b> branch of <b>pudendal nerve</b> ) <b>supplies</b> external sphincter muscle of the anus and the skin of the anal region

# Pudendal Nerve Block



- It is used in providing **analgesia** for the second stage of labour and to provide **anesthesia** of the perineum in order to create and repair an episiotomy.
- Can be done by transvaginally or through perineal approach.

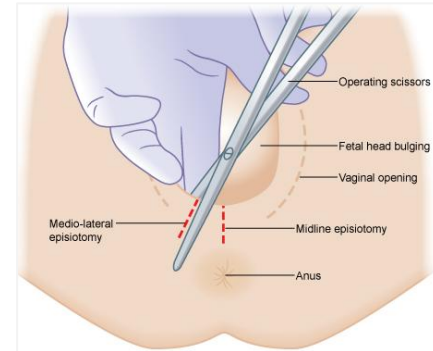


it divided into

**Transvaginal method:** The needle is passed through the **vaginal mucous membrane** toward the **ischial spine**. After the needle is passed through the **sacrospinous ligament**, the anesthetic solution is injected around the pudendal nerve

**Perineal method:** The **ischial tuberosity** is palpated subcutaneously through buttock. The needle is inserted on the **medial side of the ischial tuberosity** to a depth of about 1 in. (2.5 cm) from the free surface of the tuberosity. The anesthetic solution is injected around the pudendal nerve.

An episiotomy is a surgically planned incision on the perineum and the posterior vaginal wall during second stage of labor to prevent perineal tear.



# QUIZ

**Q1:** which of the following bony boundaries is located in the anterior to perineum ?

- A. Coccyx
- B. Symphysis pubis
- C. Ischiopubic rami
- D. Ischial tuberosities

**Q2:** Vagina & urethra open into the vestibule through urethral orifice ... & vaginal orifice ....

- A. Laterally, posteriorly
- B. Anteriorly , posteriorly
- C. Anteriorly. Laterally .
- D. posteriorly , anteriorly

**Q3:** In transvaginal method, the needle is passed through the .....toward the .....

- A. Vaginal mucous membrane, ischial spine
- B. Vaginal mucous membrane , ischial tuberosity
- C. Buttock , ischial spine
- D. Buttock , ischial tuberosity

**Q4:** Which of the following is considered a landmark during a transvaginal pudendal n. block?

- A. Ischial spine
- B. Ischial tuberosity
- C. Pubic rami
- D. Ischiorectal fossae

**Q5:** Crura of clitoris is one of the content of?

- A. Deep perineal pouch
- B. Anal triangle
- C. Pudendal canal
- D. Superficial perineal pouch

**Q6:** which of the following is posterior to anal canal?

- A. Anococcygeal body
- B. Vagina
- C. Ischiorectal fossae
- D. Perineal body

**Q7:** which of the following vein drains into inferior mesenteric vein?

- A. Middle rectal vein
- B. Internal pudendal vein
- C. Inferior rectal vein
- D. Superior rectal vein

**Q8:** which of the following boundaries is located in the base of Ischiorectal fossa?

- A. Levator ani
- B. skin of perineum
- C. Pudendal nerve
- D. Obturator internus



# Members board

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by 438's team

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