



# Female genital system

Dr. Ahmed Salman

Associate Professor of Anatomy

- به رسمه قبل الامتحان والباقي بجه  
سكيب
- كز عليه الدكتور  
وحسينه مهم
- لسنوات

## Female Genital Organs

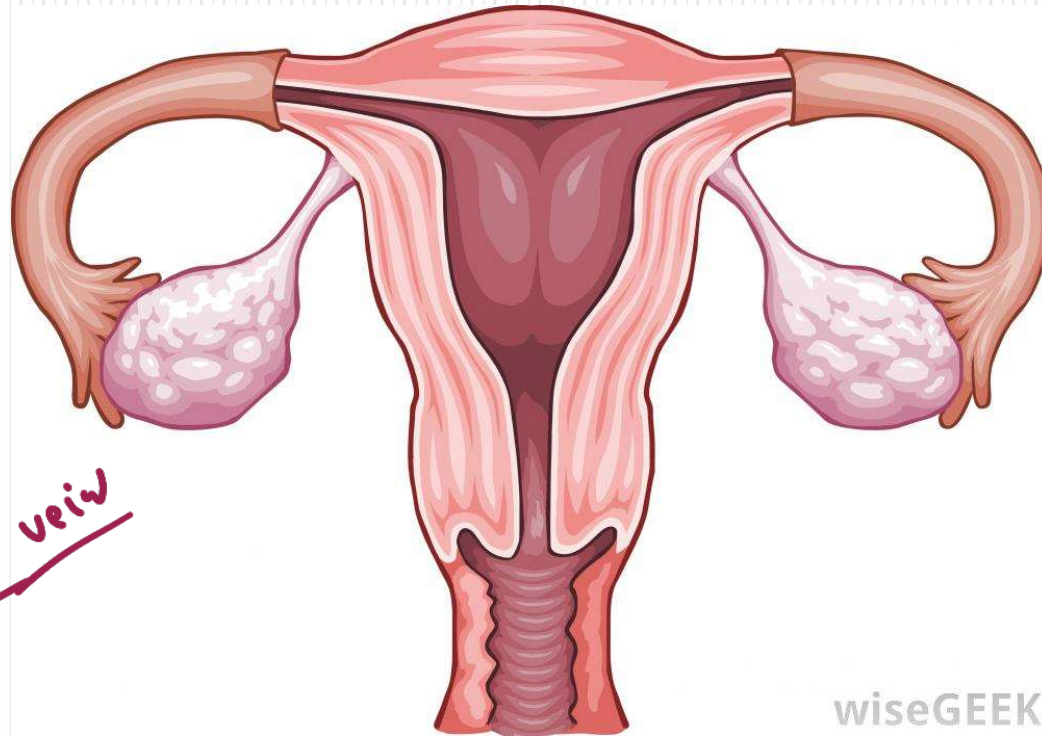
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This includes :

1. Ovaries
2. Fallopian tubes
3. Uterus
4. Vagina
5. External genital organs

A

# Ovaries



Posterior view

wiseGEEK

**Site of the Ovary:** In the ovarian fossa in the lateral wall of the pelvis which is bounded.

Anteriorly : External iliac vessels.

Posteriorly : internal iliac vessels and ureter

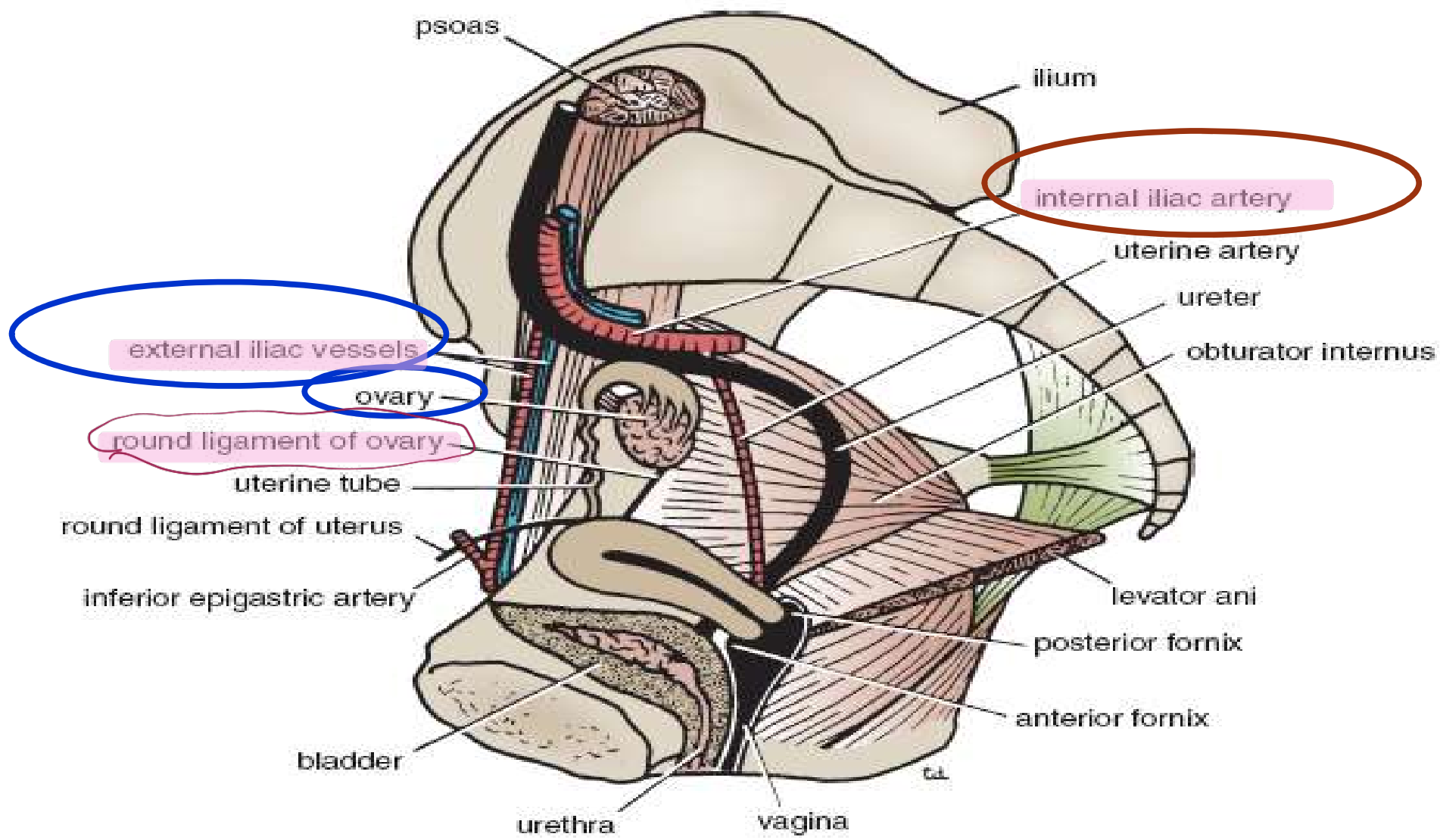
**Shape** : the ovary is almond-shaped.

### **Orientation :**

- In the nullipara : long axis is vertical with superior and inferior poles.
- In multipara : long axis is horizontal, so that the superior pole is directed laterally and the inferior pole is directed medially.

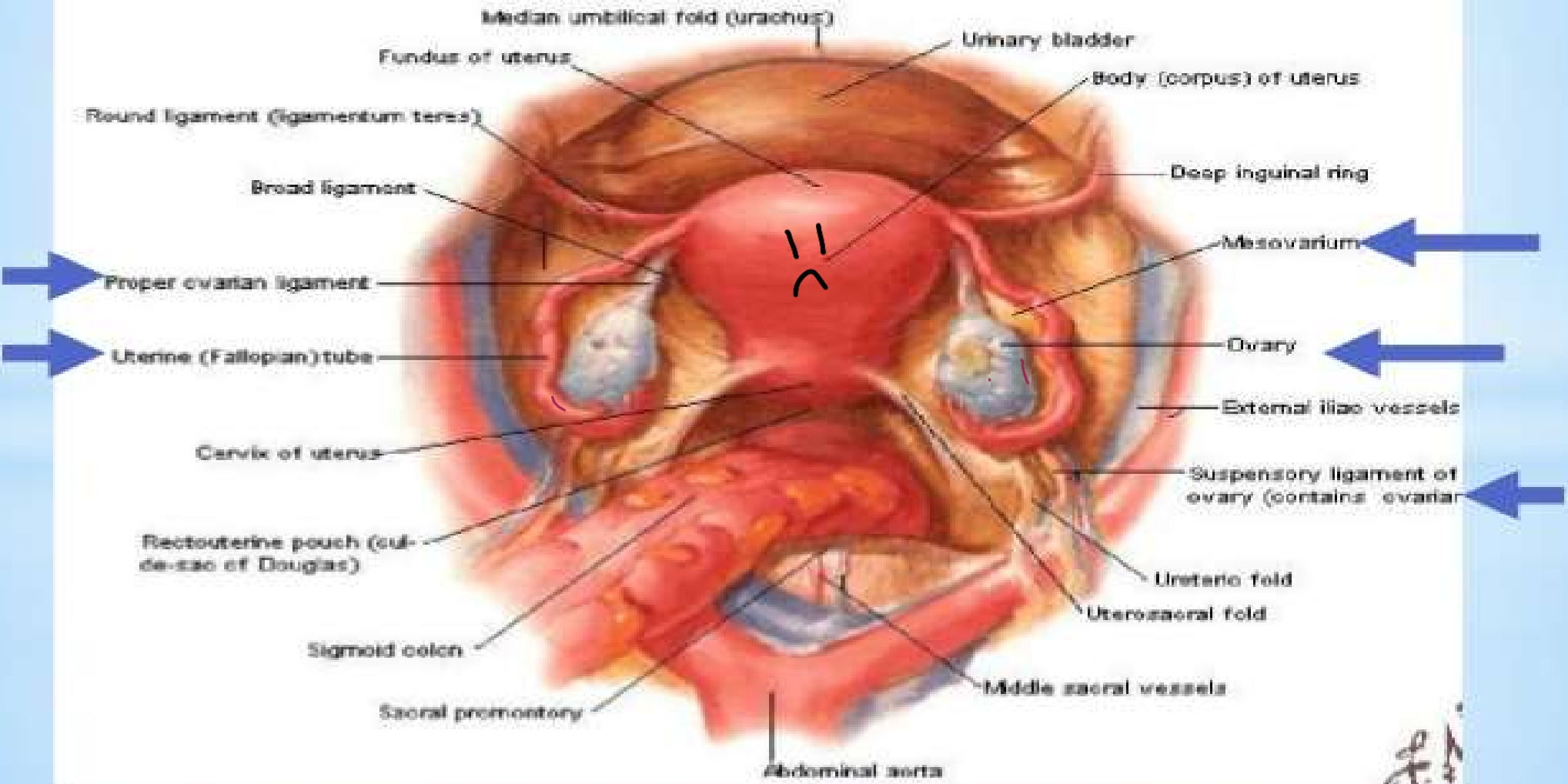
### **External Features :** REED ONLY

- Before puberty : Greyish-pink and smooth.
- After puberty with onset of ovulation, the ovary becomes grey in colour with puckered surface.
- In old age : it becomes atrophic

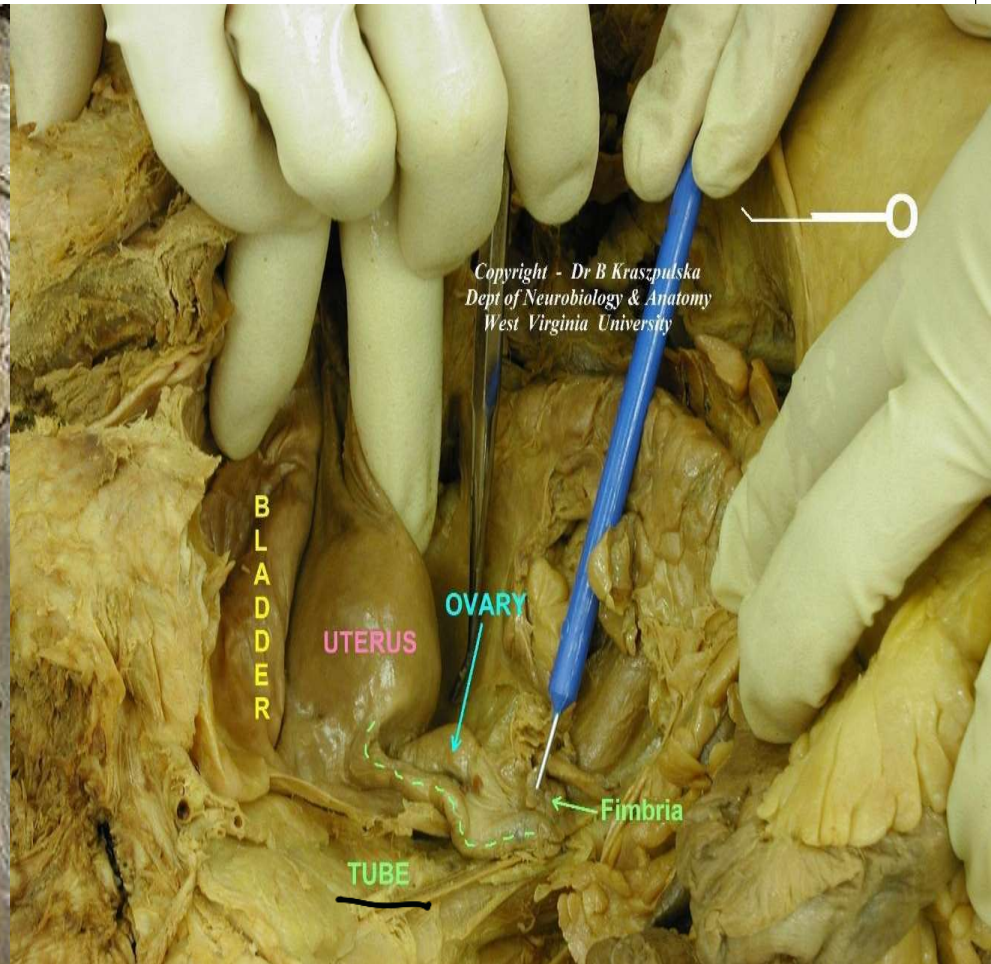
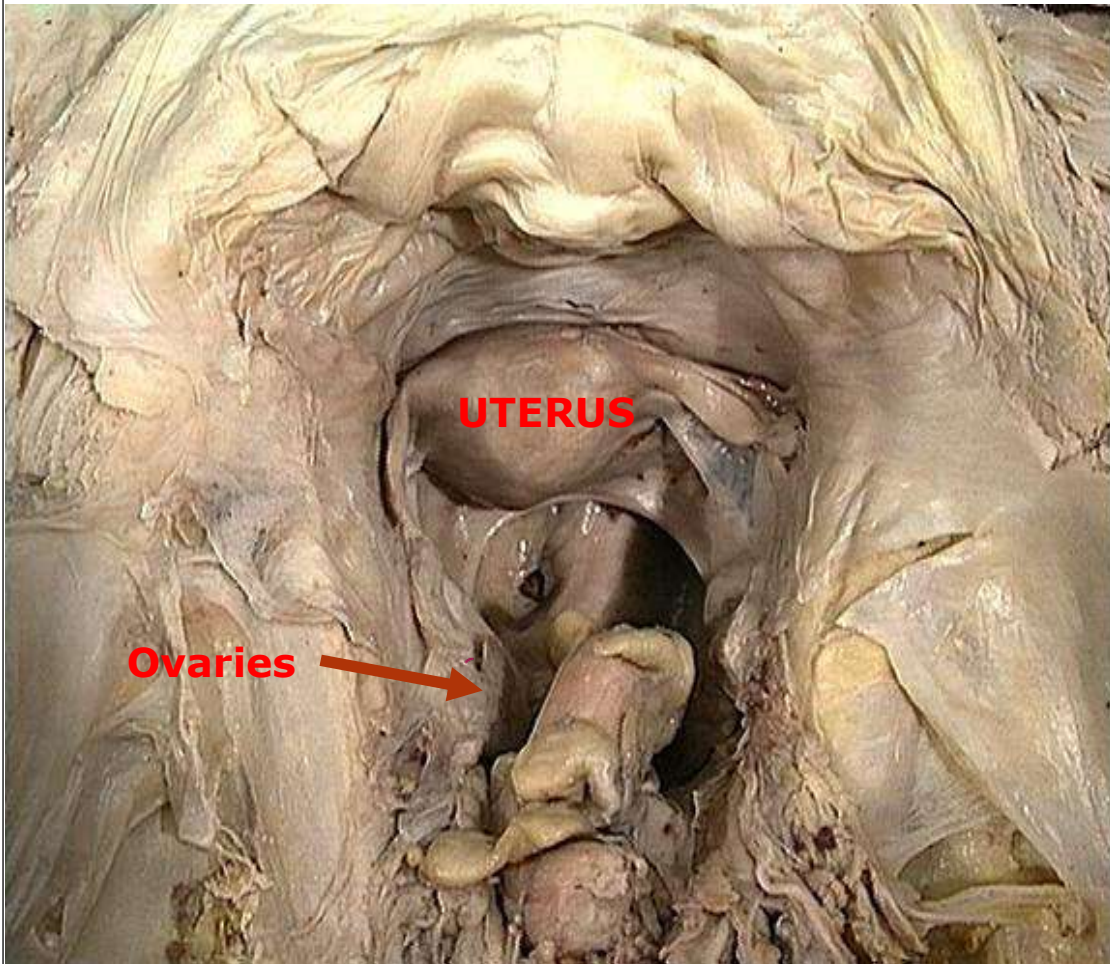


*anterior*

# Pelvic Viscera of Female Superior View - Peritoneum Intact



*Posterior*



**Description :** In nullipara, the ovary has :

Two ends : superior (tubal) end and inferior (uterine) end.

Two borders : anterior (mesovarian) border and posterior (free) border.

Two surfaces : lateral and medial.

### **A. Ends of the Ovary :**

① **Superior (tubal) end** : is related to the ovarian fimbria of the uterine tube and is attached to side wall of the pelvis by the ovarian suspensory ligament.

② **Inferior (uterine) end** : it is connected to superior aspect of the uterotubal junction by the round ligament of the ovary which runs within the broad ligament.



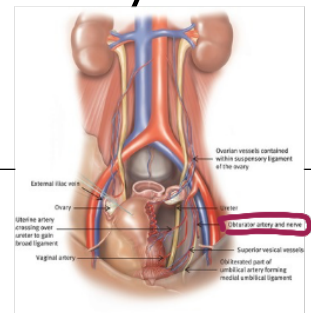
## B. Borders of the Ovary :

- ③ **Anterior (mesovarian) border** : presents the hilum of the ovary and is attached to the posterior layer of the broad ligament by a short peritoneal fold called the *mesovarium*.
- ④ **Posterior (free) border** : is related to the lateral curved end of the uterine tube.

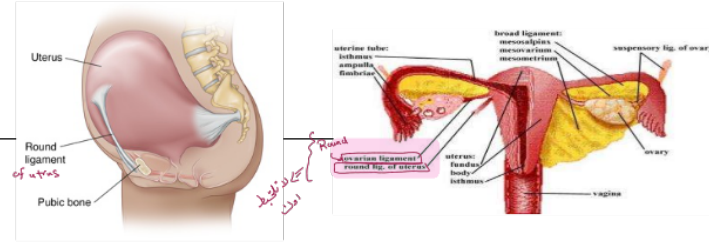
## C. Surfaces of the Ovary:

- ⑤ **Lateral surface**: is related to the parietal peritoneum of the ovarian fossa which separates the ovary from obturator nerve and vessels.
- ⑥ **Medial surface**: is related to the uterine tube.

**N.B:** Uterine tube has triple relation to the ovary : the tube is related to the tubal end, the posterior border and medial surface of the ovary.



# Round lig. وني كمان of uterus



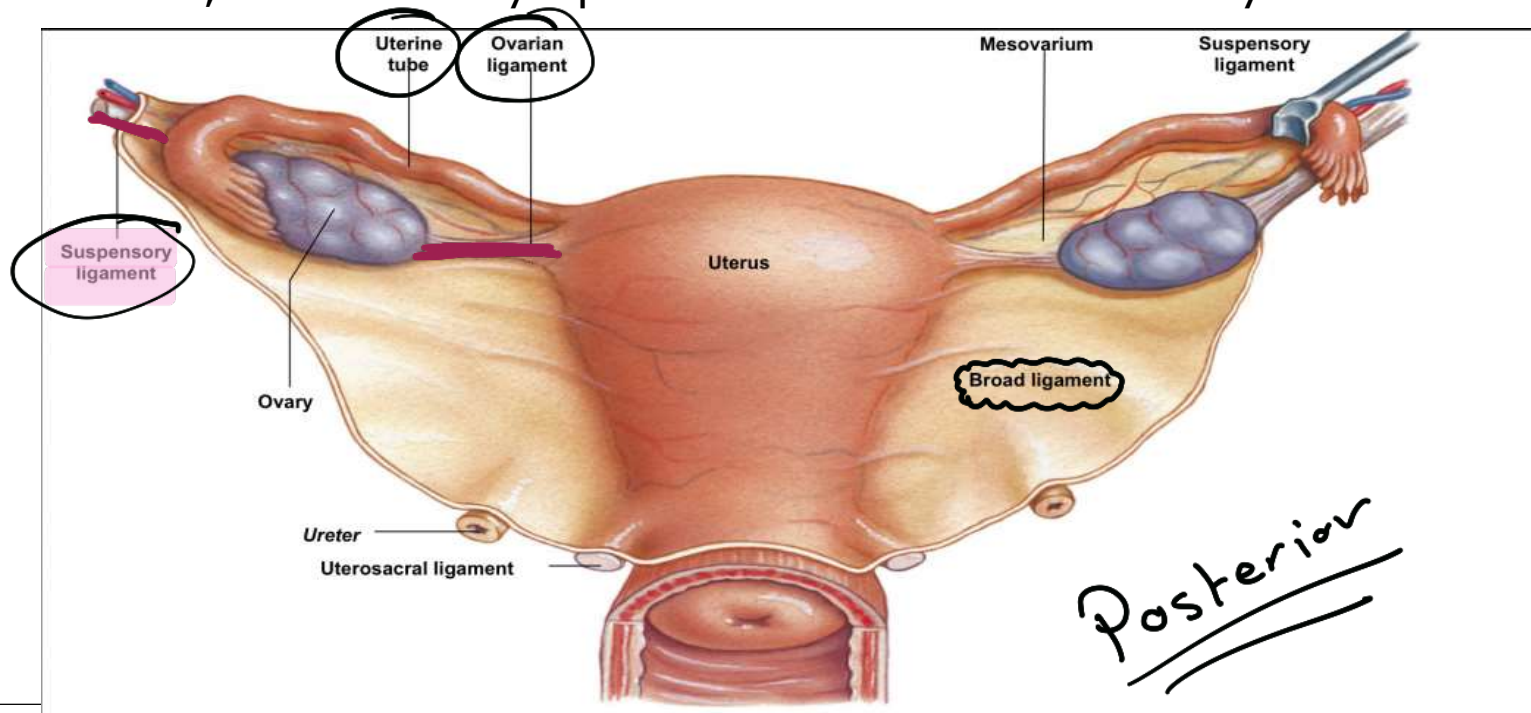
## Ligaments of the ovary

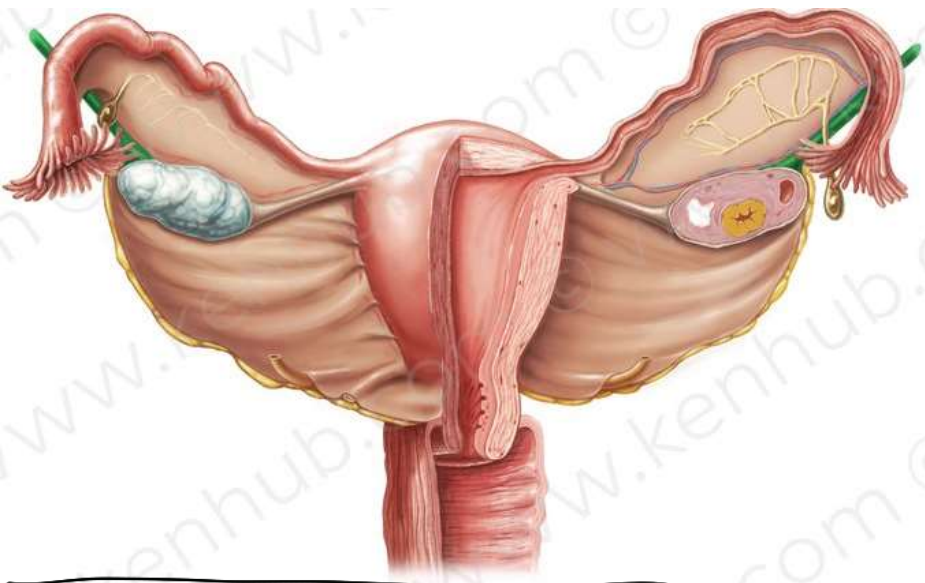
**1. Round ligament of the ovary**: extends between the uterine end of the ovary and uterotubal junction.

**2. Mesovarium**: is a short peritoneal fold between the anterior border of the ovary and posterior layer of the broad ligament.

**3. Suspensory ligament of the ovary**: is a short peritoneal fold between the superior end of the ovary and side wall of the pelvis (it is a part of the broad ligament).

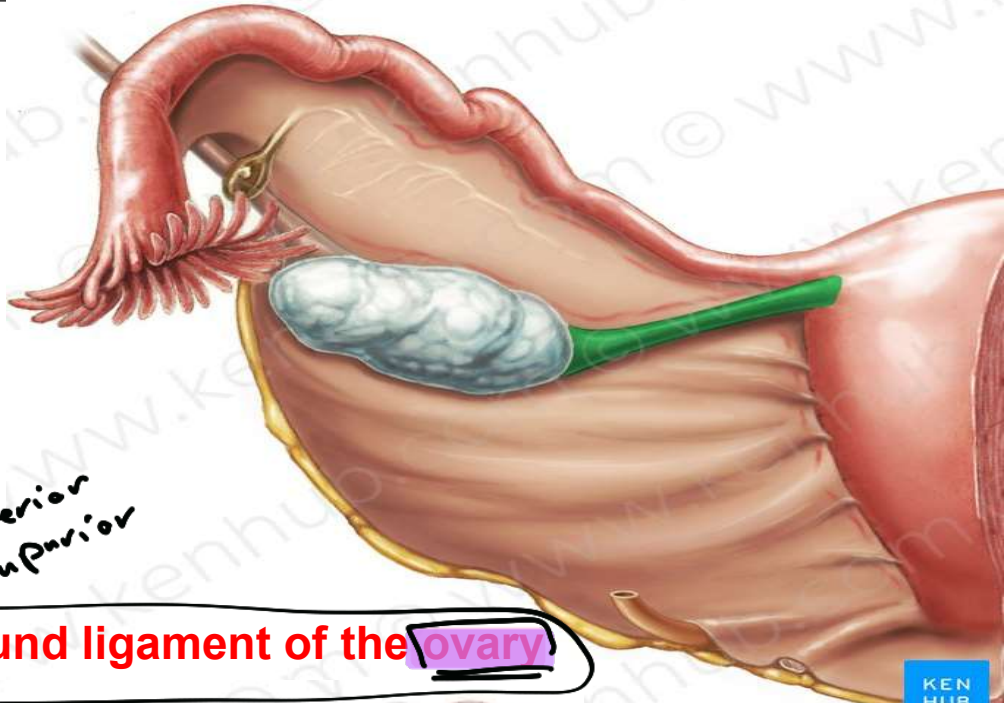
It conducts vessel ,nerves and lymphatics to and from the ovary





**Suspensory ligament of ovary**

KEN

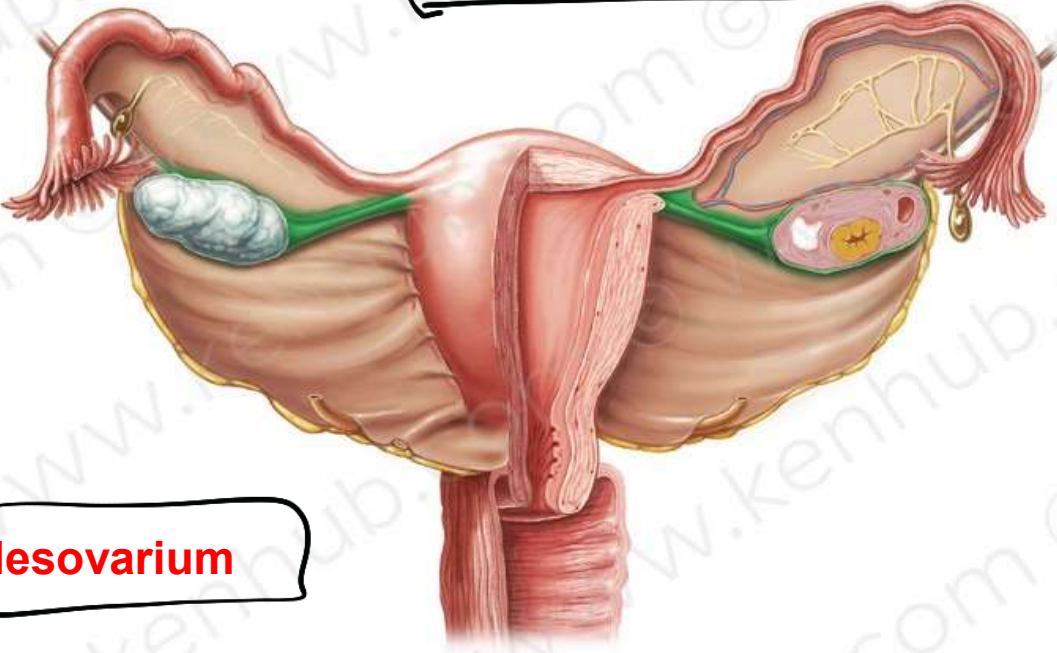


Posterior superior

**Round ligament of the ovary**

KEN HUB

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**Mesovarium**

## Arterial Blood Supply:

- By the ovarian artery
  - The ovarian artery arises from the abdominal part of the aorta at the level L2.
  - The artery passes through the suspensory ligament of the ovary, then through the mesovarium to enter the hilum of the ovary at its attached border .
- \* Distribution : it supplies the ovary, lateral part of uterine tube and anastomoses with the uterine artery within the broad ligament.

## Venous Drainage:

- The veins emerge at the hilum of the ovary as a pampiniform plexus which gives rise to the ovarian vein.
- The right ovarian vein → I.V.C.
- The left → left renal vein.

زیر از  
testicular  
vein

بال  
abdomen  
ببین نزل  
کاملاً بتوز

**Lymphatic Drainage :** to lateral aortic lymph nodes, ⇒

**Nerve Supply :** by autonomic nerves along the ovarian artery. They are derived from coeliac and aortic nerve plexuses. They are sensory and vasomotor.

الکتورجکا ← \* انتبه ! : لیست من ار inferior hypogastric ، لیست لادها  
نزالت من ار abdomen ، ی ما کینا



A female patient, 30 years old, married came to the ER with severe abdominal pain.

Her first day of last menstrual period was 10/4/2023 .  
Last week, pregnancy test was positive.

She was pale, blood pressure 90/50, and pulse 120 /M.  
Ultrasonography revealed intra-abdominal haemorrhage.

What you think ?!!

لا تسمى تسماتها  
هل هو سرطان

B

## Uterine Tubes

It lies in the medial 4/5 of the upper free border of the broad ligament.

Length: is about 10 cm.

### Communications:

- Laterally, the tube pierces the upper layer of the broad ligament to open into the peritoneal cavity near the ovary (it is the abdominal ostium).
- Medially, it opens into the superior angle of the uterine cavity

## Parts of the Tube:

From lateral to medial, it has four parts;

### 1. Infundibulum :

- It is the funnel-shaped lateral part of the tube which is closely related to the ovary.
- It is about 2 cm long.
- Its bottom presents the abdominal ostium which is 3 mm in diameter.
- Its margins have 20-30 irregular processes called fimbriae which spread over the surface of the ovary.
- During ovulation, the fimbriae trap the oocyte into the uterine tube.

### 2. Ampulla :

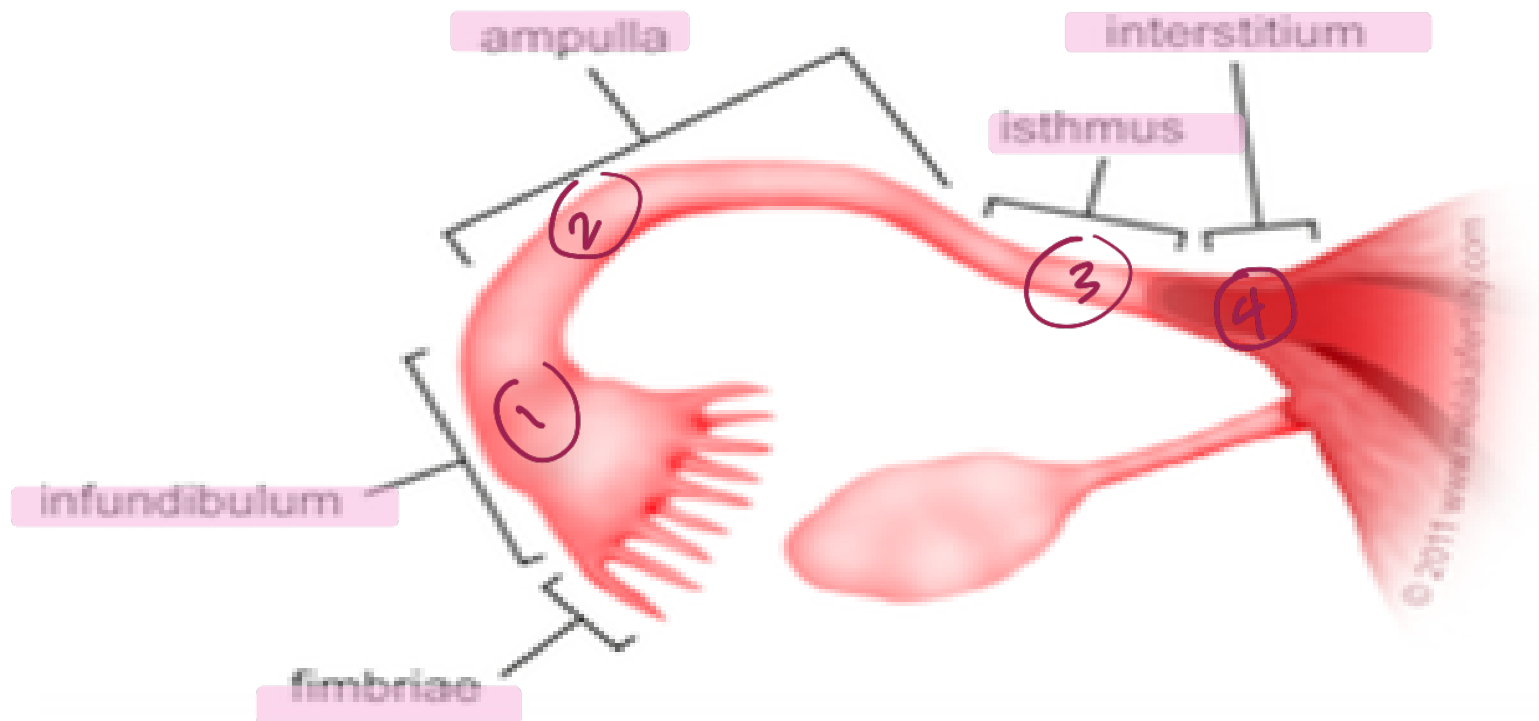
- ✓ It is the **widest** (4 mm in diameter) and longest part of the tube (about 5 cm long).
- ✓ It is thin-walled and tortuous.
- ✓ It is the site of fertilization.

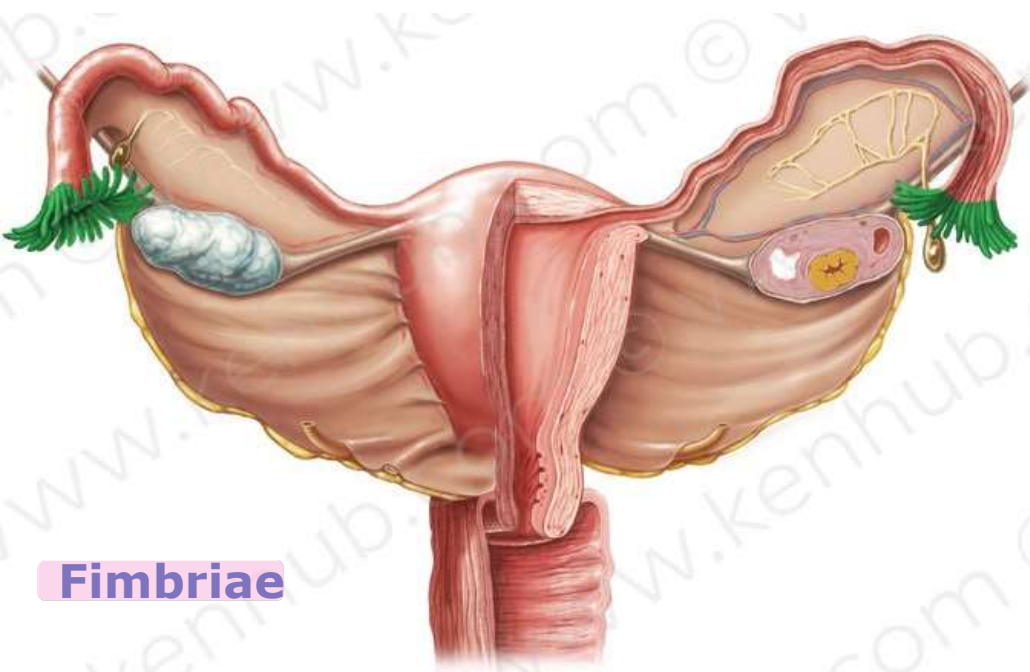
### 3. Isthmus:

It is **narrow** (2 mm) , short (2 cm) and thick-walled.

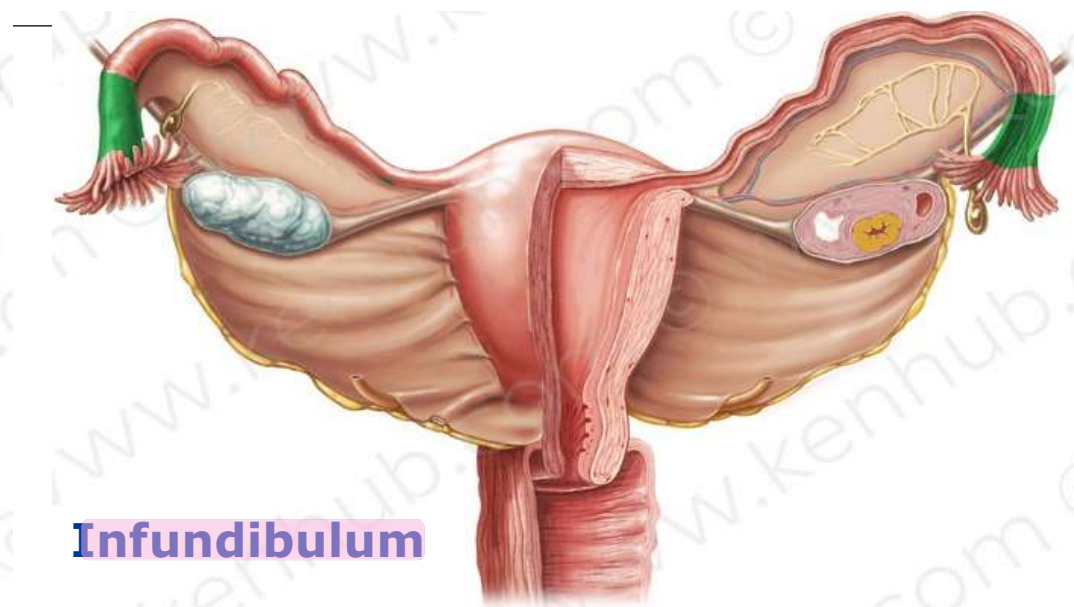
### 4. Uterine (intramural) part :

- It is the **short** segment (1 cm) that passes through the wall of the uterus.
- It is the **narrowest** part of the whole tube (1 mm in diameter).
- It opens in the uterine cavity through the uterine ostium

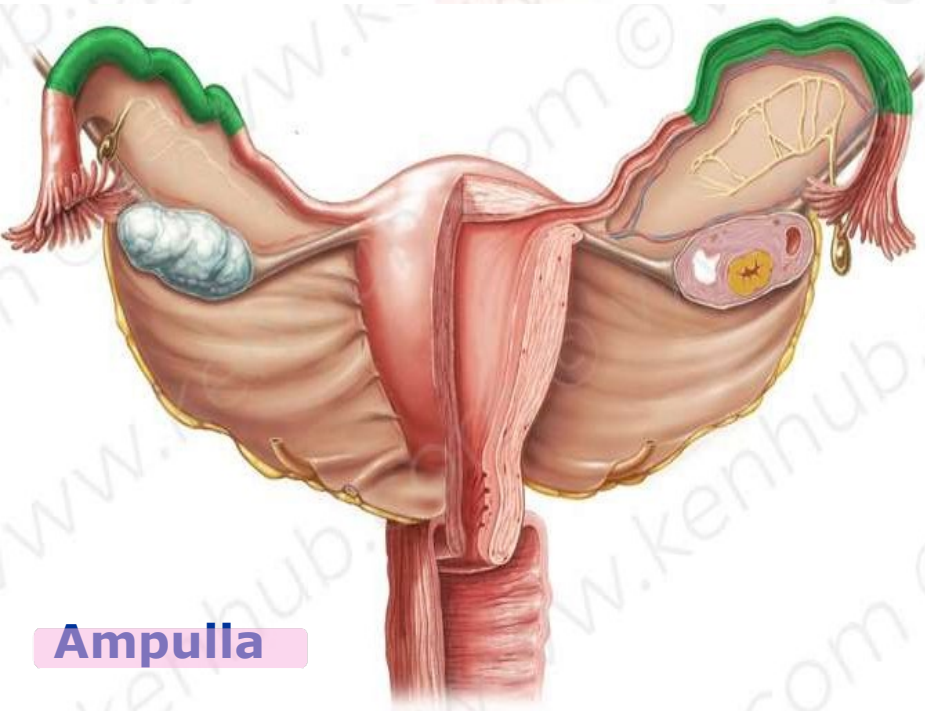




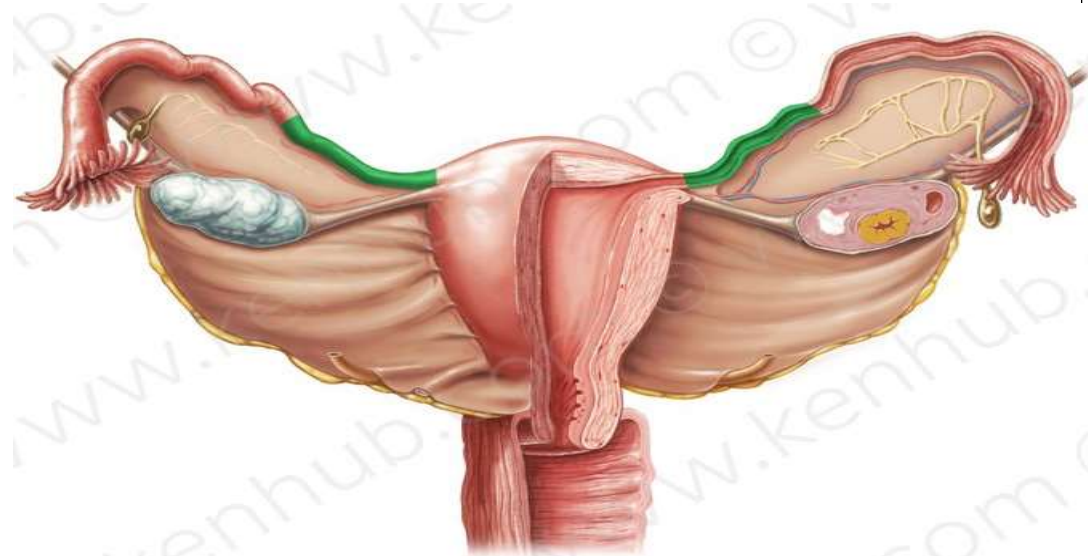
**Fimbriae**



**Infundibulum**

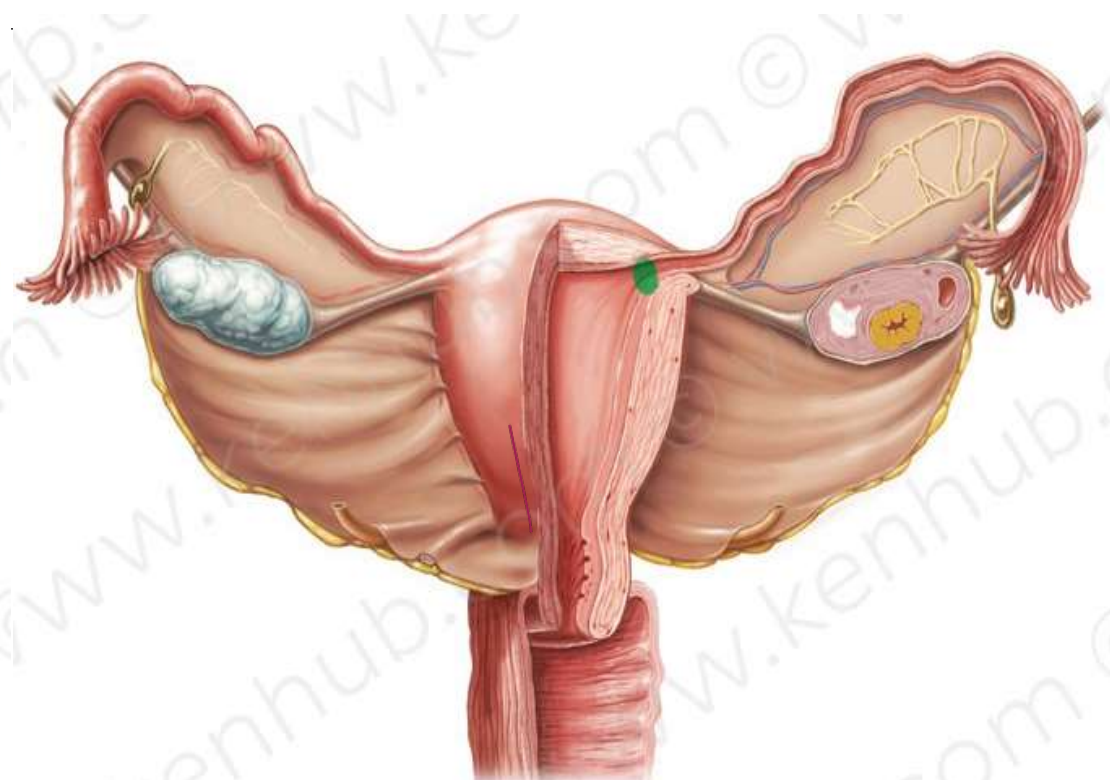
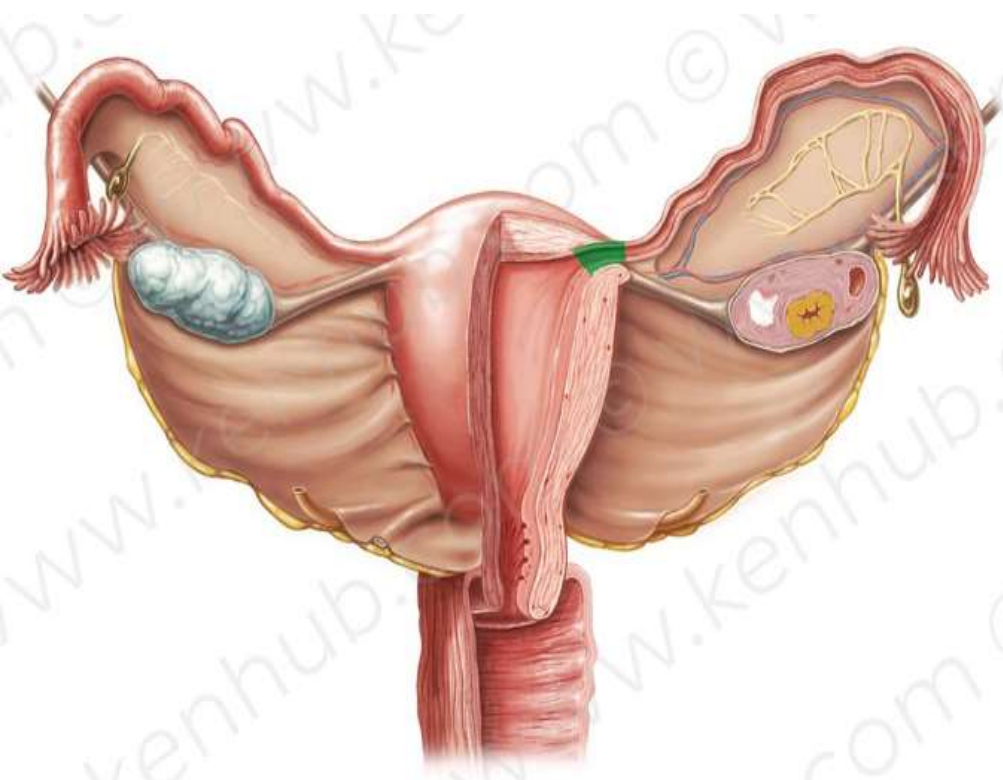


**Ampulla**



**Isthmus**





**Uterine (intramural)**

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**Uterine ostium of uterine tube**

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## Blood Supply :

Medial 2/3 by uterine vessels.

Lateral 1/3 by ovarian vessels

## Nerve Supply :

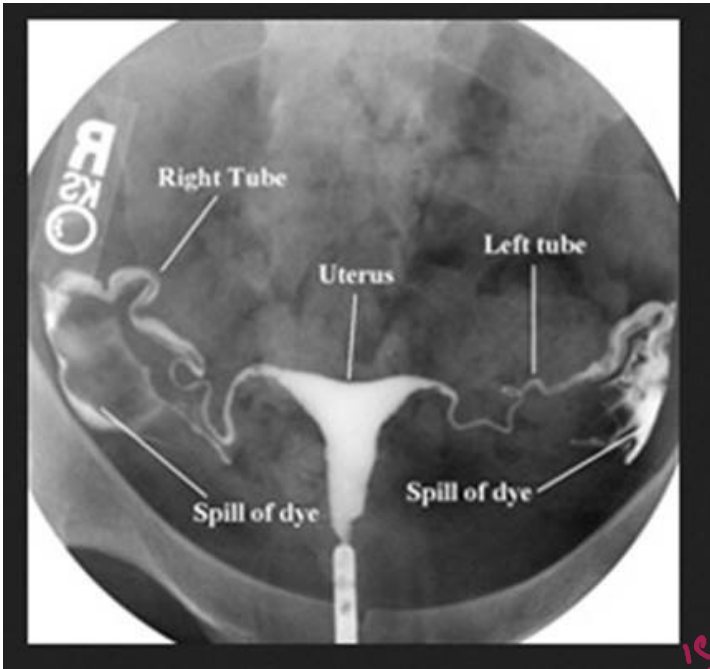
Medial 2/3 by uterine nerve plexus.

Lateral 1/3 by ovarian nerve plexus

## Nerve supply :

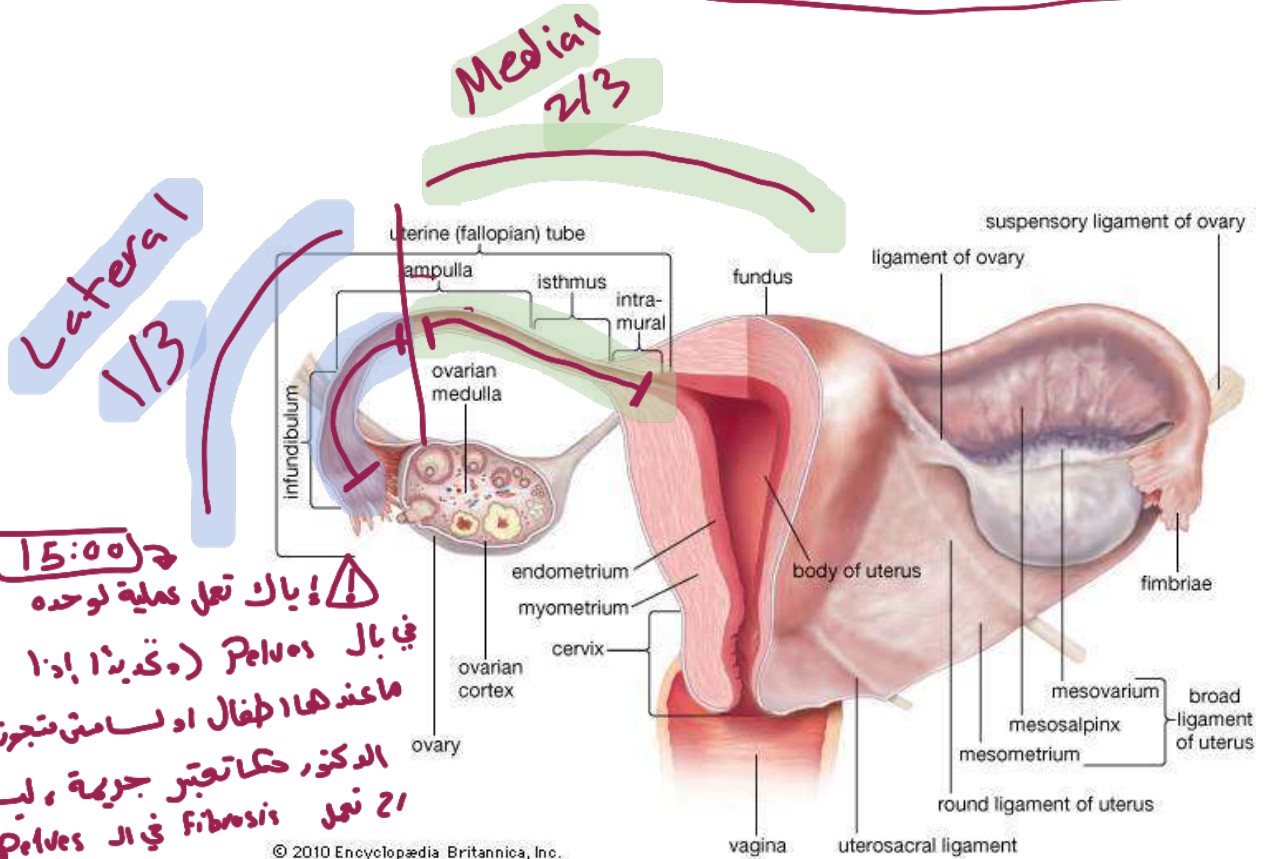
Sympathetic and parasympathetic nerves from the inferior hypogastric plexuses.

لونها ياني ال Pelvis  
انظروا لـ "حفظ"



Hysterosalpingography

Hygroscopic + diagnostic



15:00  
⚠️ اياك تعمل عملية لوحده  
في بال Pelvis (تقديرا ادا)  
ما عند لها اطفال اولها من متجزئة  
الدكتور حكما تعتبر جريمة وليست!  
21 نعل Fibrosis في ال Pelvis  
وبهير عقم

## Functions of the Tube :

1. They carry the oocyte from the ovaries and sperms from the uterus to the ampulla which is the site of fertilization.
2. The uterine tube conveys the dividing zygote to the uterine cavity.

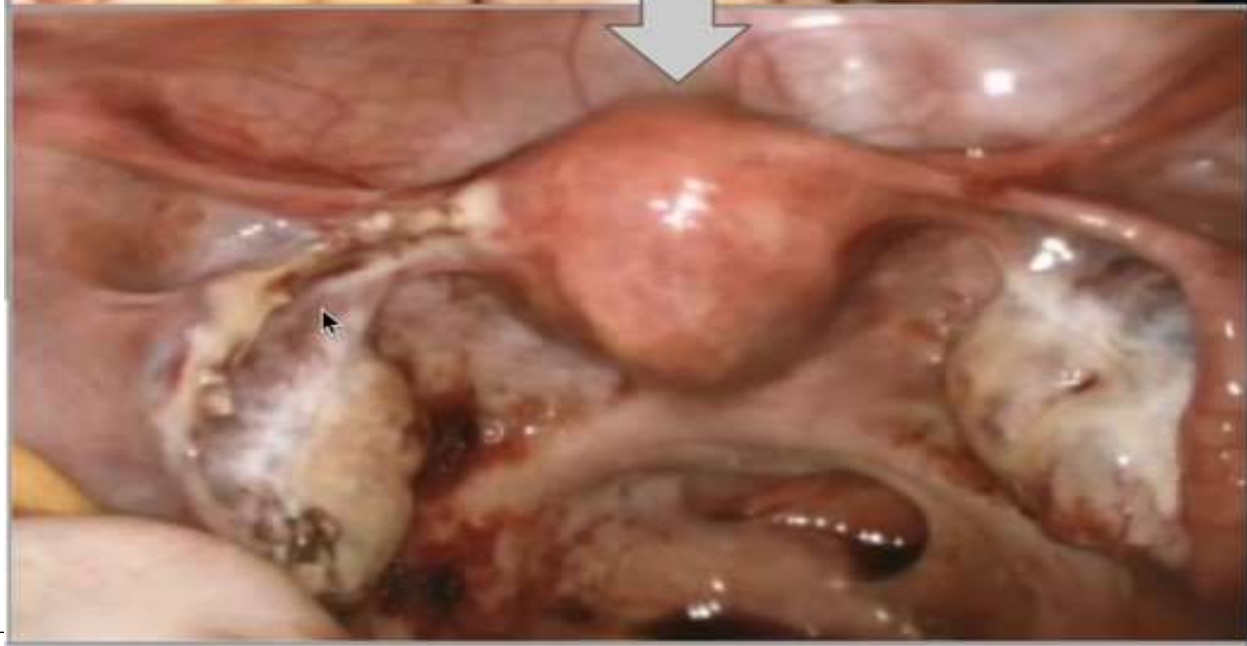
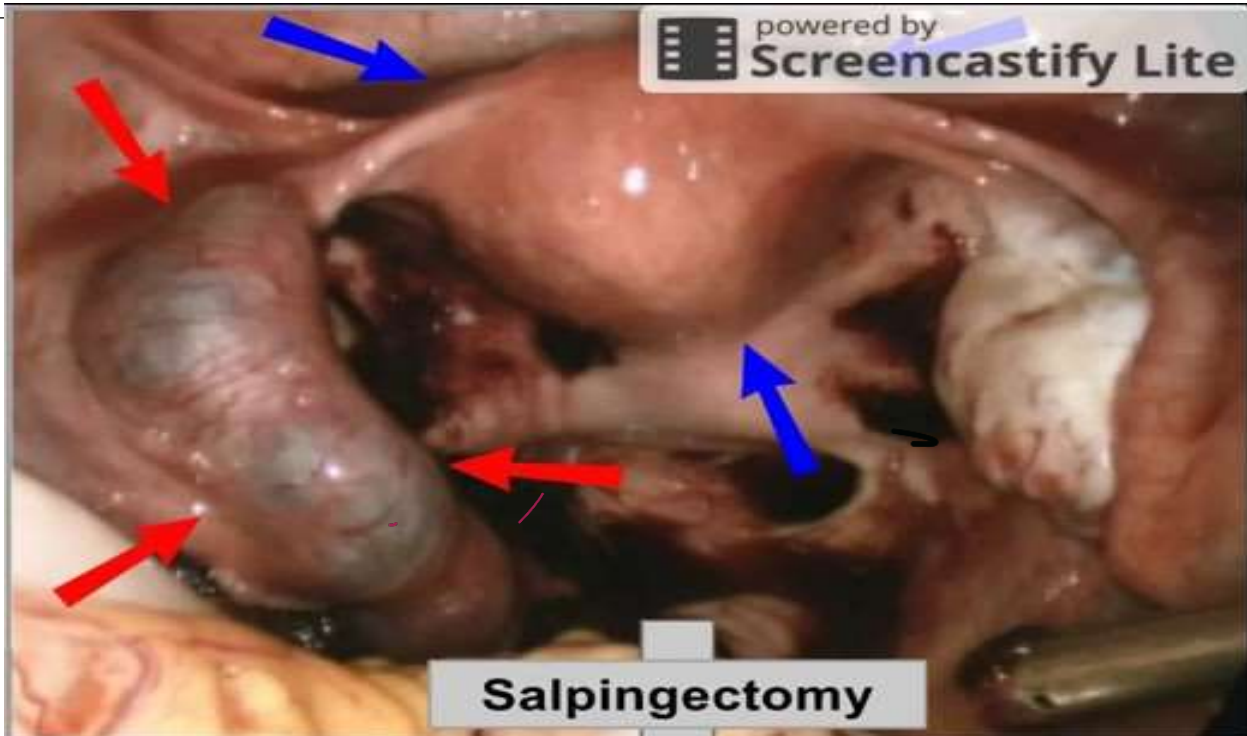
## Applied Anatomy :

1. Blockage of the tubes (due to infection) is the main cause of sterility in women.
2. The tube is the most common site for ectopic pregnancy. It usually ruptures with hemorrhage into the abdominal cavity.
3. The abdominal ostium of the uterine tube communicates the female genital tract directly with the peritoneal cavity. Infections in the uterus and tubes may result in peritonitis.
4. Ligation of the uterine tubes is one method of birth control.

Shock  
+  
married  
+  
pregnant

⚠️

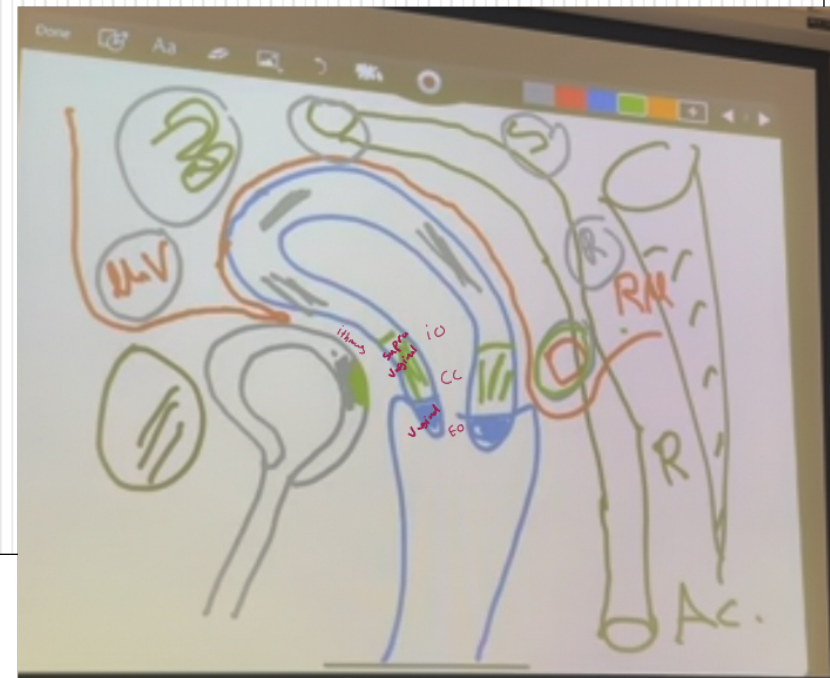
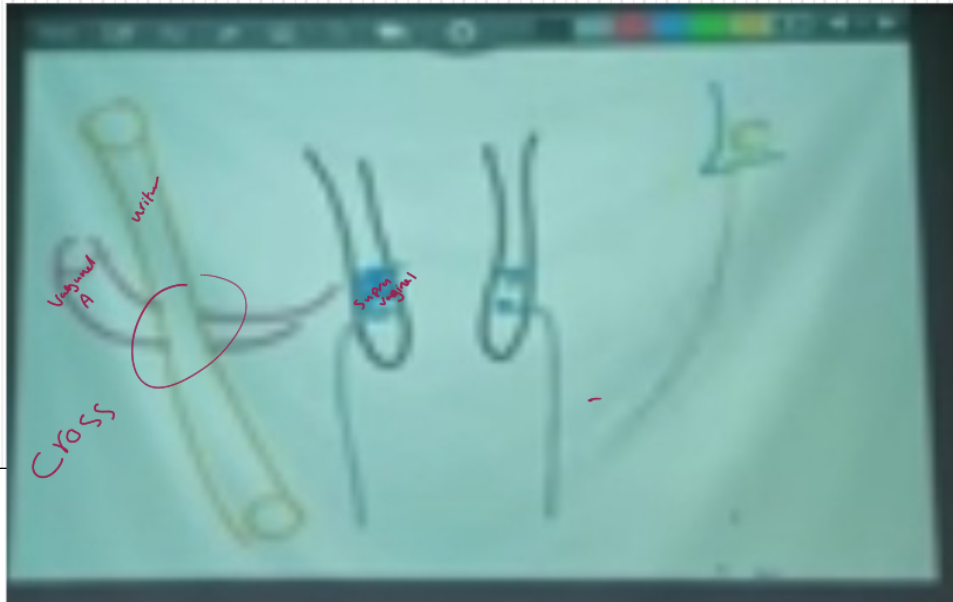
**Tubal Ectopic pregnancy**



## ③ UTERUS

The uterus is a hollow thick-walled, pear-shaped muscular organ situated in the lesser pelvis between the urinary bladder and rectum.

It is piriform in shape.



## Communications :

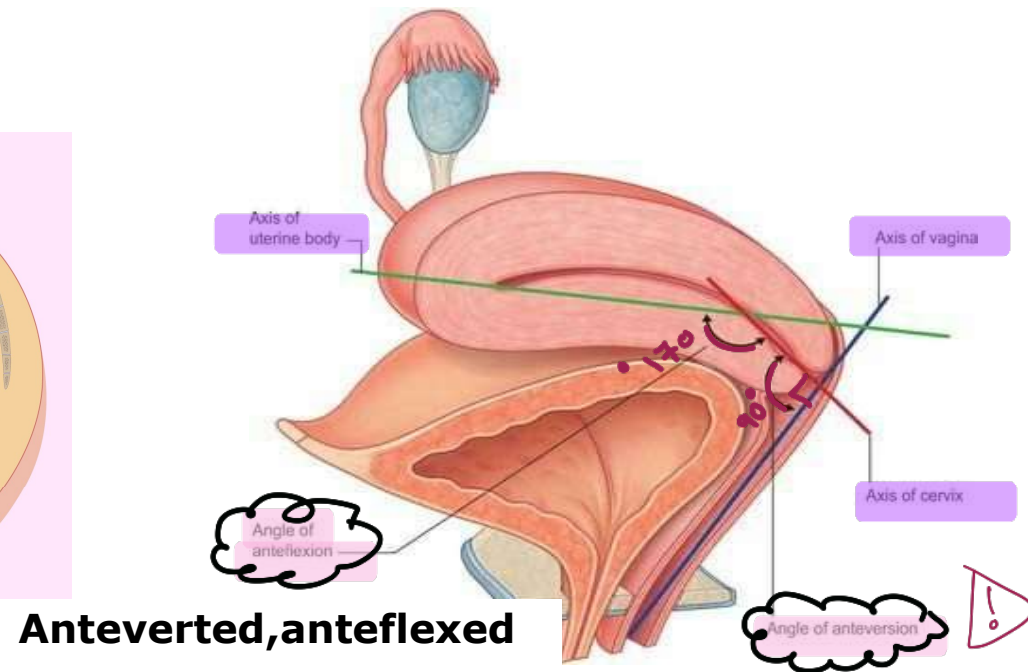
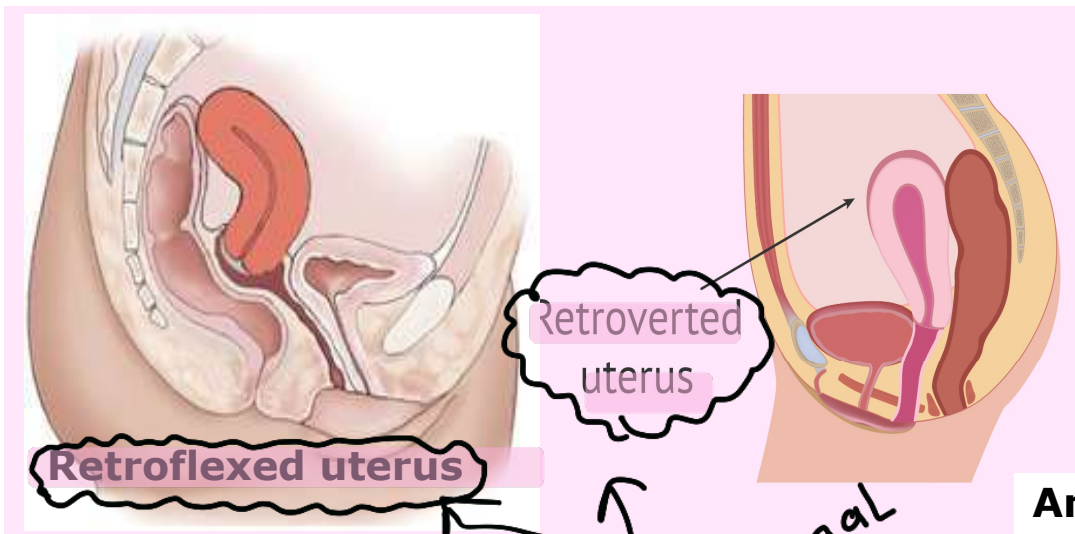
Superolateral angles : the uterus receives the uterine tubes.

Inferiorly : it opens into the vagina at external os.

## Normal Position of the Uterus :

Normally, the uterus is **anteverted, anteflexed.**

- Angle of **anteversion** : it is the angle between long axis of the cervix and long axis of the **vagina**. It is about  $90^\circ$
- Angle of **anteflexion** : it is the angle between long axis of the body of the uterus and long axis of the **cervix**. It is about  $170^\circ$



## Description of the Uterus :

The external surface of the uterus presents a transverse constriction called the **isthmus** which divides the uterus into a large upper part called the *body* and a smaller lower part called the cervix

### A. Body of the Uterus :

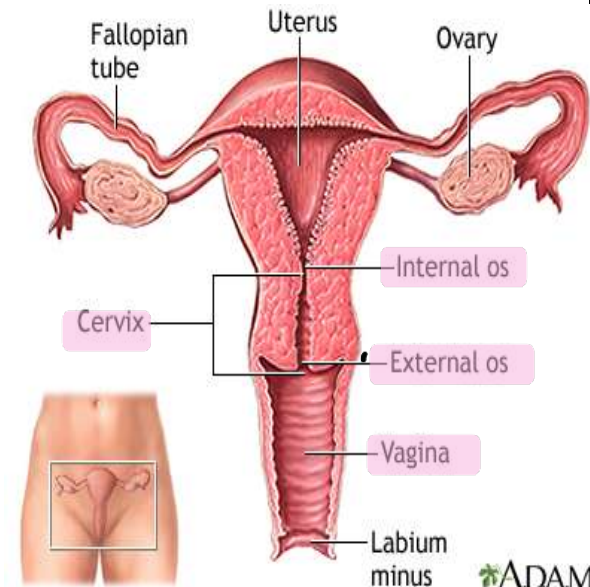
- It forms upper 2/3 of uterus. It is two inches long,
- It has a fundus, two surfaces (anterior and posterior) and two lateral borders :

#### 1- Fundus:

- \* It is that part of the body above the entry of the uterine tubes.
- \* It is completely covered by peritoneum.
- \* It is related to coils of small intestine<sup>①</sup> and sigmoid colon<sup>②</sup>

#### 2- Anterior (vesical) Surface :

- \* Is covered by peritoneum down to the level of internal os
- \* Is related to the urinary bladder<sup>①</sup>, with uterovesical<sup>②</sup> pouch in between.




### 3- Posterior (intestinal) Surface :

\* Is covered by the peritoneum which is continued down onto the cervix and posterior vaginal fornix.

\* Is related to sigmoid colon<sup>①</sup> and coils of small intestine<sup>②</sup>.

### 4- The lateral borders :

Each receives the uterine tube at its upper end.

- Anteroinferior to the uterotubal junction it is attached to round ligament of uterus
  - Posterosuperior to the uterotubal junction, it is attached to the round ligament of the ovary .
  - The uterine tube and the two ligaments are all running in the broad ligament which stretches from the lateral border to the lateral pelvic wall.
- 



## B- Cervix of the Uterus :

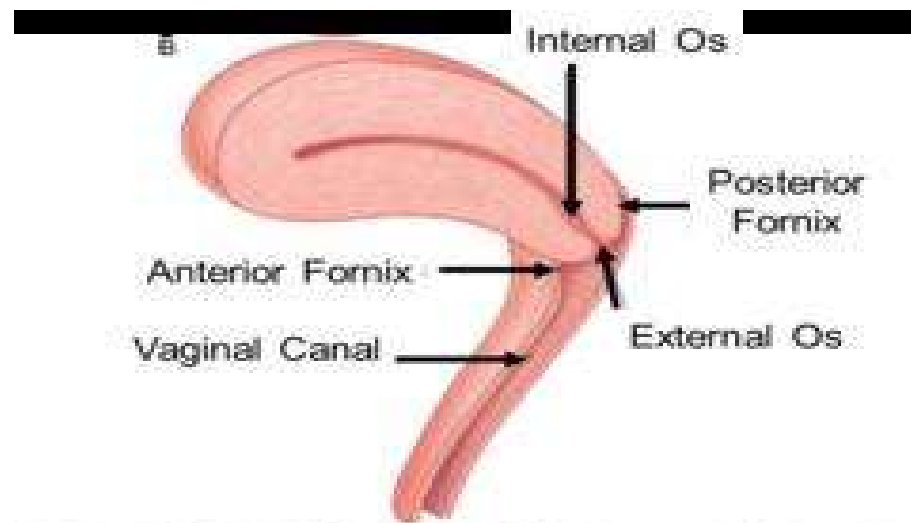
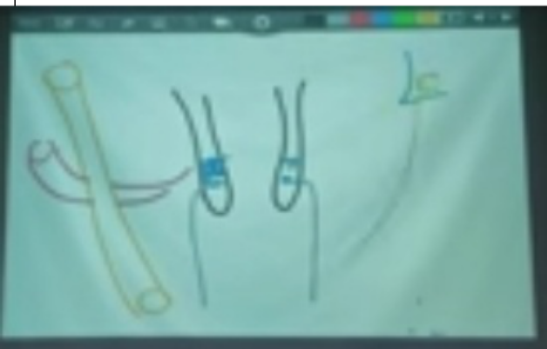
- It forms the lower 1/3 of the uterus. It is one inch long.
- Cervix protrudes into the upper part of the vagina, thus the cervix has supravaginal and vaginal parts :

### 1- The Supravaginal part of the cervix :

**Anteriorly** : it is *not covered by peritoneum*. It is related to urinary bladder with a cellular connective tissue in between called *parametrium*.

**On each side** : it is related to *parametrium*, in which the uterine artery crosses the ureter 2 cm from the supravaginal cervix.

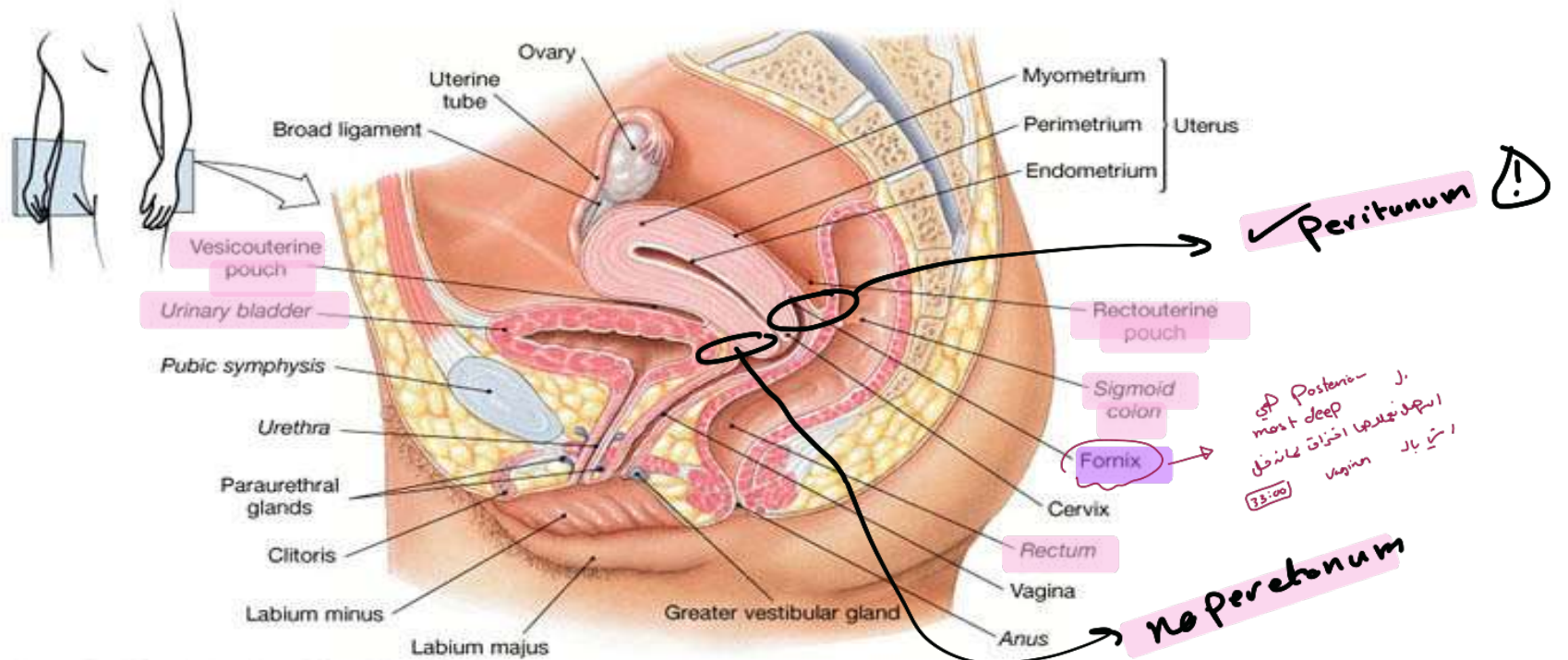
**Posteriorly** : is *covered by peritoneum* and related to the rectum with Douglas<sup>(2)</sup> pouch in between.



## 2- Vaginal part of the cervix :

It projects into upper part of the vagina, dividing that part of vagina into four vaginal fornices

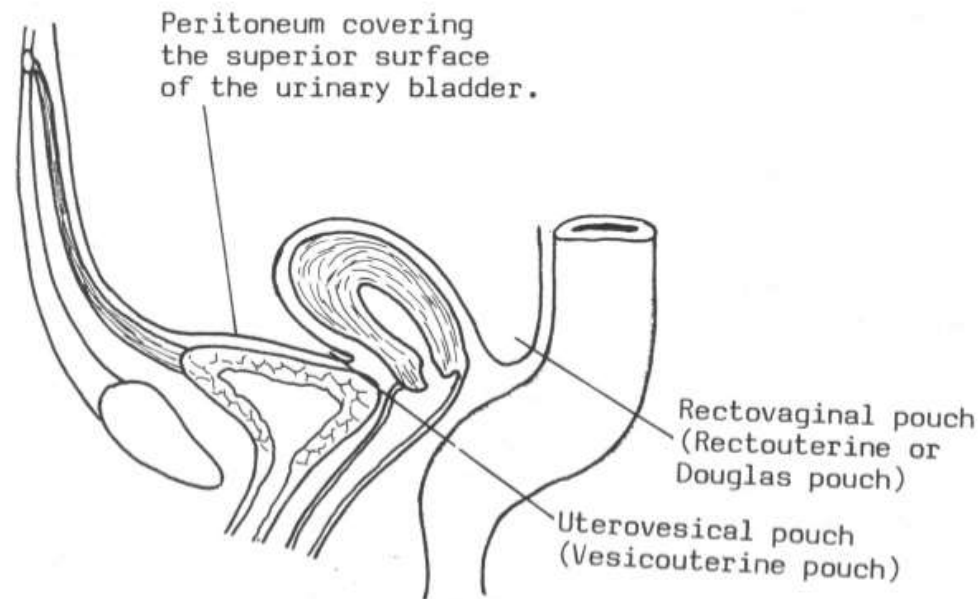
The posterior vaginal fornix is the *deepest* and the *only* one covered by peritoneum.

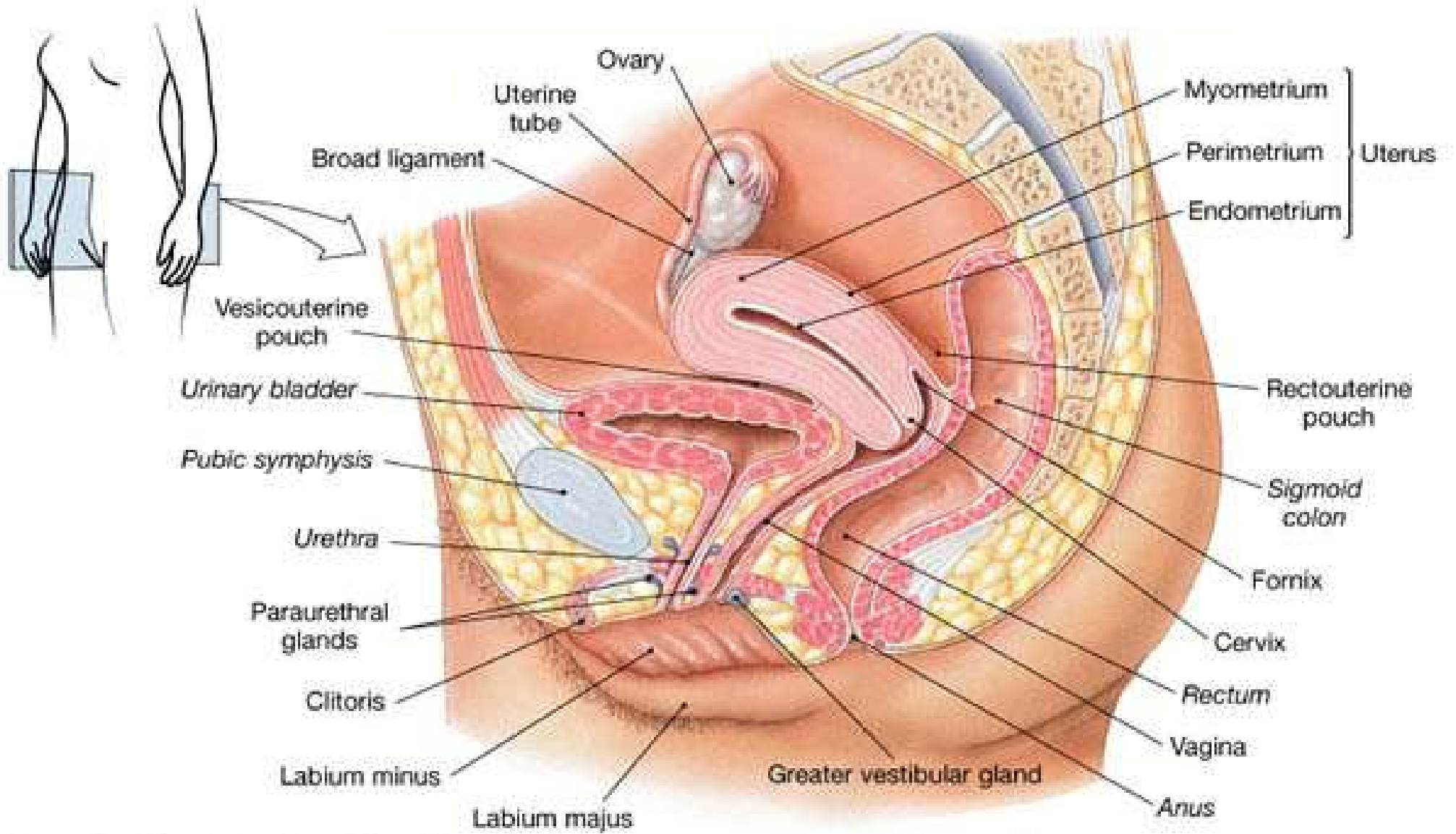


## Peritoneal Covering of the Uterus :

- The posterior surface and fundus of body of uterus are covered by peritoneum
- The peritoneum descends to cover its anterior surface down to the level of *internal os*, where it is reflected on to the bladder.
- The supravaginal cervix is covered by peritoneum *only posteriorly*.
- The front and sides of The supravaginal cervix are **bare** of peritoneum and related to cellular connective tissue, the parametrium.

### Peritoneal covering of the uterus





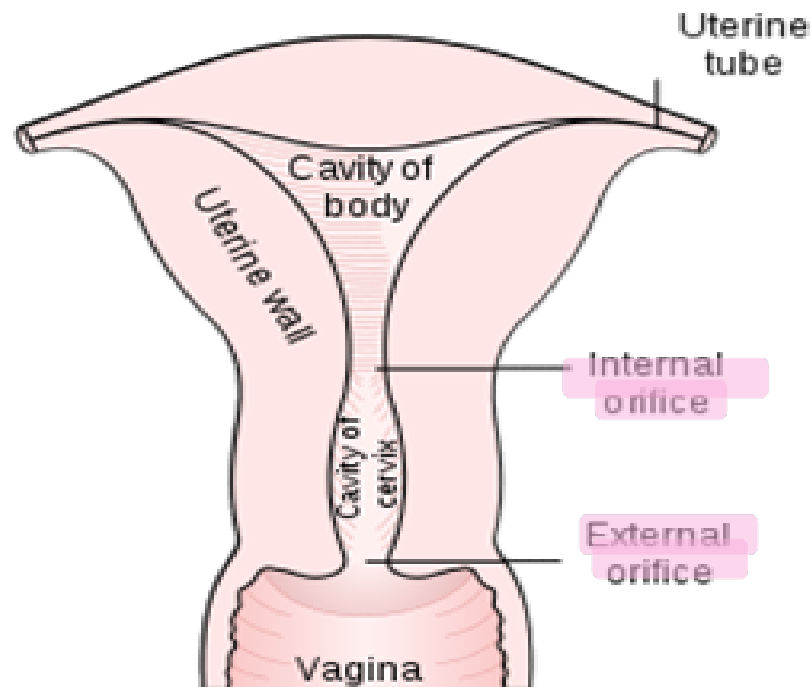
## Uterine Cavity :

### **A. Cavity of the Body :**

**B.** in coronal section is triangular, with its base between the openings of the uterine tubes and its apex is the internal os leading to the cervical canal .

### **B. The cervical canal:**

- Is fusiform, broad at its mid-level.
- It communicates with the cavity of the body at the **internal os** and with the vagina by the **external os**.



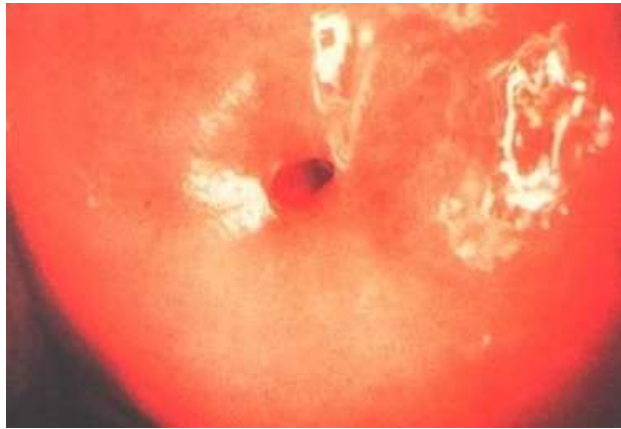
## Anatomical significance of the internal os :

- It corresponds to the isthmus of the uterus.
- It is the site of junction between uterine cavity and cervical canal.
- It is the level of the angle of anteflexion.
- It is the level at which the peritoneum is reflected anteriorly on to the bladder

## Gynaecological significance of the external os :

- In nulliparous women, it is small and *circular*.
- In multiparous women, it is a *transverse slit* .

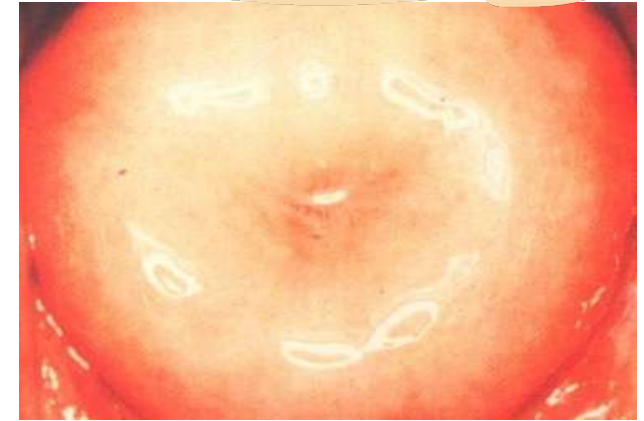
**REED ONLY**



nulliparous  
women



multiparous women



menopause narrow os

A 25 years old female patient , G1 P0 .

She is pregnant 35 +4 . Her doctor discovered that she has intrauterine foetal death.

The doctor decided to do caesarean section to evacuate the uterus .

After dead baby extraction ,she had disseminated intravascular coagulation (DIC) with severe bleeding , The doctor decided to do Hysterectomy .

After hysterectomy and blood transfusion she became stable.

Four hours after the operation the nurse noticed an empty urine

bag (Common)

What is your provisional diagnosis and its cause .

→ Ligation of uterine artery and ureter shock من دخلها انها Bilateral

المحاضرة القادمة ☺

لانها لو كانت unilateral كان رشح يكون في urine بس رشح تباخرية

عما رشح نسيه



## Arterial Blood Supply: by uterine artery

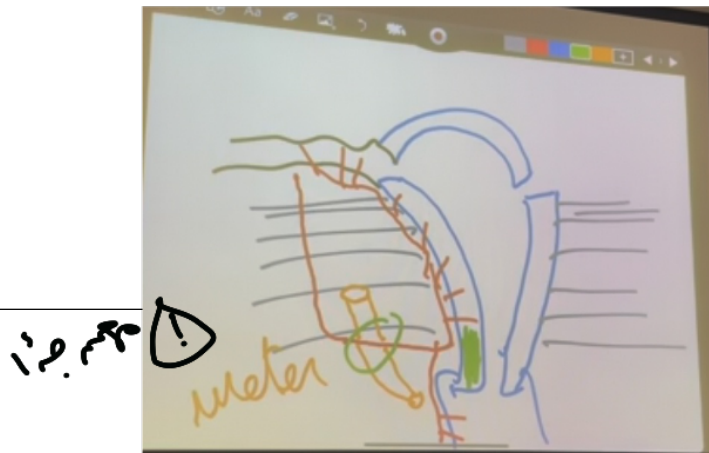
\* L2 \*

- It runs medially on the upper surface of the pelvic diaphragm to reach the root of broad ligament close to the lateral vaginal fornix.
- It enters the broad ligament and runs a tortuous course along the lateral margin of the uterus. It ends by anastomosing with the ovarian A.
- It gives branches to pelvic part of ureter, vagina (azygos arteries), cervix and of uterus, medial part of the uterine tube .

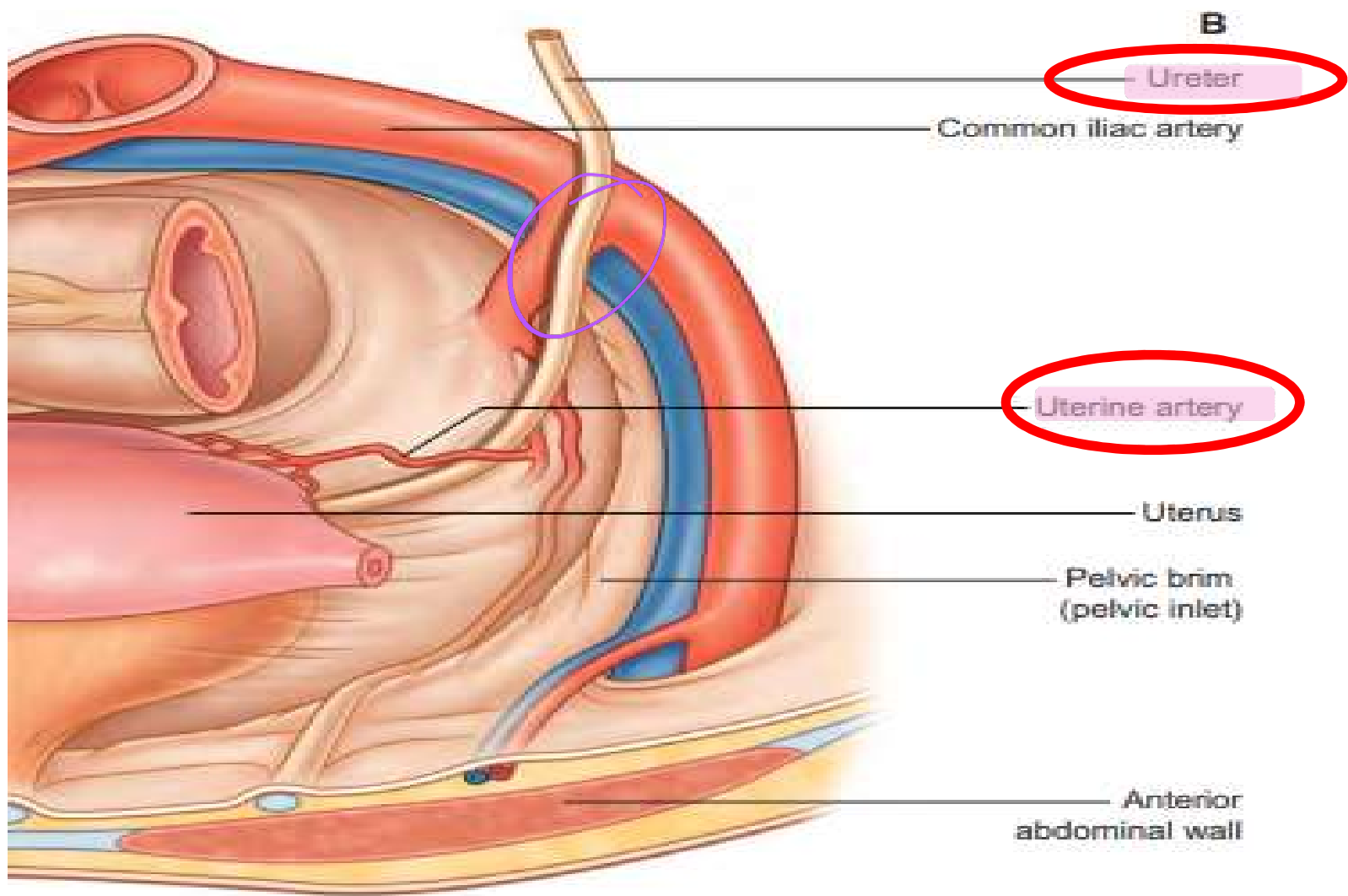
➔ The ureters pass at lateral fornixes of the vagina, 2 cm from the supravaginal cervix the uterine arteries cross the ureter .

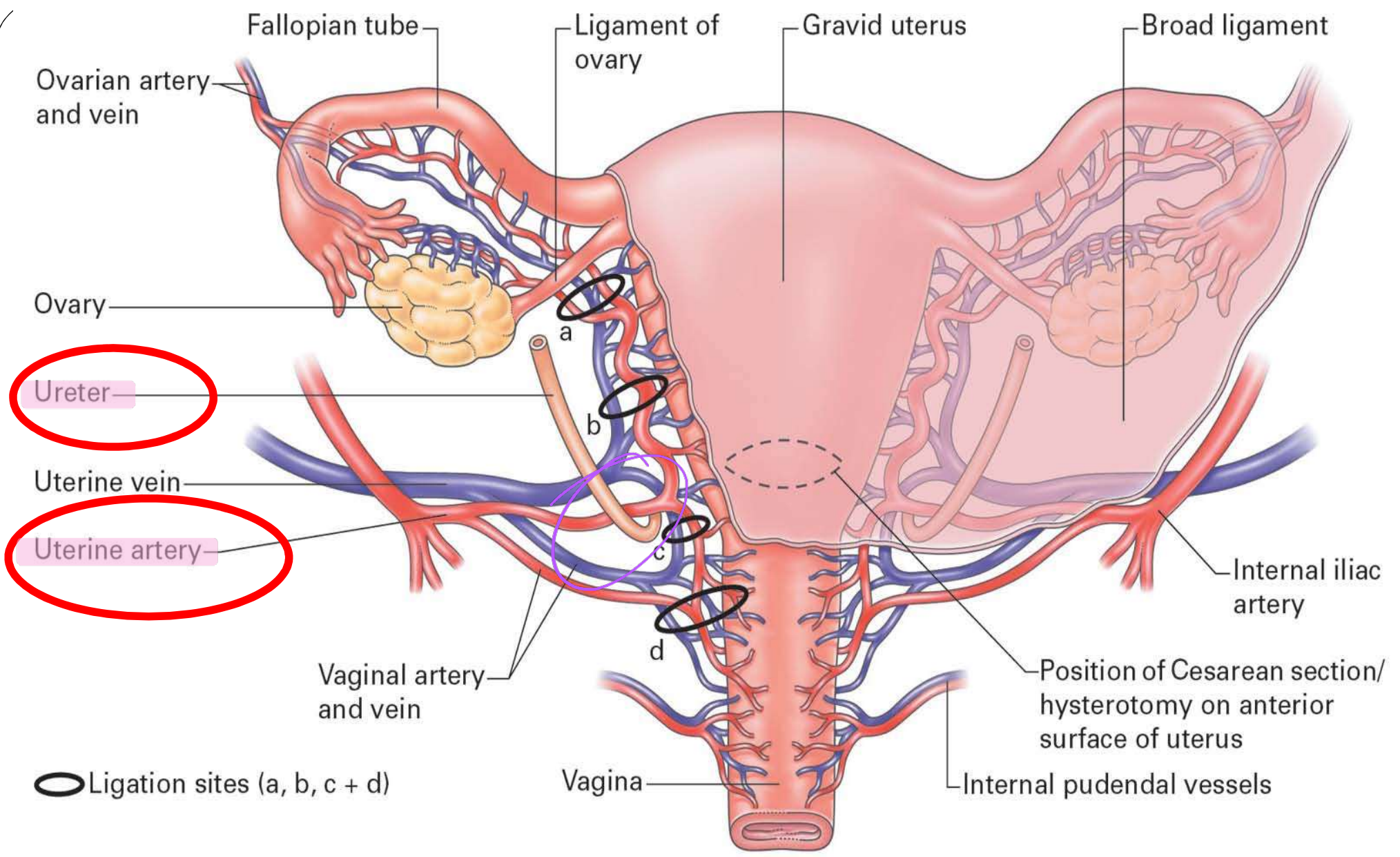
{like water underneath the bridge}

So The ureters are at great risk during surgical procedures on the uterus and ovaries.









A 35 years old female patient , G3 P2 .

She is pregnant 30 +4 .

§ She complained from painful bloody defecation with swelling from anus.

**What is your provisional diagnosis and its cause .**

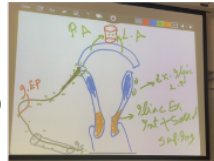
## Venous Drainage :

- ❖ Begins by the uterine venous plexuses.
- ❖ Each extends along the lateral side of the uterus within the broad ligament.
- ❖ The lower part of the plexus is drained by uterine veins which open into the internal iliac vein.
- ❖ The plexus communicates with the ovarian and vaginal venous plexuses.

➔ **Varicose Vein and hemorrhoids** is common during pregnancy due to **compression of gravid uterus on inferior vena cava and inferior mesenteric vein**

**Nerve Supply :** by the uterovaginal nerve plexus derived from the inferior hypogastric plexus.

## Lymphatic Drainage :



inguinal ← برا الجبه  
 iliac ← جوا الجبه  
 aortic ← باستناد

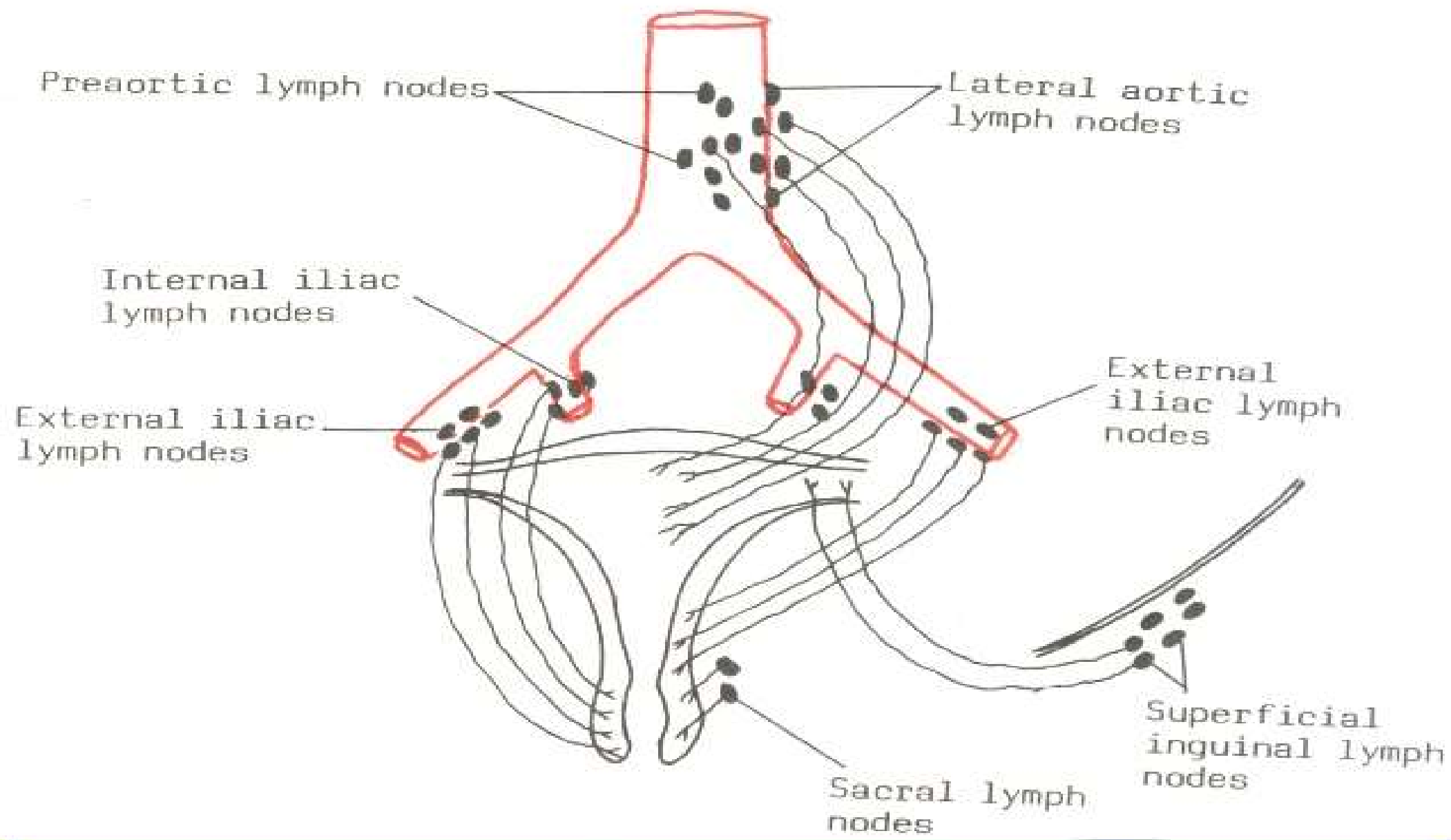
testes  
 ovary  
 fundus

### Area

### Lymph group

Fundus	Lateral aortic lymph nodes
Uterotubal junction along the round ligament of the uterus	Superficial inguinal lymph nodes.
Body, lymphatics pass through the broad ligament	External iliac lymph nodes
Cervix	External, internal and sacral lymph nodes

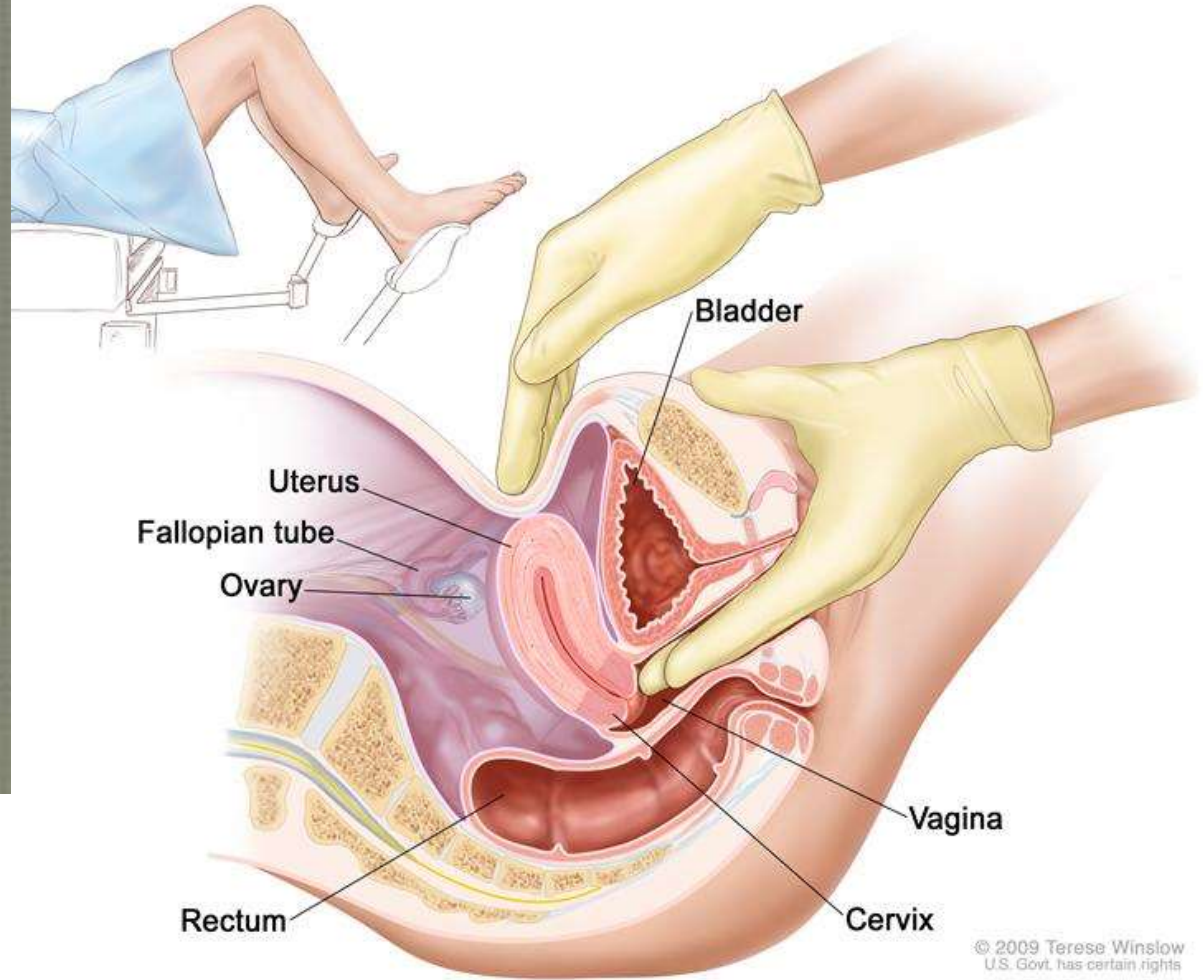
فقط كائين  
 bladder  
 cervix



**Lymphatic drainage of the uterus**



**Fundus examination**



**Bimanual pelvic examination of uterus**

# Ligaments of the uterus

## Ligaments attached to the body of uterus

1. Round ligament of uterus
2. Broad ligament.

## Ligaments attached to cervix of uterus

1. Pubocervical ligaments
2. Transverse cervical ligaments
3. Uterosacral ligaments

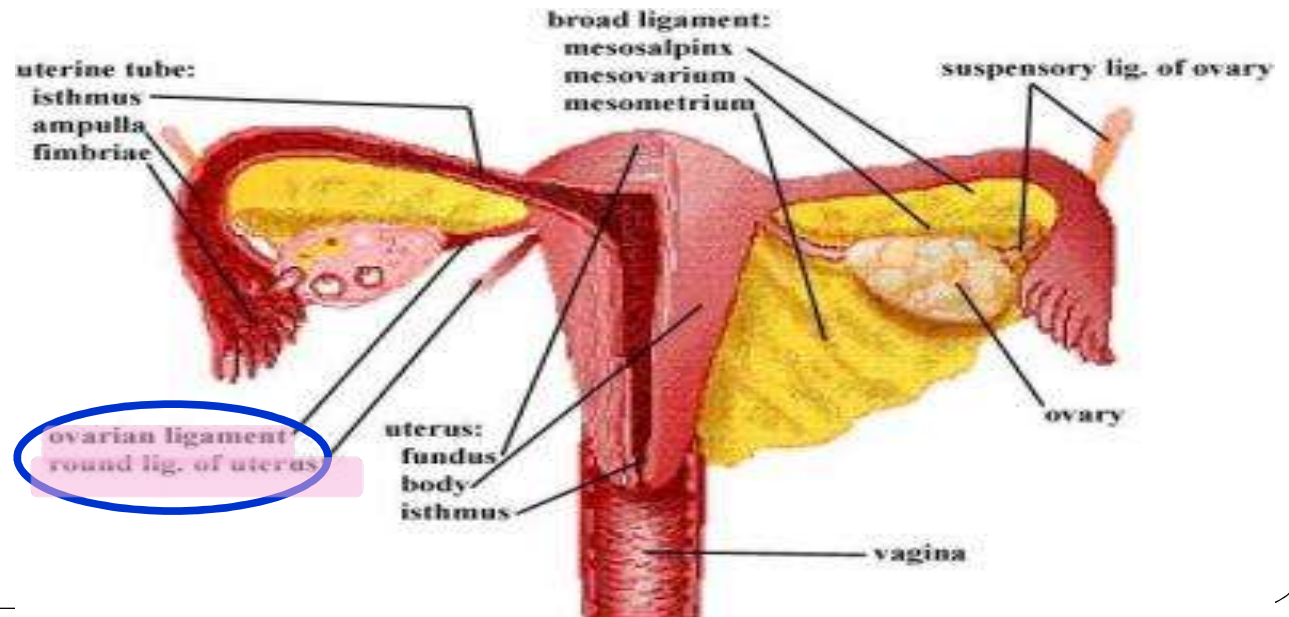
## 1- Round ligament of the uterus :

سنبھار  
Spinal  
Corde

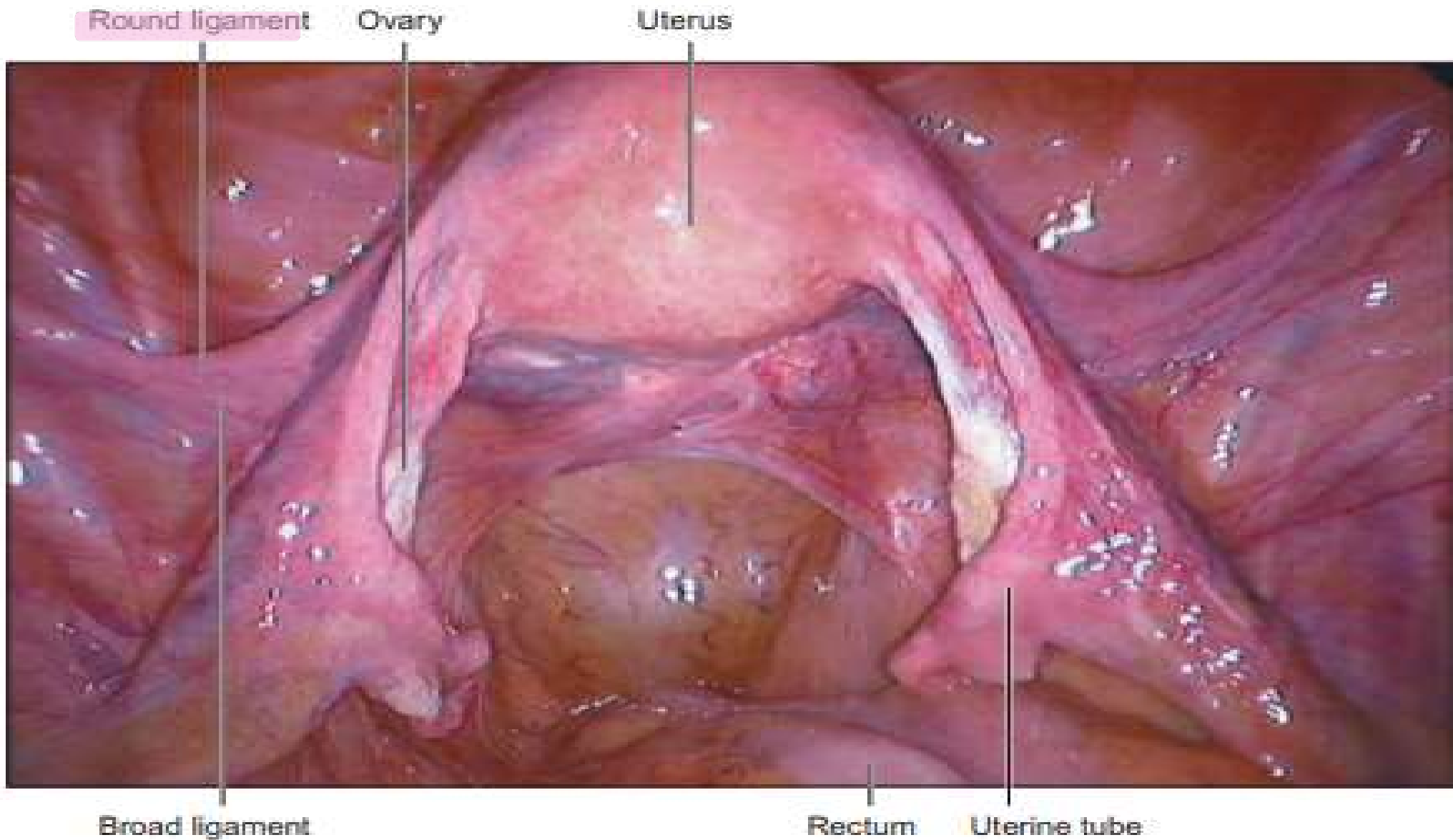
It extends from **anteroinferior aspect** of the uterotubal junction **to the subcutaneous tissue of the labia majora.**

### **Course :**

- ❑ Its proximal part runs within the broad ligament.
- ❑ Its distal part hooks around the beginning of **inferior epigastric A.**
- ❑ Then it enters the **deep inguinal ring** and traverses the **inguinal canal** to end in the **labia majora.**

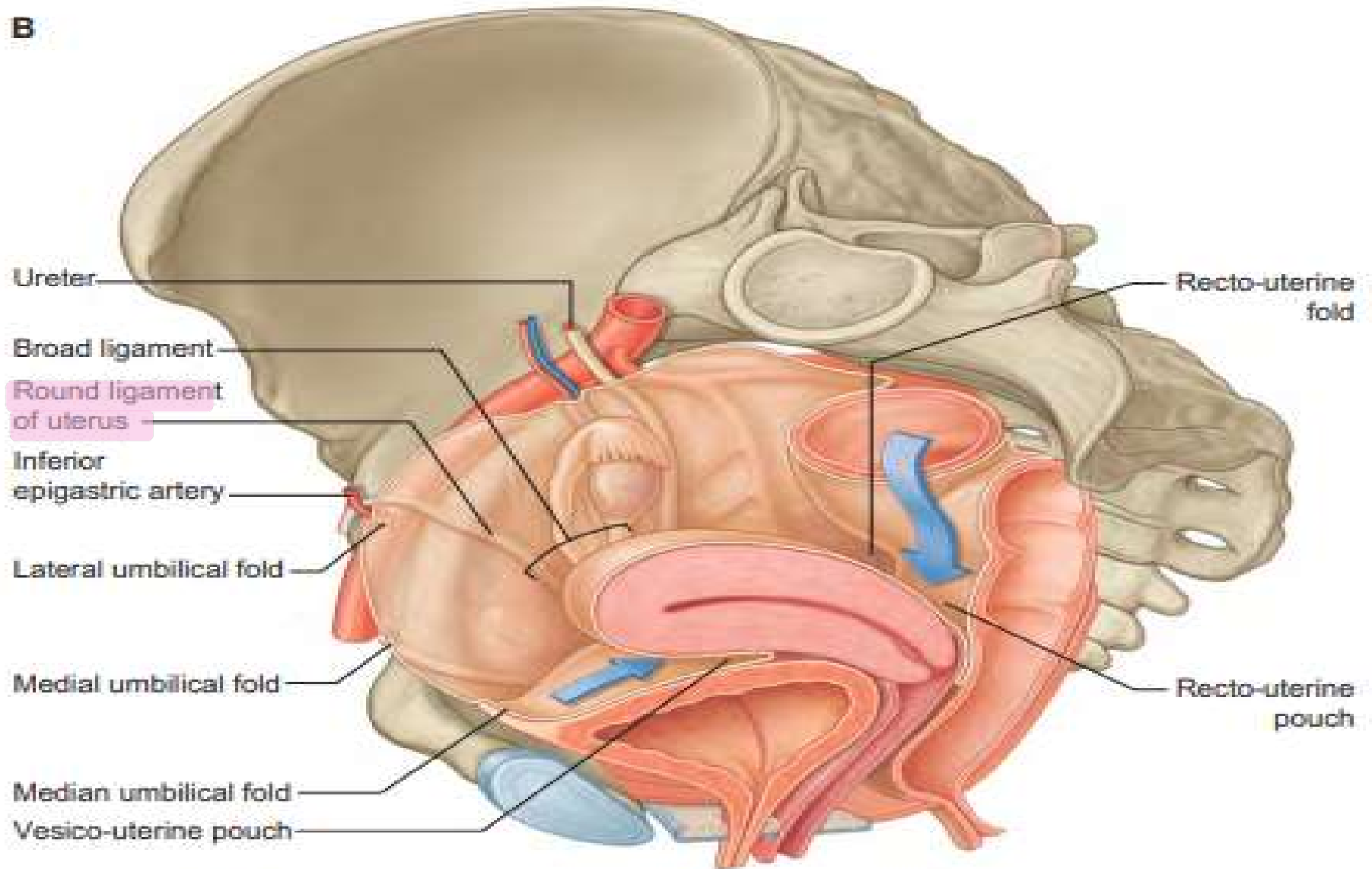






**Fig. 77.11** Laparoscopic view of the uterus – the patient is tilted head down so that the small bowel is moved away from the uterus to give this view.

**B**



**Fig. 77.10 A,** Anatomical relations of the female genital tract and bladder and rectum. **B,** Pelvic peritoneal reflections showing broad ligament and its contents. (**A** from Drake, Vogl, Mitchell, Tibbitts and Richardson 2008. **B** from Drake, Vogl and Mitchell 2005.)

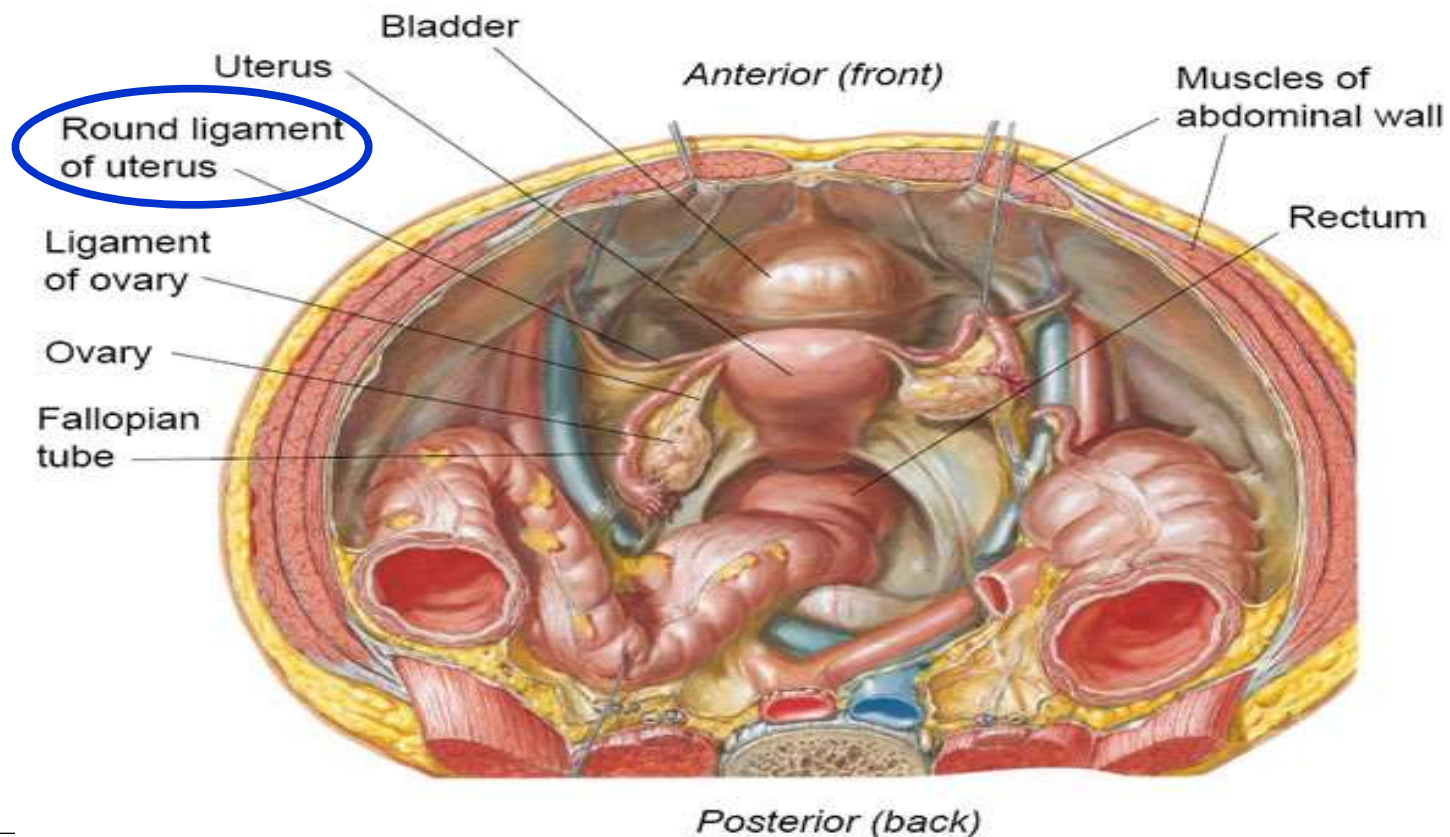


## \* Structures accompany the ligament in inguinal canal :

- ①❖ Artery of the round ligament (corresponds to the cremasteric A. in the male).
- ②❖ Genital branch of genitofemoral N. ; supplies the labia majora.
- ③❖ Lymphatics from the uterotubal junction to the superficial inguinal lymph nodes.

### Function :

it keeps the angle of anteversion against the backward pull of the uterosacral ligaments.

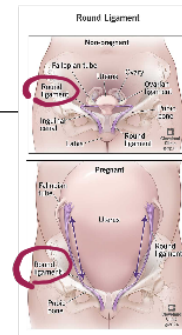


## ♀ **Round Ligament Pain**

**Symptoms :** a sharp, sudden spasm in the belly

Increase by coughing , laughing, rolling over in bed, standing up too quickly

**Cause :** Stretch of round ligament during pregnancy



wiki How to Avoid Round Ligament Pain

## 2. The broad ligament :

It is the double-layered fold of peritoneum which extends from the side of the uterus to the lateral wall and floor of the pelvis.

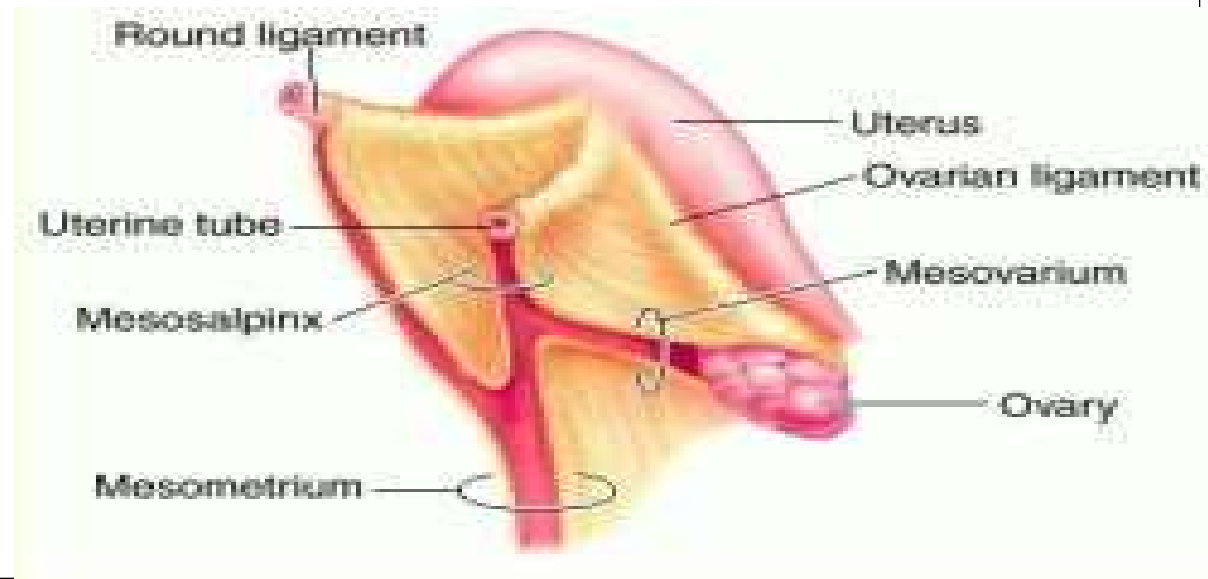
**Description** :it has 4 borders and 2 layers

### 1- Upper free border :

- Contains the uterine tube in its medial 4/5
- The lateral 1/5 represents the suspensory ligament of the ovary.

### 2- Lower attached border :

- Rests on the pelvic floor (levator ani).
- It is related to the ureter crossed by the uterine artery about 2 cm from the supravaginal cervix.

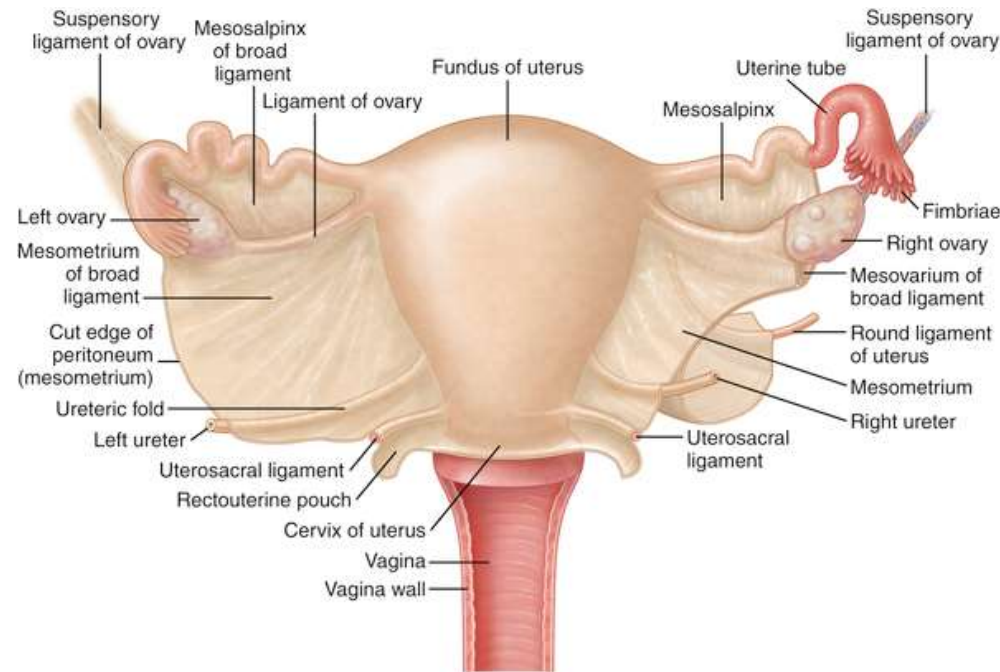


### 3-Medial border :

- Attached to the side of the uterus.
- The 2 layers of the broad ligament become continuous, with peritoneum of the body of the uterus .

### 4- Lateral border :

- Attached to the side wall of the pelvis.
- The 2 layers of the ligament become continuous with the parietal peritoneum of the lateral pelvic wall.



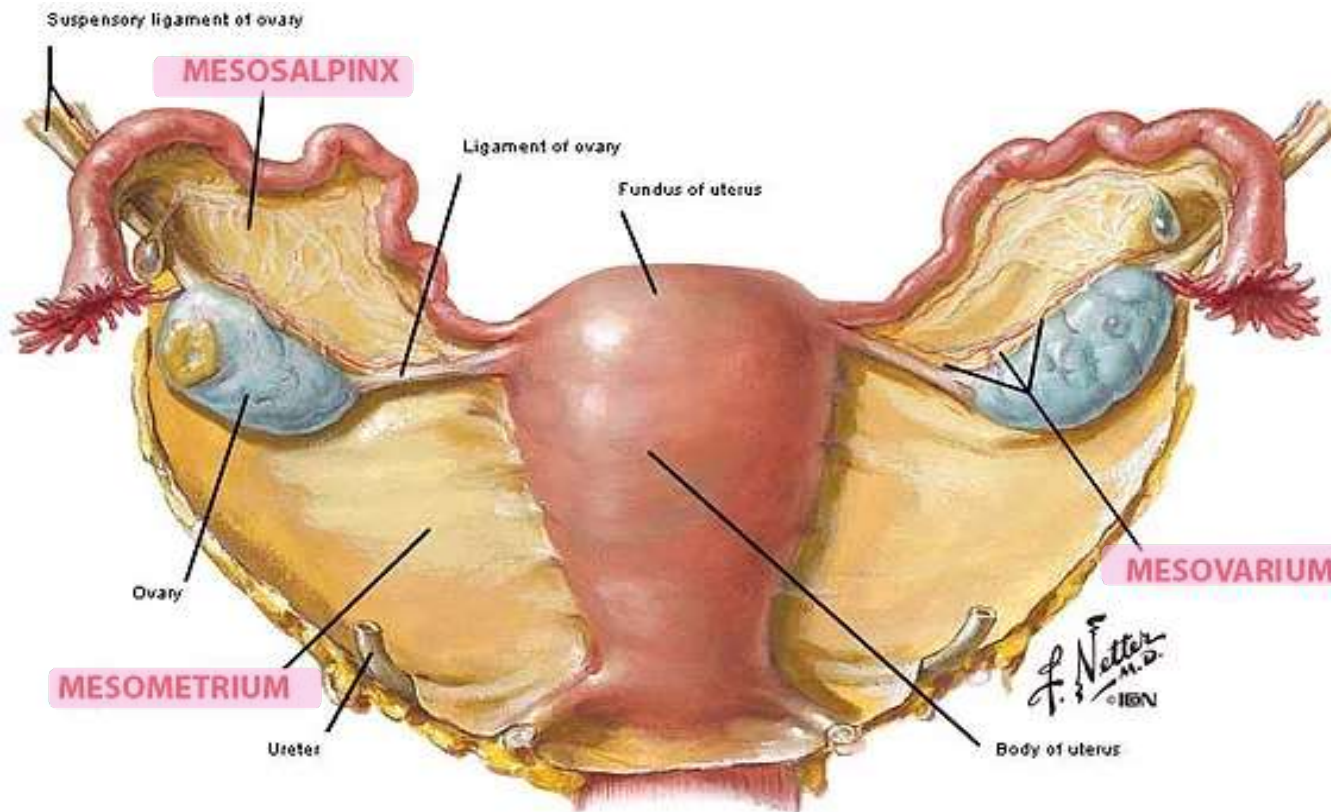
Uterus and broad ligament (posterior view)

## 5- Anterior layer :

Is bulged by the round ligament of the uterus.

## 6. Posterior layer :

- Is connected to the ovary by the mesovarium.
- It is pierced by lateral end of the uterine tube

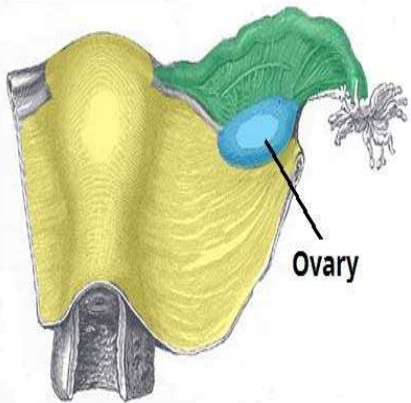




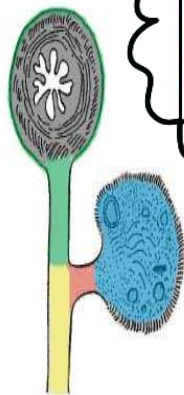
**Parts of the broad ligament :** is divided into four parts :

1. **Mesovarium** : between the broad ligament and the **ovary**.
2. **Suspensory ligament of the ovary** : between ovary and side wall of the pelvis, contains ovarian vessels and lymphatics.
3. **Mesosalpinx** : between the **uterine tube** and the ovarian ligament.
4. **Mesometrium** : between the **ovarian** ligament and uterine body.

**Coronal Plane:**

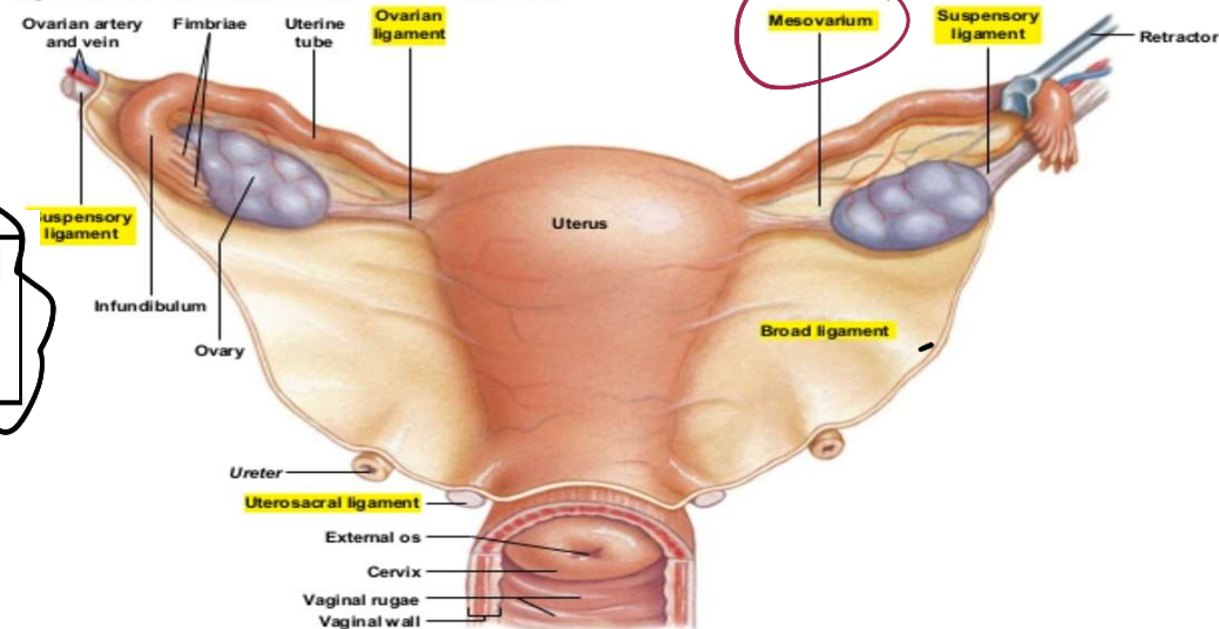


**Sagittal Plane:**



- Mesometrium
- Mesosalpinx
- Mesovarium

Figure 27.11a The Ovaries, Uterine Tubes, and Uterus



Posterior view of the ovaries, uterine tubes, and uterus along with their supporting ligaments



## **Contents of the broad ligament:**

**1. Uterine tube** in the free border.

**2. Two ligaments :**

✓ Round ligament of the uterus.

✓ Round ligament of the ovary.

**3. Two vessels :**

Uterine vessels .

Ovarian vessels.

**4. Two nerve plexuses :**

Uterovaginal plexus around the uterine A.

Ovarian plexus around the ovarian A.

**5. Two embryological remnants :**

✓ Epoophoron and the duct of epoophoron (Gartner's duct).

Paroophron.

They are embryonic remnants of mesonephric tubules and mesonephric duct.

**6. Two other structures**

Lymphatic vessels.

Parametrium (cellular connective tissue) continuous with that around the cervix of the uterus.

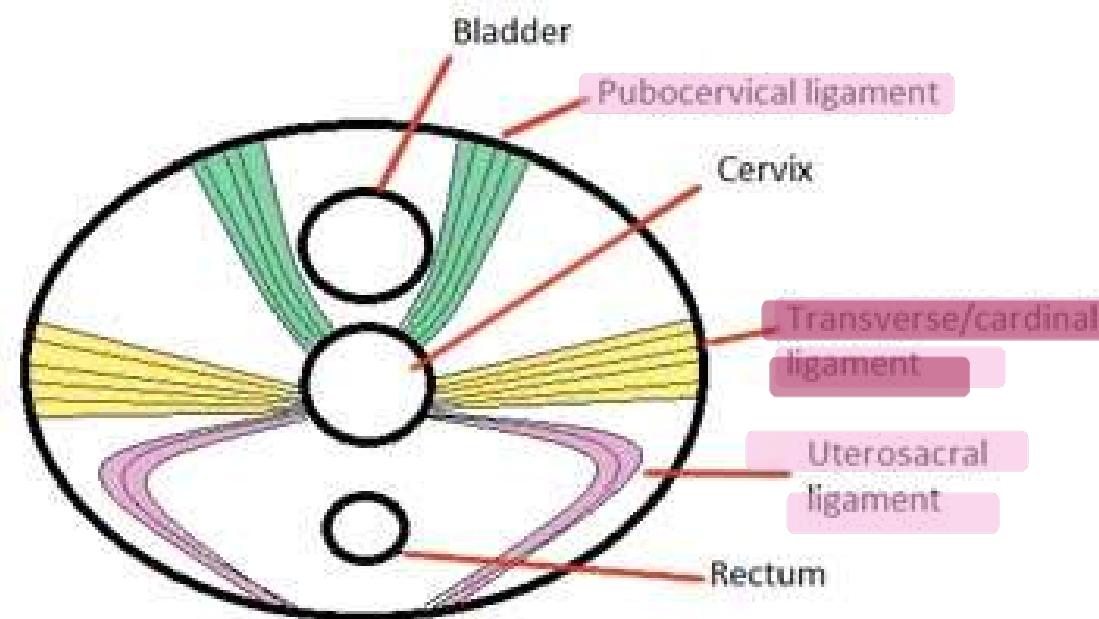
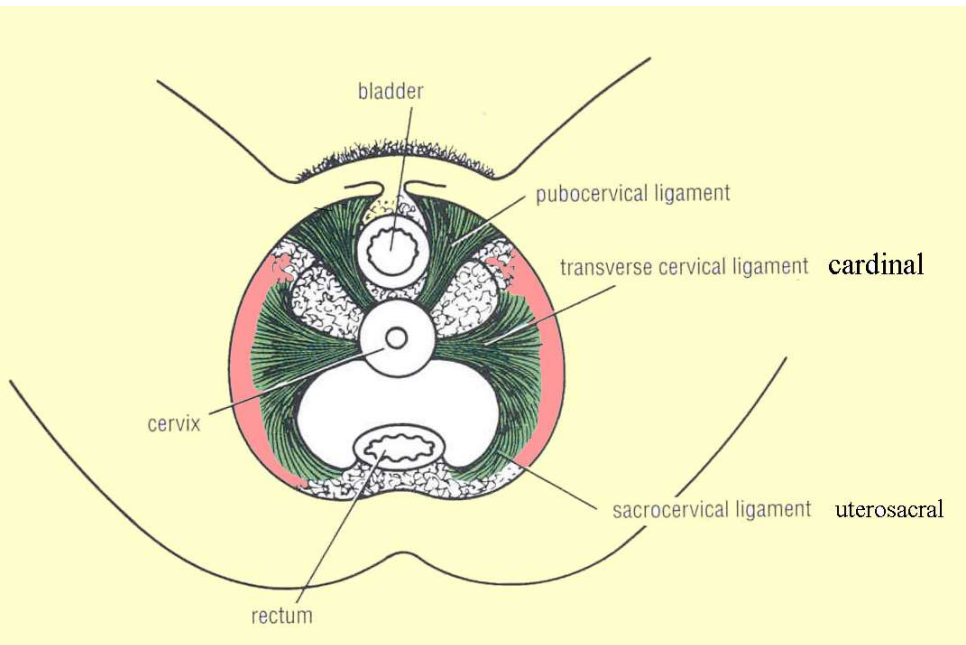
## Ligaments attached to cervix of uterus

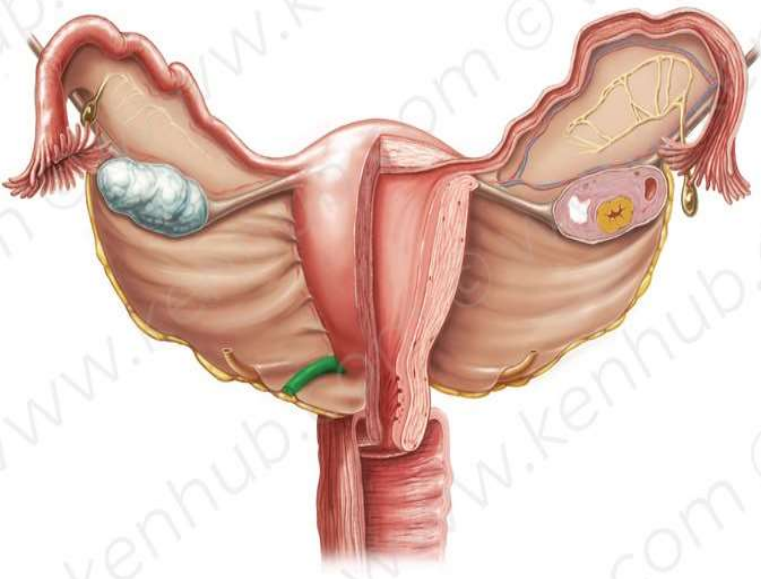
1. **Pubocervical ligaments:** extend anteriorly from the cervix of uterus to the pubis.

2. **Transverse cervical ligaments (Mackenrodt's ligaments):** extend laterally from the cervix and upper part of vagina to the side walls of the pelvis.

They are the main ligaments for uterine support.

3. **Uterosacral ligaments** : extend backwards from the posterolateral aspect of the cervix and the lateral vaginal fornixes to the front of S2, S3 vertebrae.

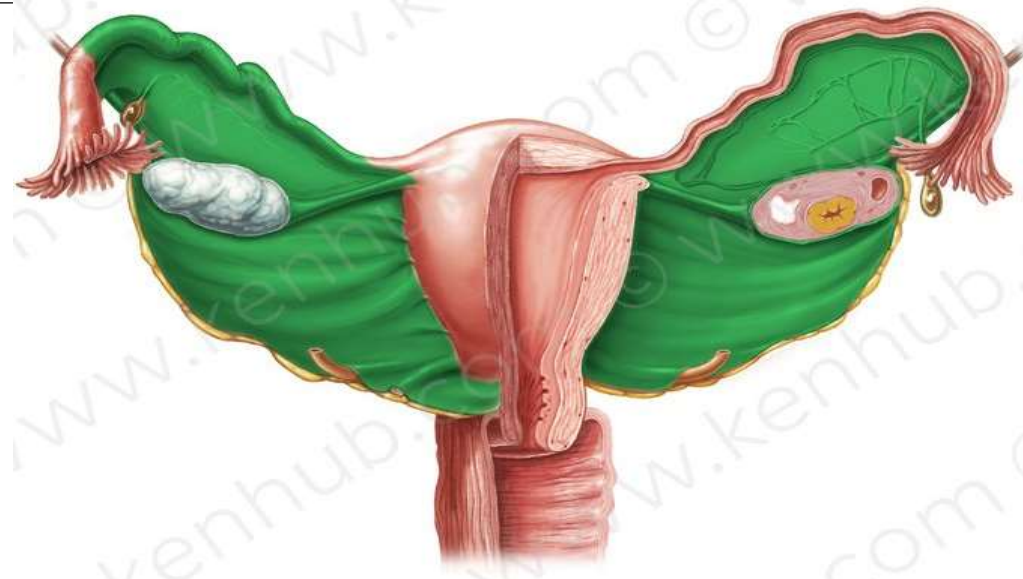




**Uterosacral ligaments**



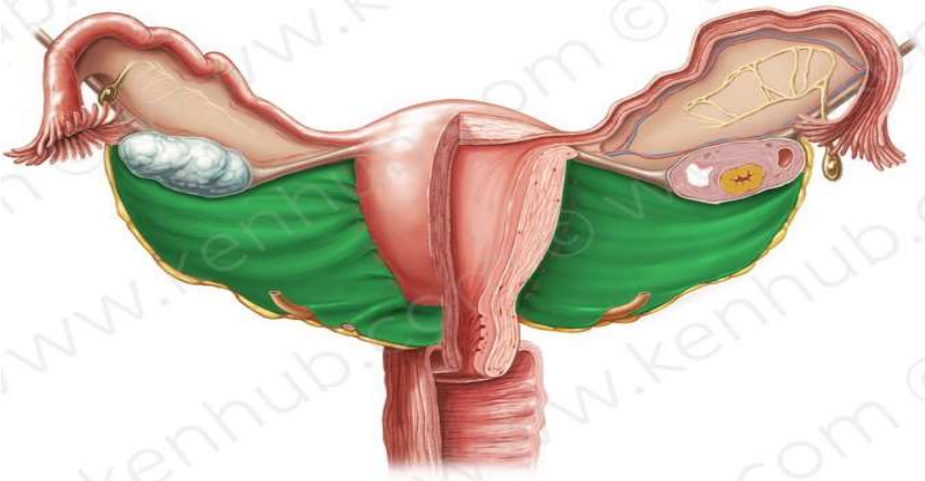
© www.kenhub.com



**Broad ligament**



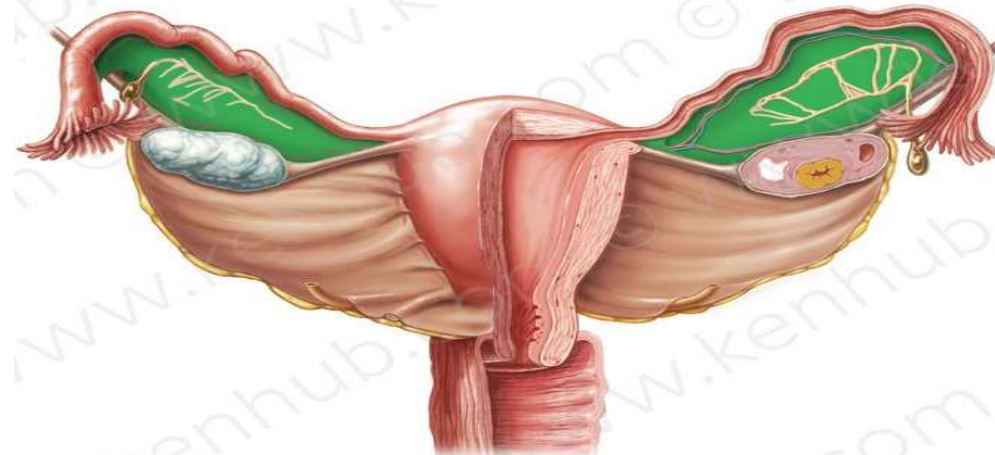
© www.kenhub.com



**Mesometrium**



© www.kenhub.com



**Mesosalpinx**



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# Supporting Factors of Uterus

## Ligaments

- 1-Pubocervical ligaments
- 2-Transverse cervical ligaments
- 3-Uterosacral ligaments

## Muscles

- 1-Muscles of the pelvic diaphragm
- 2-Muscles of urogenital diaphragm
- 3-Perineal body

## Mechanical Factors

Remind  
مراجعة في الـ ١١

## Supporting Factors of Uterus :

\* Prolapse of the uterus into the vagina (due to increased intra-abdominal pressure) is prevented by the following factors

### **A. Ligaments :**

1. Pubocervical ligaments
2. Transverse cervical ligaments (Mackenrodt's ligaments)
3. Uterosacral ligaments

### **B. Muscles :**

1. Muscles of the pelvic diaphragm (levator ani and coccygeus) especially sphincter vaginae part of levator ani.
2. Muscles of urogenital diaphragm in the deep perineal pouch.
3. Perineal body : it is the central tendon of perineum which keeps integrity of pelvic floor.

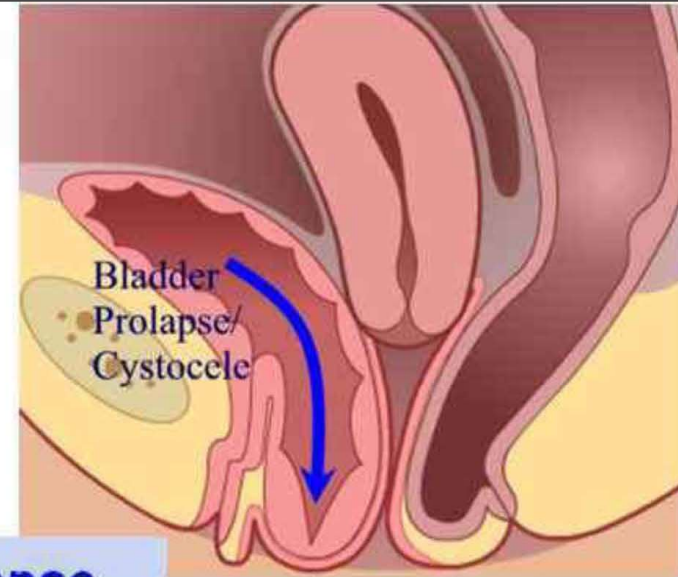
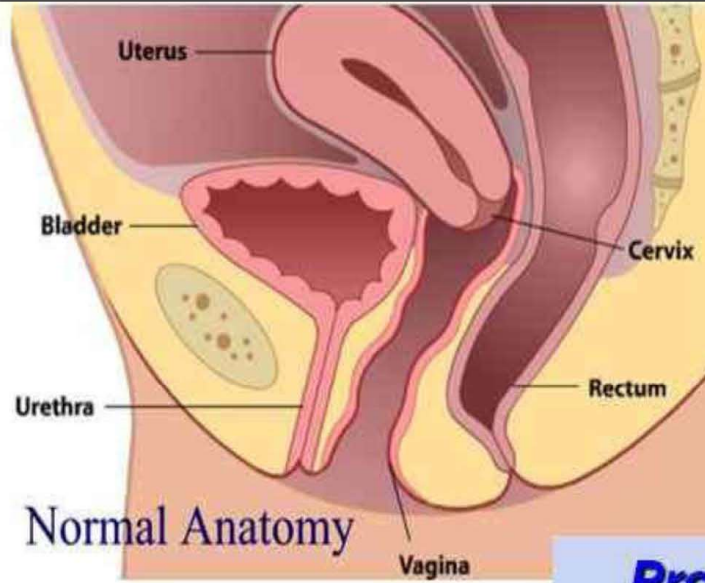
Rupture of the perineal body leads to prolapse of uterus.

### **C. Mechanical Factors :**

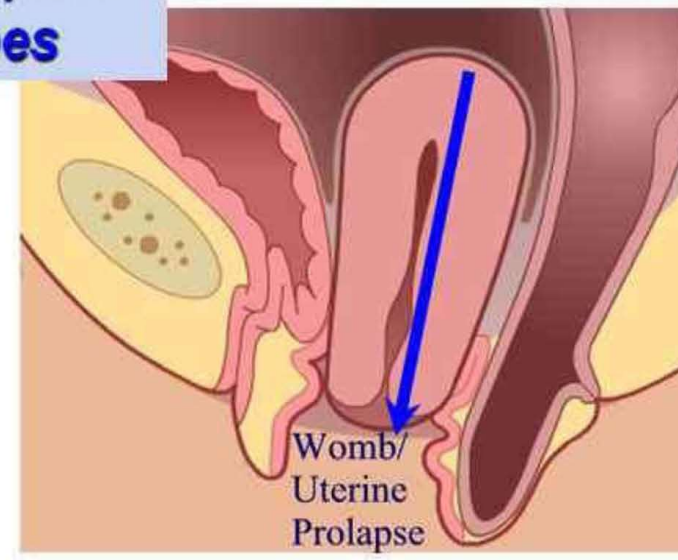
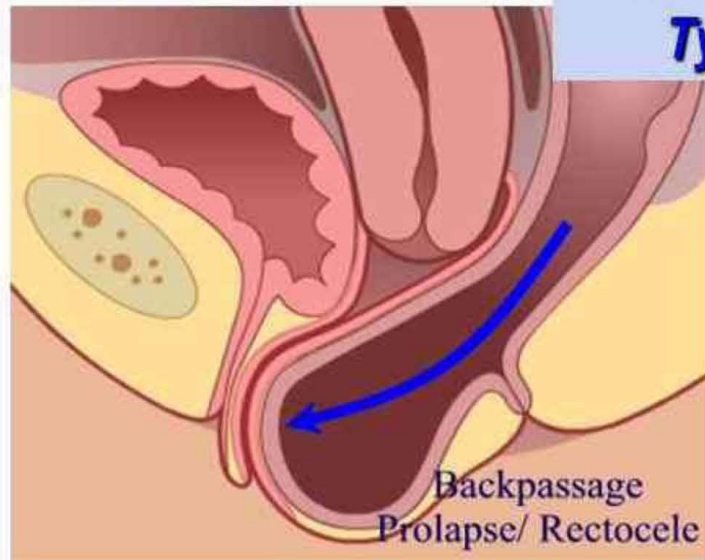
- The angle of anteversion prevents prolapse of uterus into the vagina.
- The angle is maintained by the forward pull by round ligaments on the uterine fundus and the backward pull by the Uterosacral ligaments on the cervix.



Vagina



**Prolapse Types**



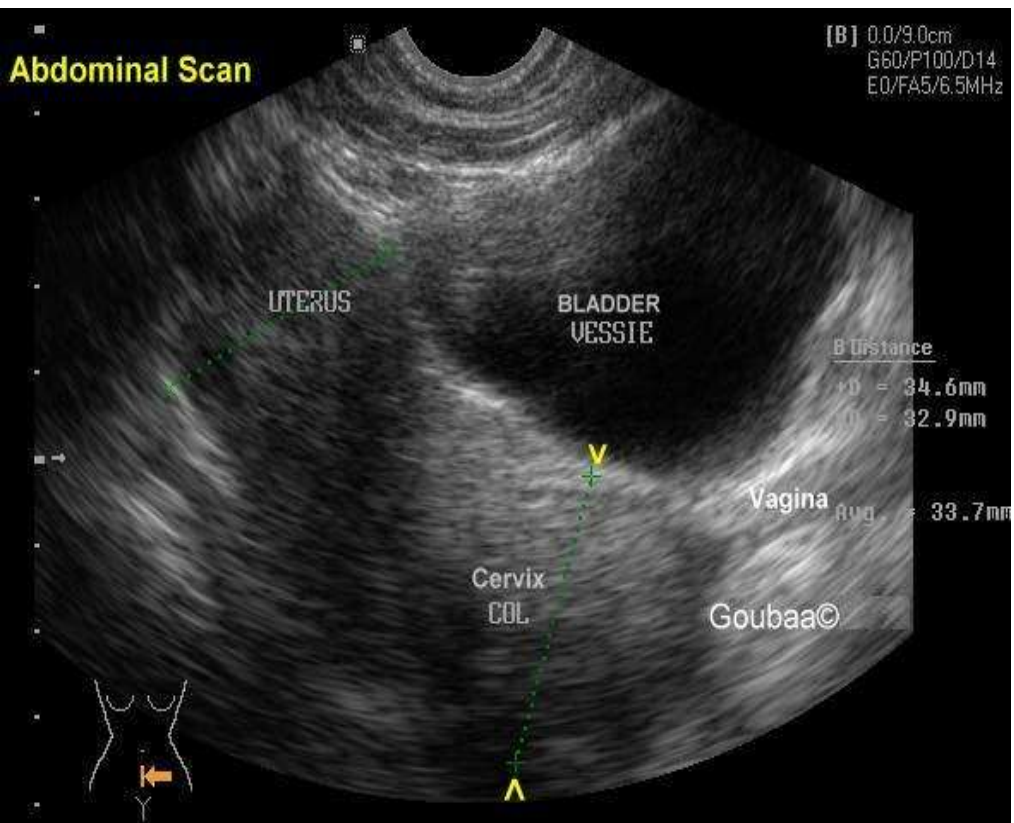
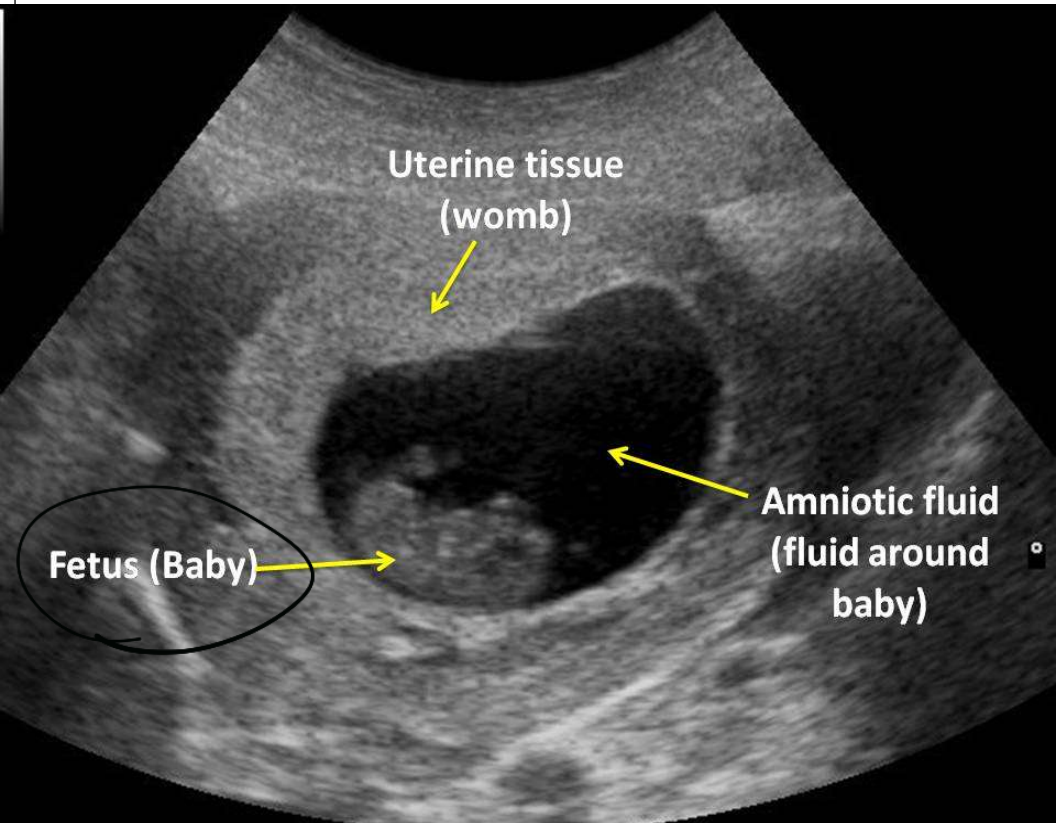


**3D and 4D ultrasound**

عائش

ملاح

Movments



2D



# Vagina

---

- ❑ It is a fibromuscular tube (8 cm long) lined with stratified squamous epithelium.
- ❑ It extends from the uterus down to the vestibule (it is a cleft between the 2 labia minora).
- ❑ Its axis makes a right angle with the cervix

## Dimensions :

Anterior vaginal wall is about 7.5 cm.

Posterior vaginal wall is about 9 cm.

## Relations of the Vagina :

### 1- Anterior wall related to :

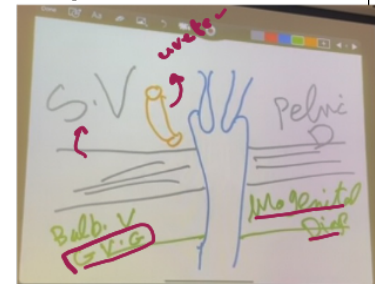
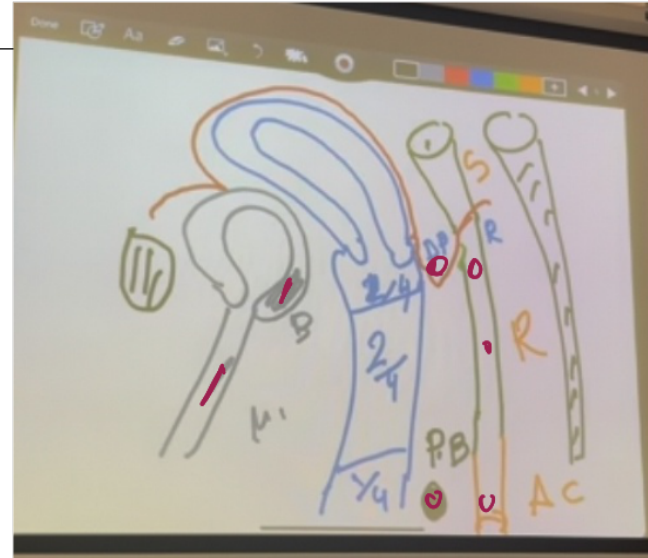
- Base of the bladder
- Urethra

### 2- Posterior vaginal wall :

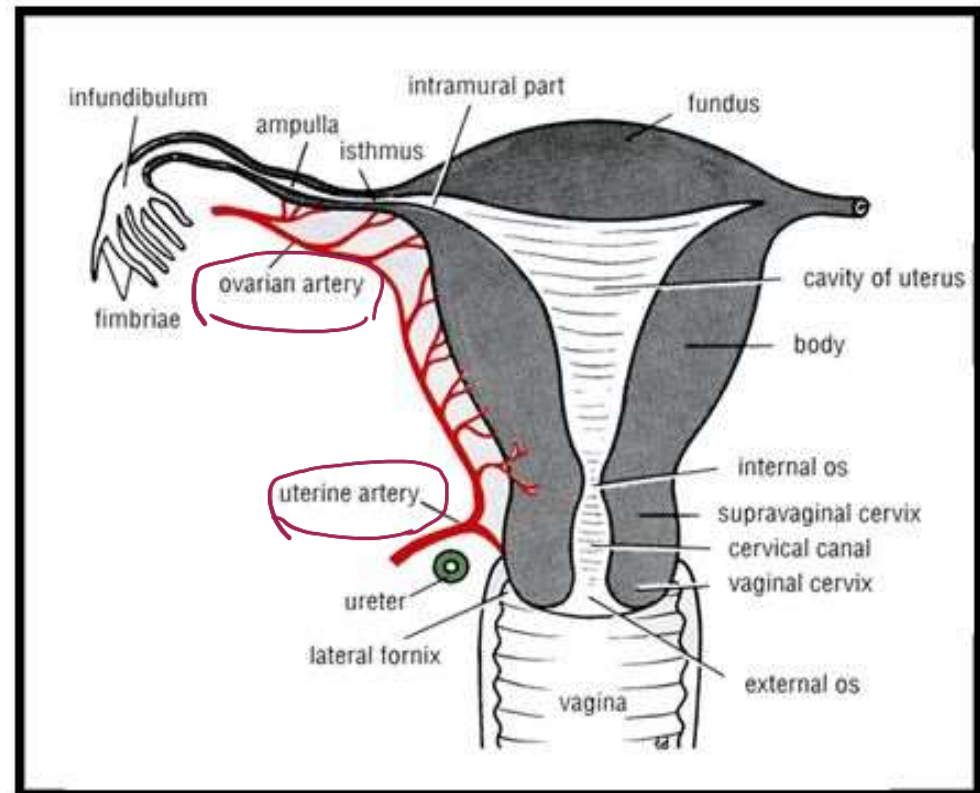
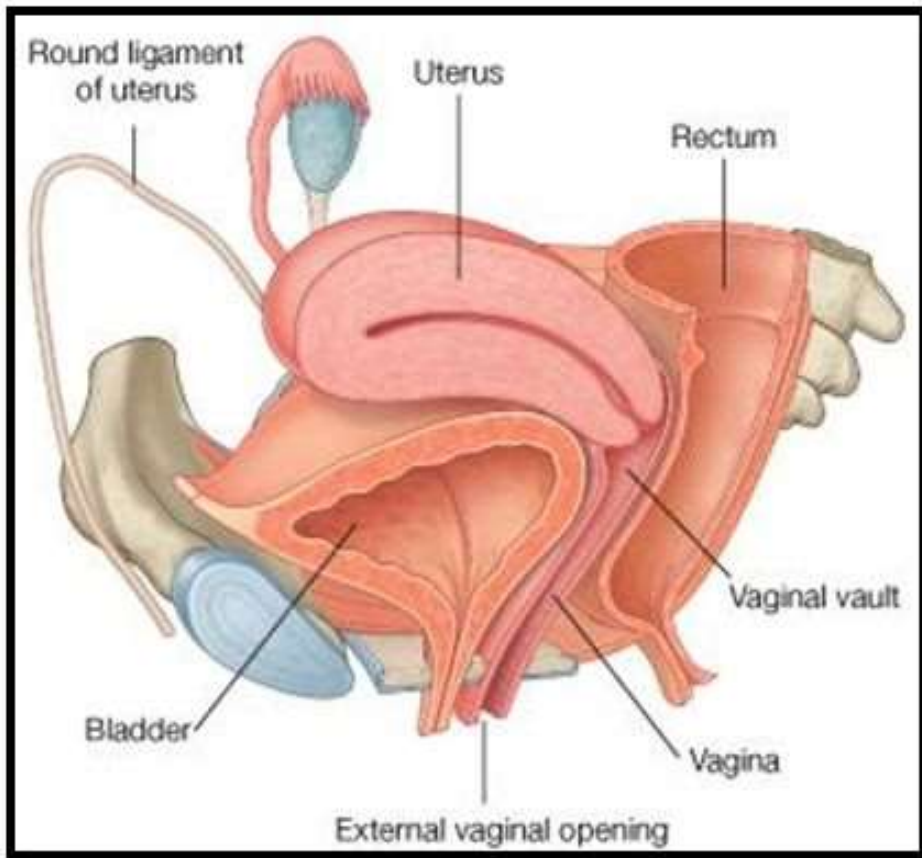
- **Upper 1/4** (covered with peritoneum) is related to **rectum with Douglas pouch** in between.
- **Middle 2/4** are related directly to **rectum**.
- **Lower 1/4** is related to **anal canal** with the **perineal body** in between

### 3- Lateral relations :

- **Upper part** : ureter
- **Middle part** : is related to sphincter vaginae part of the levator ani (**pelvic diaphragm**)
- **Lower part** is related to muscles of **urogenital diaphragm** (in the deep perineal pouch), **bulbs of vestibule** and **greater vestibular glands** (in the superficial perineal pouch).



# RELATIONS OF VAGINA



### **Cavity of Vagina :**

- Its superior part surrounds the vaginal part of the uterine cervix and is divided into four fornixes.
- The posterior vaginal fornix is the **deepest one** and the **only fornix covered by peritoneum.**
- In virgins ; The vaginal orifice has a thin mucosal fold called the *hymen* which is perforated at its center.

**Arterial Blood Supply :** by uterine and vaginal arteries.

The vaginal A. supplies the base of the bladder and gives vaginal branches which anastomose with vaginal branches from uterine A.

These anastomoses form 2 median longitudinal vessels called azygos arteries which descend anterior and posterior to the vagina supplying it

**Venous Drainage :** by vaginal venous plexus on the side of vagina. It is drained by the vaginal vein into internal iliac vein.

### **Lymph Drainage :**

- **Above the hymen** → external, internal iliac lymph nodes.
- **Below the hymen** → superficial inguinal lymph nodes.



A 25 years old married female , came to the ER with vaginal bleeding. Ultrasonography, didn't detect pregnancy sac in the uterus nor any abnormalities in the pelvis or intraperitoneal fluid collections. 2 days later , she complained of constipation. By Clinical examination , no intestinal sound was detectable and there was abdominal guarding. Ultrasonography revealed pelvic collection of fluid . Doctor did abdominal exploration. She died 12 hours after the operation

**What is your provisional diagnosis and its cause .**

جزء من الأمعاء مقطوعة إلى

30:00

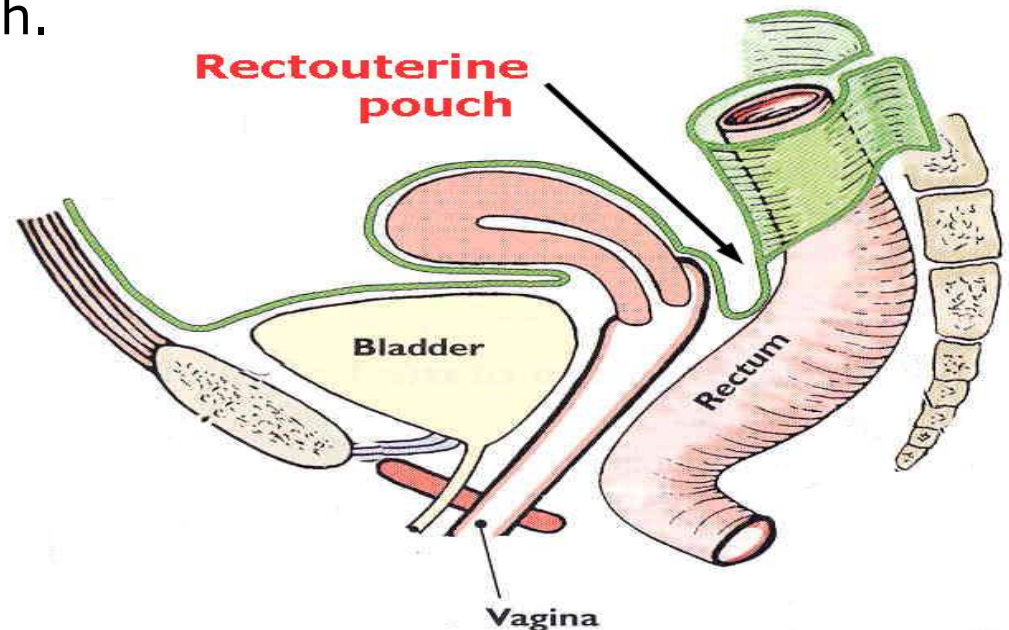
## Nerve Supply :

- 1) Autonomic fibres from the uterovagina! plexus derived from the inferior hypogastric plexus.

2) The **lower inch of vagina** is supplied by the puddental nerve

➔ The uterus is completely covered by peritoneum except the supravaginal cervix anteriorly and laterally .

- The **vagina has no peritoneum except its posterior fornix, which is covered** by the peritoneum of Douglas pouch.



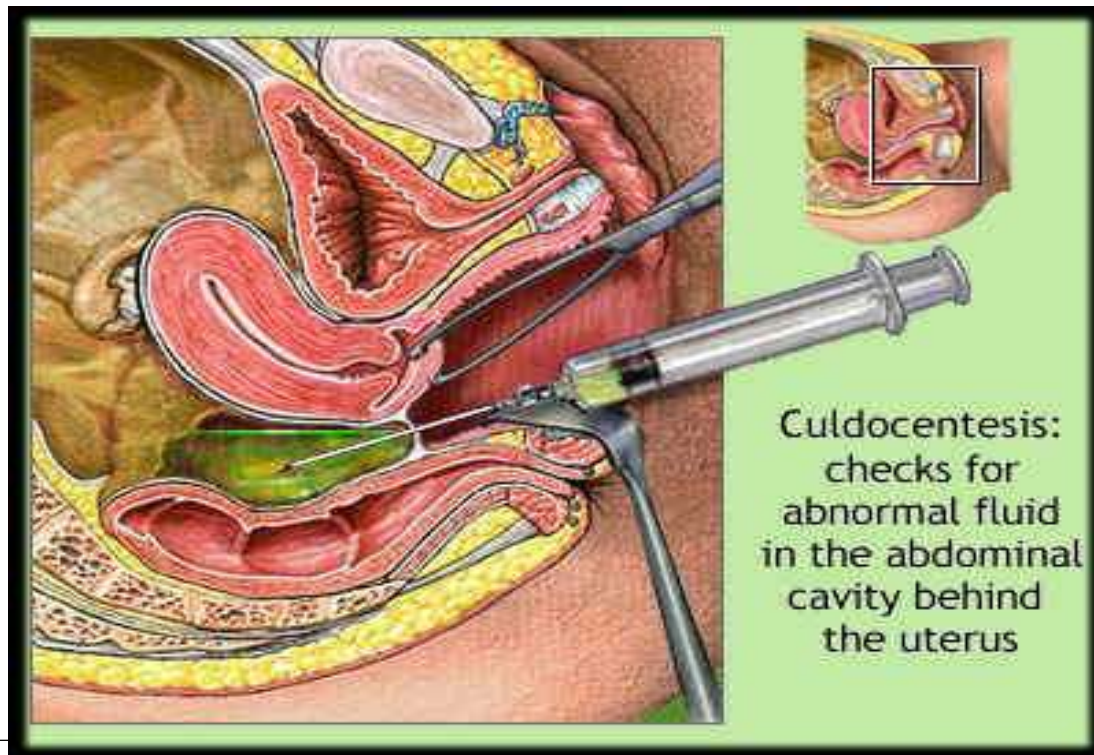
## Culdocentesis

Drain a pelvic abscess or blood collection through the vagina by the passage of a needle through the posterior fornix.

Misguided nonsterile instruments, which pierce the wall of the posterior fornix in a failed attempt at an illegal abortion.

This leads to Pelvic peritonitis, often with fatal consequences.

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## Painless Labour

- Epidural anaesthesia provide analgesia during labour and control post partum pain
- The anaesthesia agent is administered using indwelling catheter into epidural space at L3-L4



## Epidural Analgesia (painless labour)



General area of numbness



Injection site



Anesthetic shot

ADAM

ADAM

# **FEMALE EXTERNAL GENITALIA**

---

It includes :

**1-The mons pubis :** It is the hairy skin anterior to the pubic bones.

It is rich in subcutaneous fat.

**2-The labia majora :**

They are a pair of rounded cutaneous folds (rich in subcutaneous fat), begin at mons pubis and extend posteriorly to meet each other anterior to the anus.

- Their lateral surfaces are *hairy*, their medial surfaces are *smooth*
- They surround the *pudendal cleft* which in turn encloses the remaining genital structures described below.

**3- The labia minora :**

Are a pair of smooth pink folds, covered by stratified squamous epithelium.

**Anteriorly :** near the clitoris, each splits into 2 smaller folds :

- The upper pair unite *over* the tip of clitoris, forming the *prepuce of the clitoris*.
- The lower pair unite *below* the clitoris forming the *frenulum of the clitoris*.

**Posteriorly,** the two labia minora meet to form *frenulum of labia minora (fourchette)* .

#### 4- The clitoris :

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Site : it *lies in* anterior part of the pudendal cleft. It resembles the penis, but differs in the following :

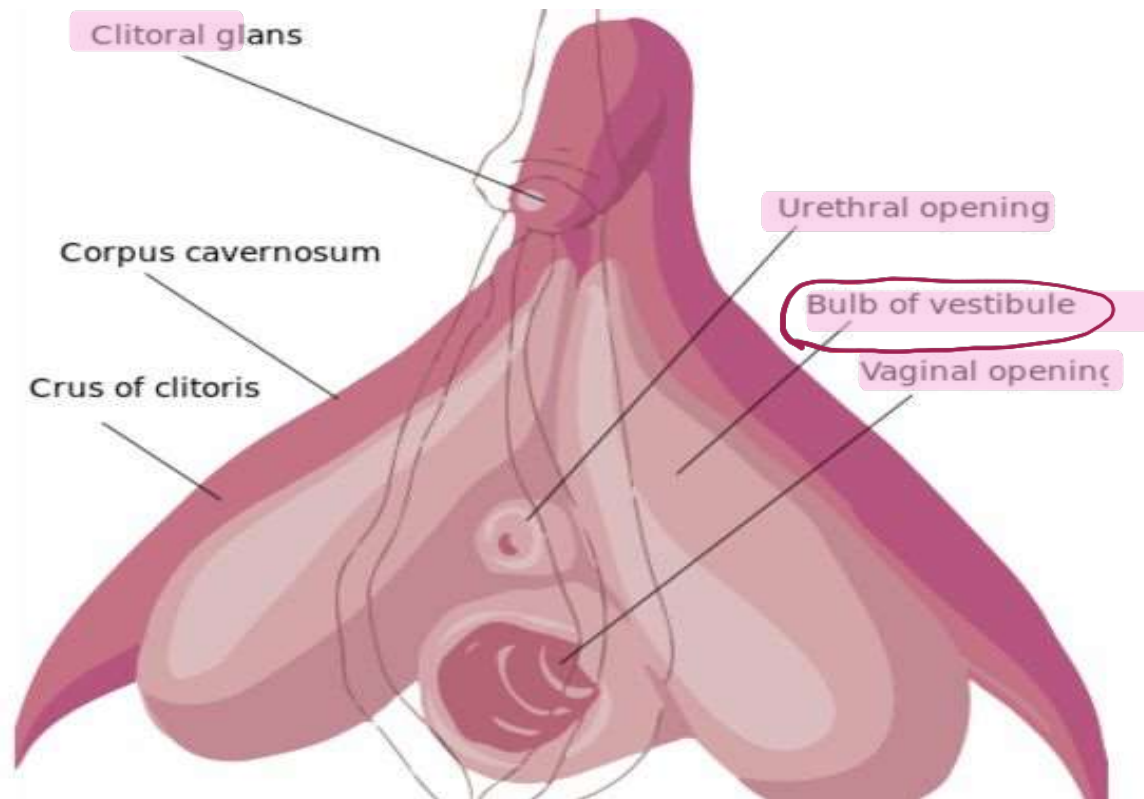
- Clitoris is formed only of 2 corpora cavernosa, each arises from side of pubis arch by a crus, so it has no corpus spongiosum.
- it is not traversed by the urethra.
- Its free end is sensitive and is called *glans clitoridis*.

#### 5- Vestibule :

- It is the space between the two labia minora.
- It contains :
  - Urethral orifice ; lies 2 cm posterior to the clitoris but anterior to vaginal orifice.
  - Vaginal orifice : in the posterior part of the vestibule, it is closed in the virgin by the hymen.
  - Orifices of the greater vestibular glands (of Bartholin), one on each side of the vaginal orifice (these glands lie in the superficial perineal pouch).

## 6- Bulbs of the vestibule :

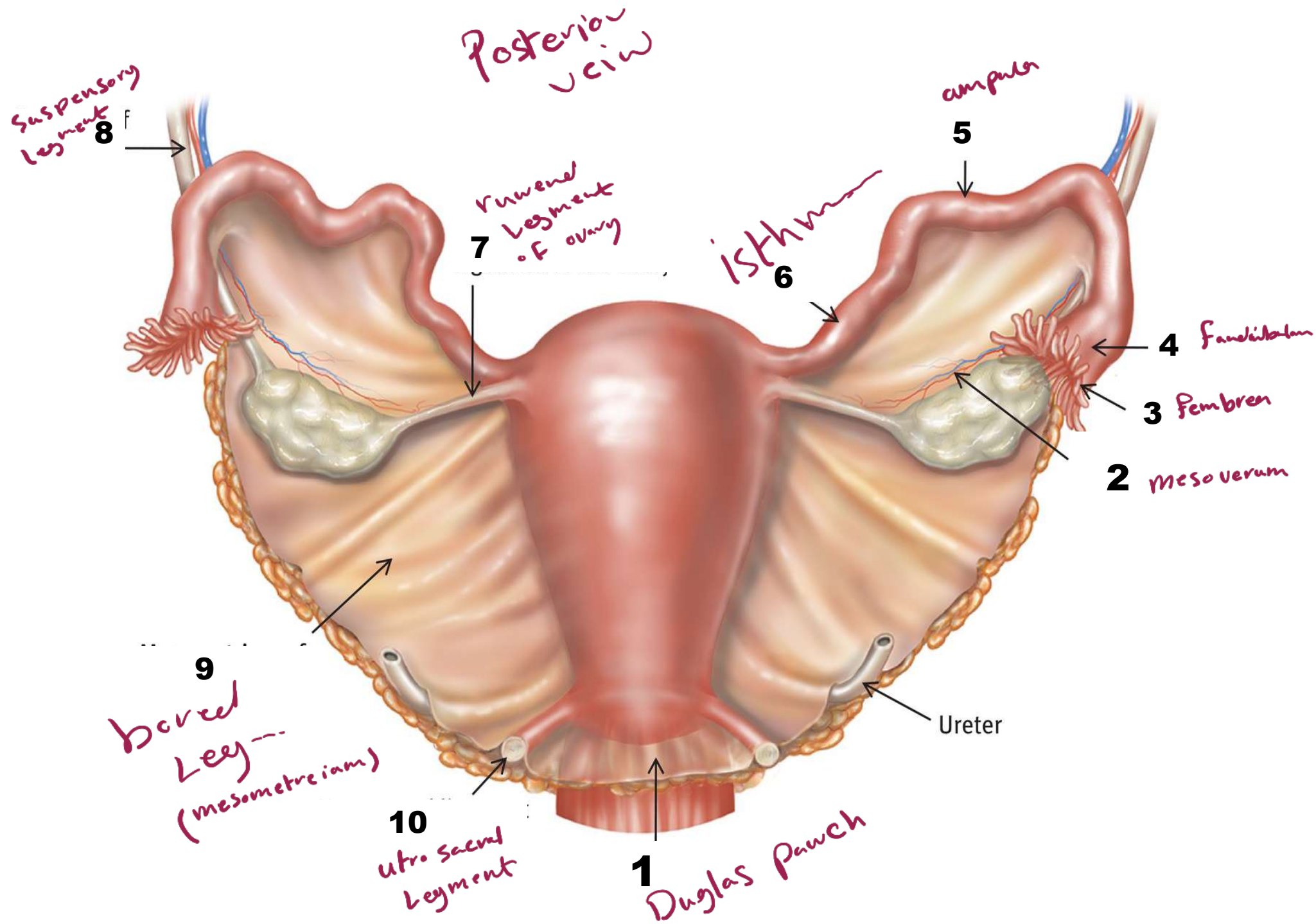
- These are two large, elongated masses of erectile tissue, each is about 3 cm in length.
- They lie along the sides of the vaginal orifice and are covered by bulbospongiosus muscles.
- They correspond to bulb of the root of penis, **but differ in 2 facts :**  
The bulbs are separated from the clitoris.  
The bulbs are separated by the vestibule, containing vaginal and urethral orifices.



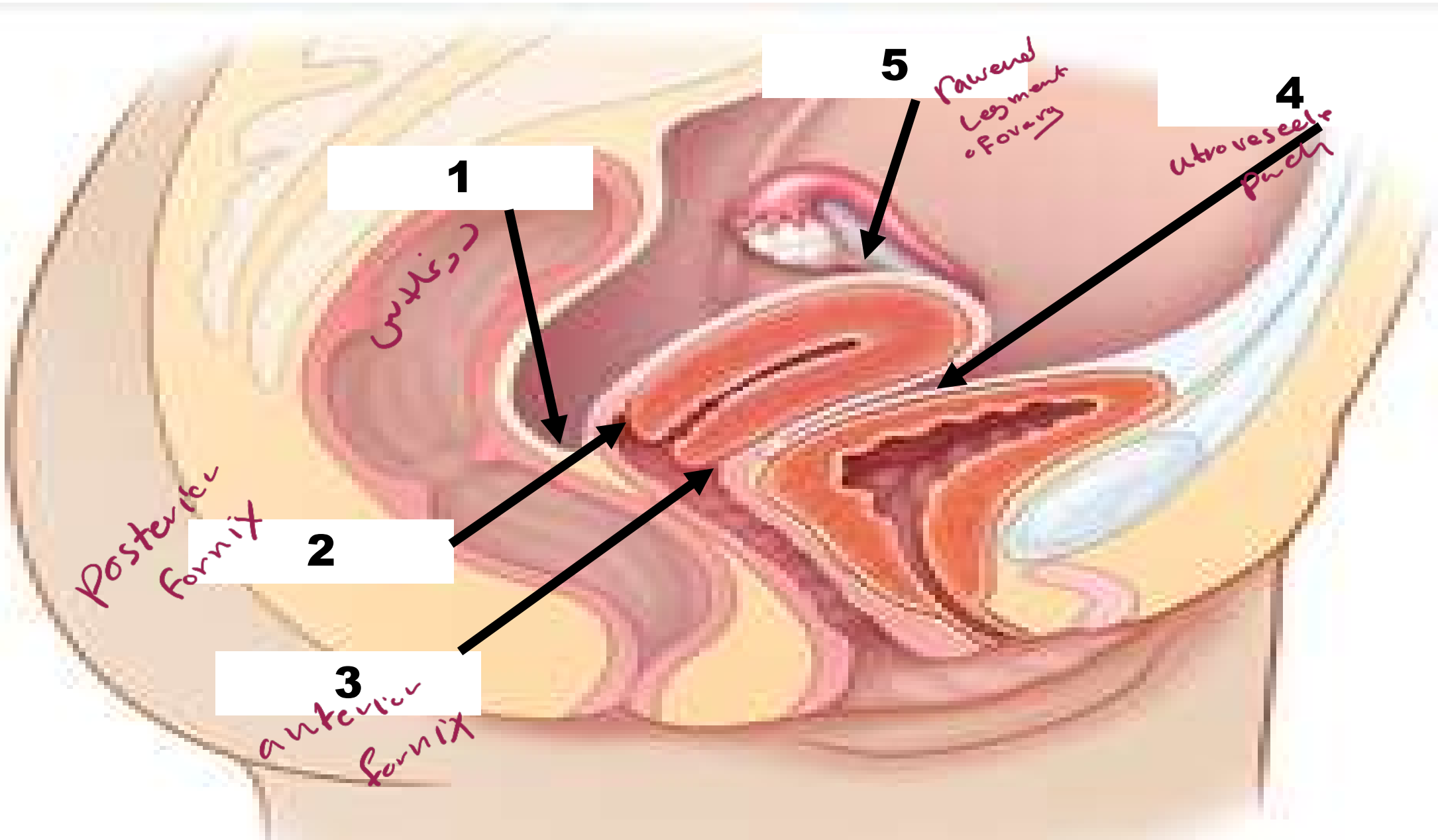
Thank

you





<= لا تدققوا على الإملاء



**1**

uterus

**2**

Posterior Fornix

**3**

anterior fornix

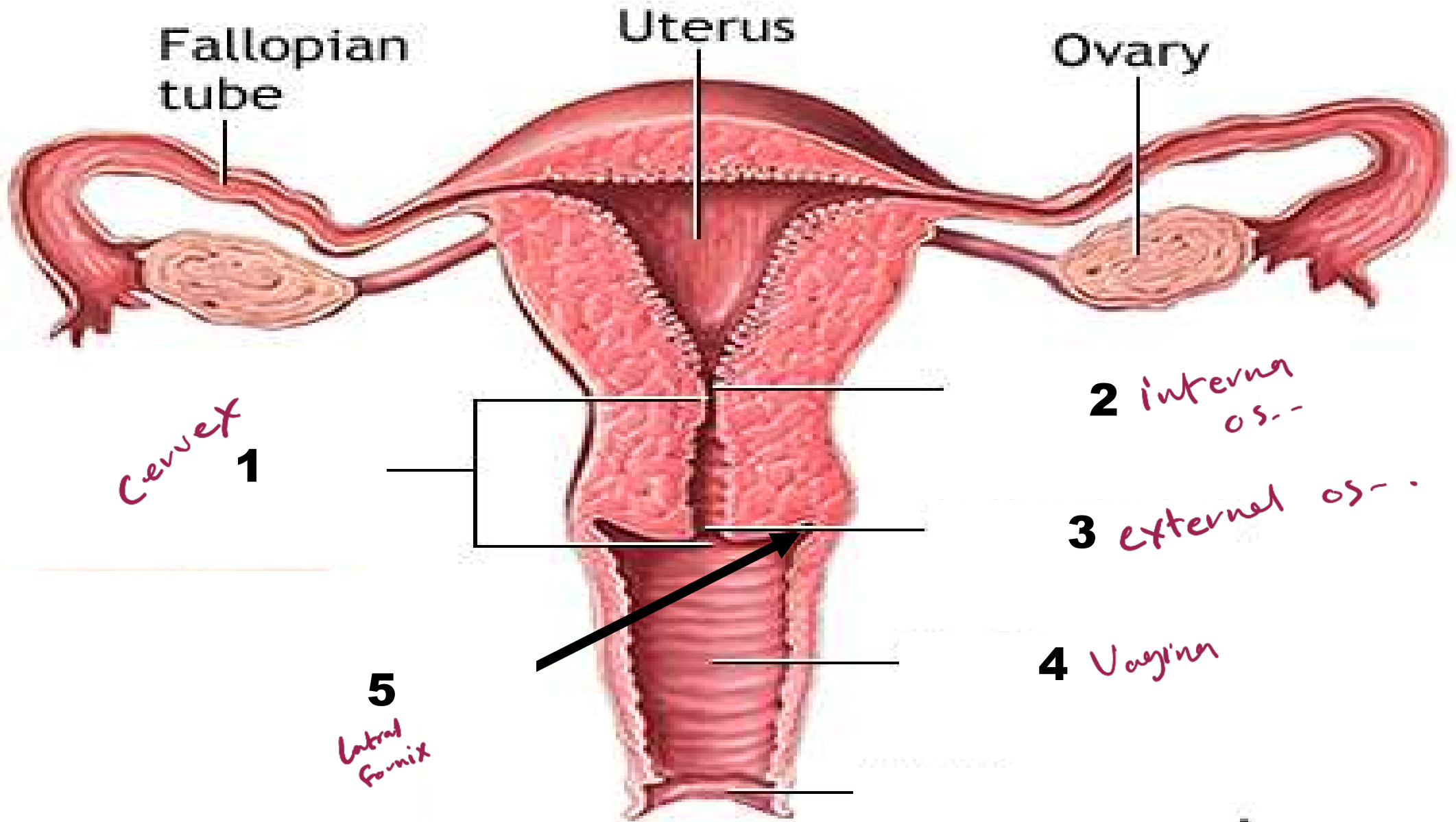
**5**

Ovarian Ligament of Ovary

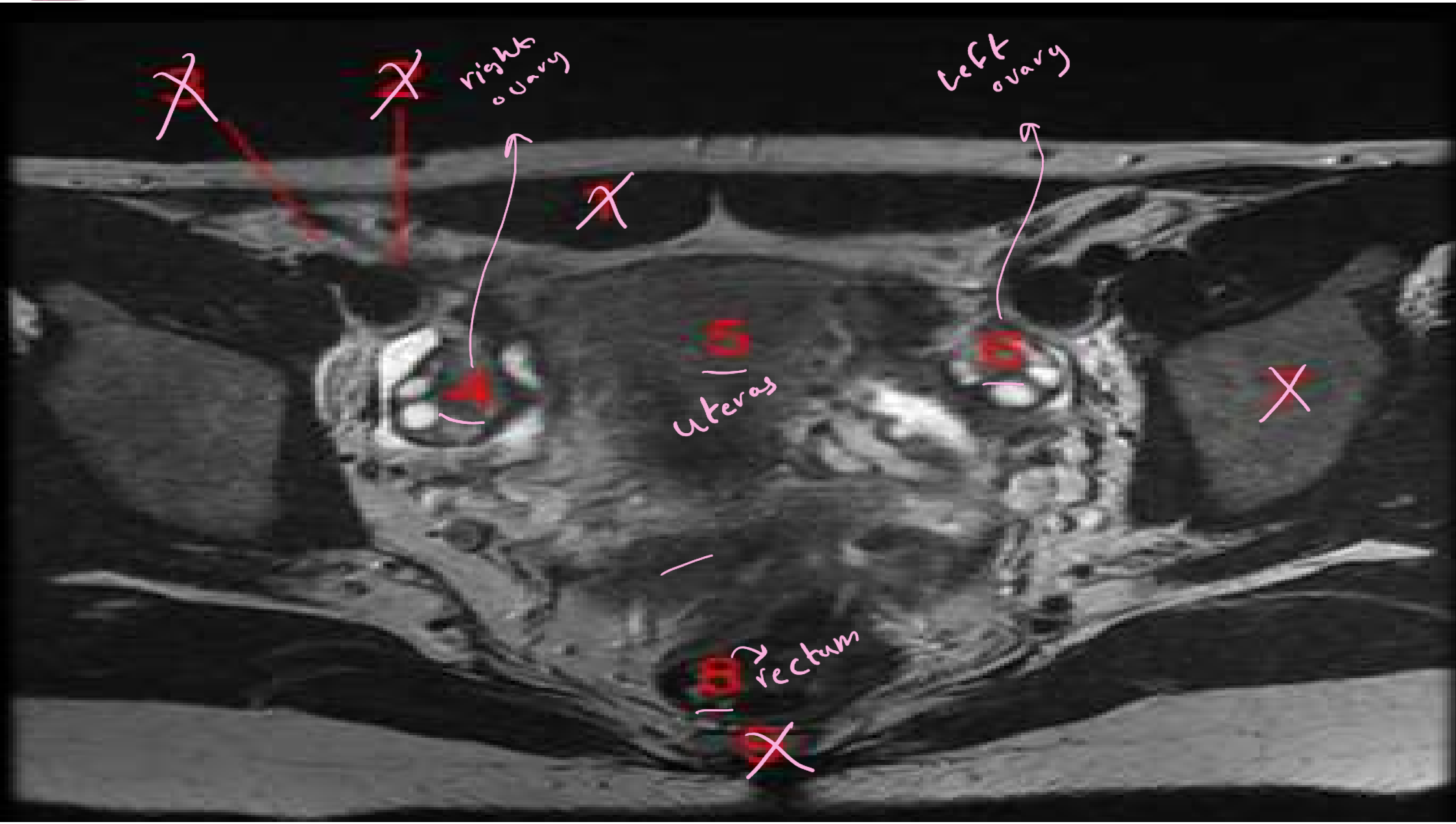
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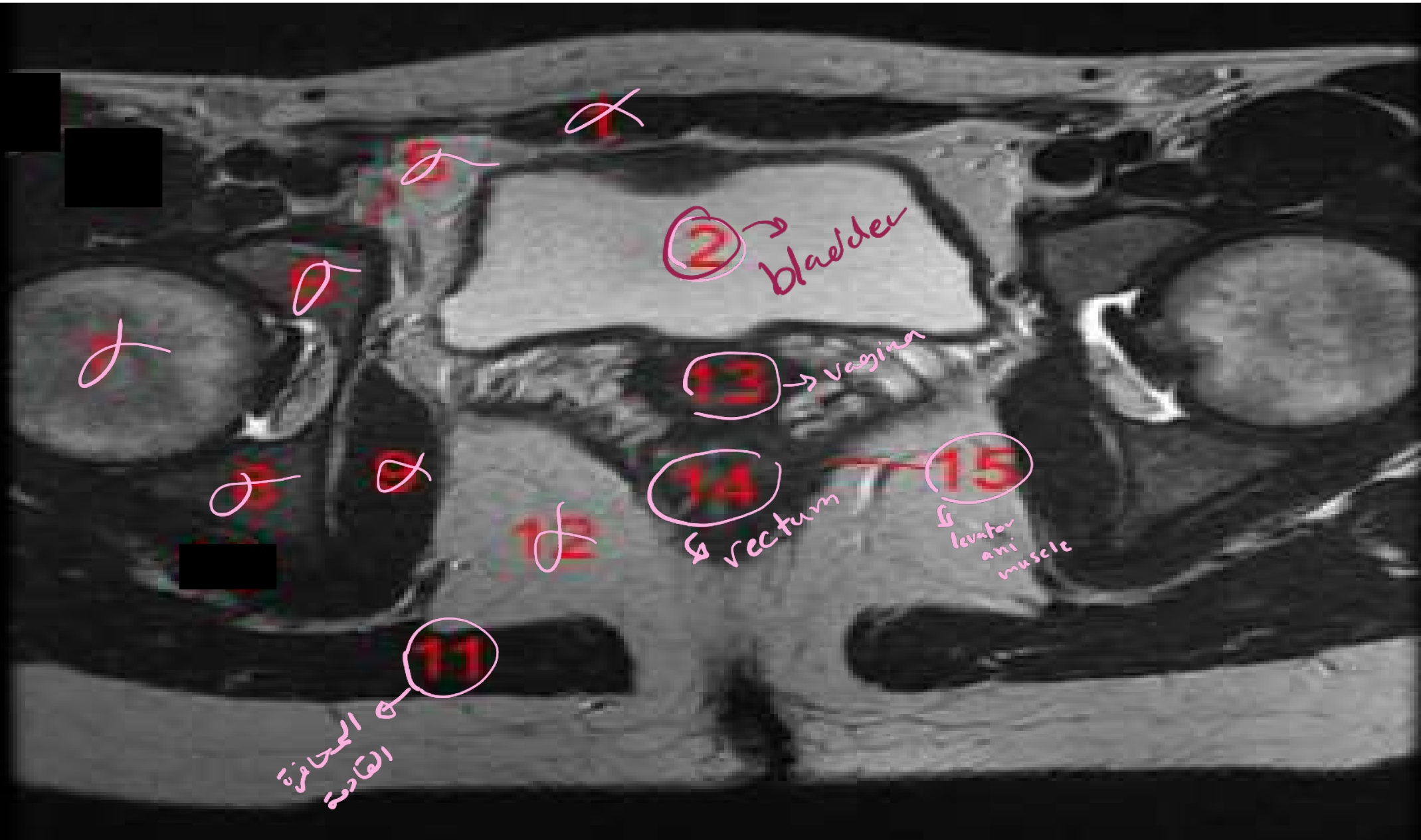
utrovesical pouch





34:00





The uterine tube is related to \_\_\_\_\_ of the ovary

6

31

Answer

▲ Lateral surface

◆ Posterior border

● Lower pole

■ Anterior border

kahoot.it Game PIN: 516597

The uterine tube is related to \_\_\_\_\_ of the ovary

▲ Lateral surface

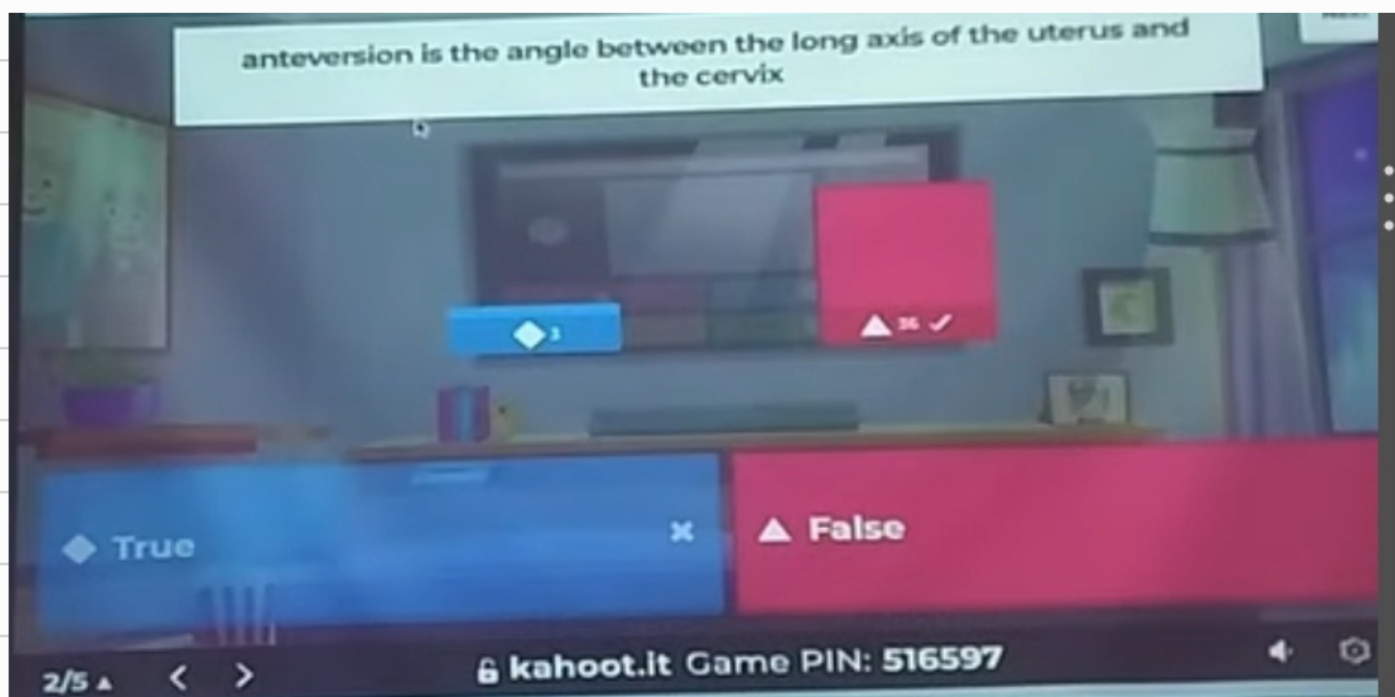
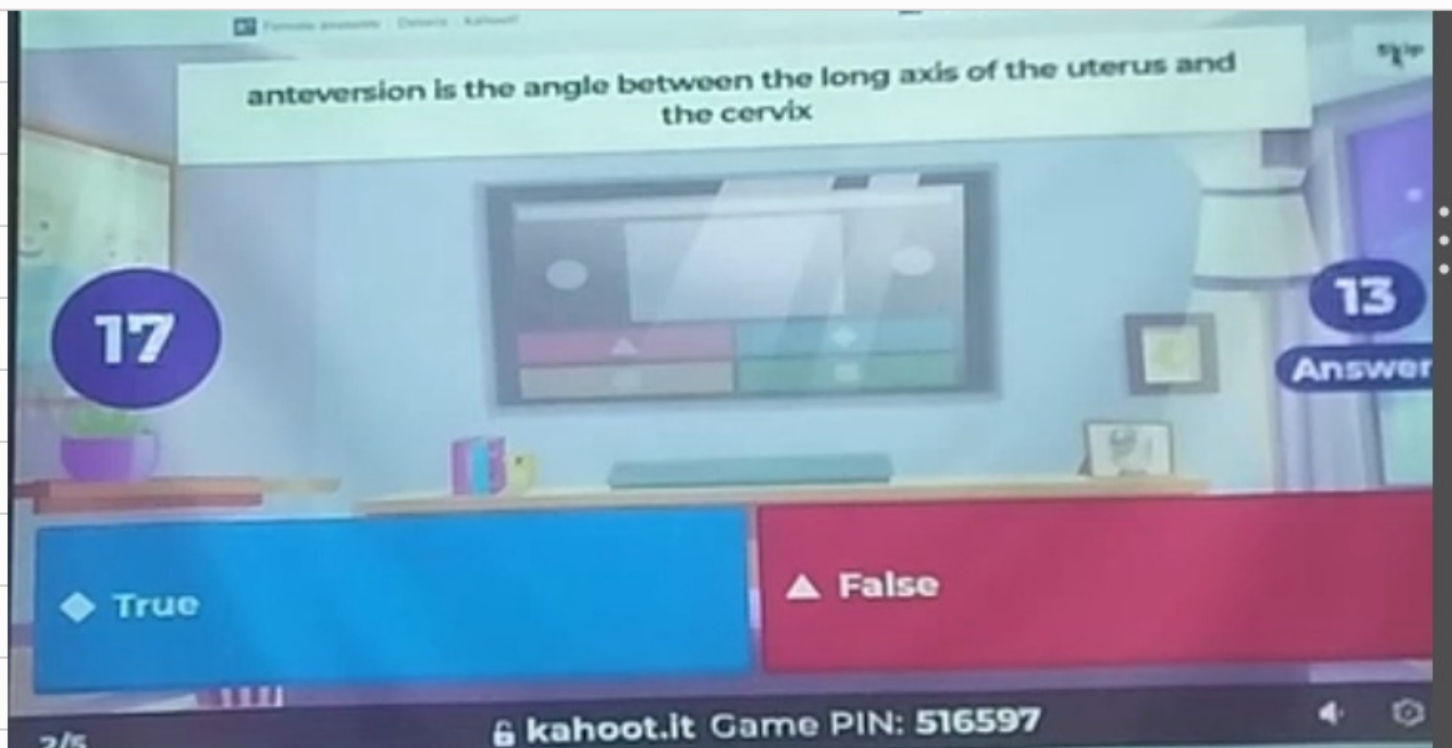
◆ Posterior border

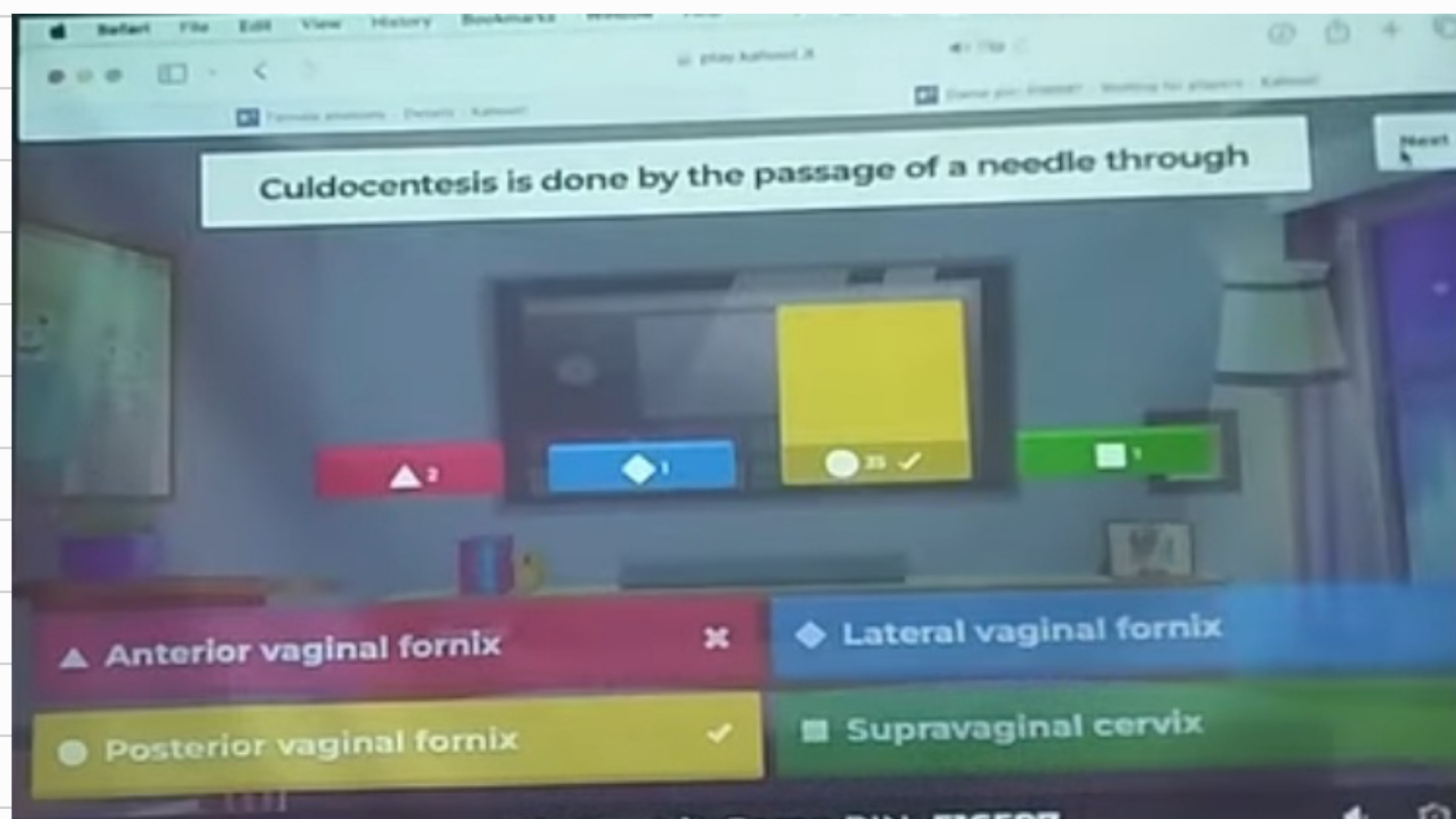
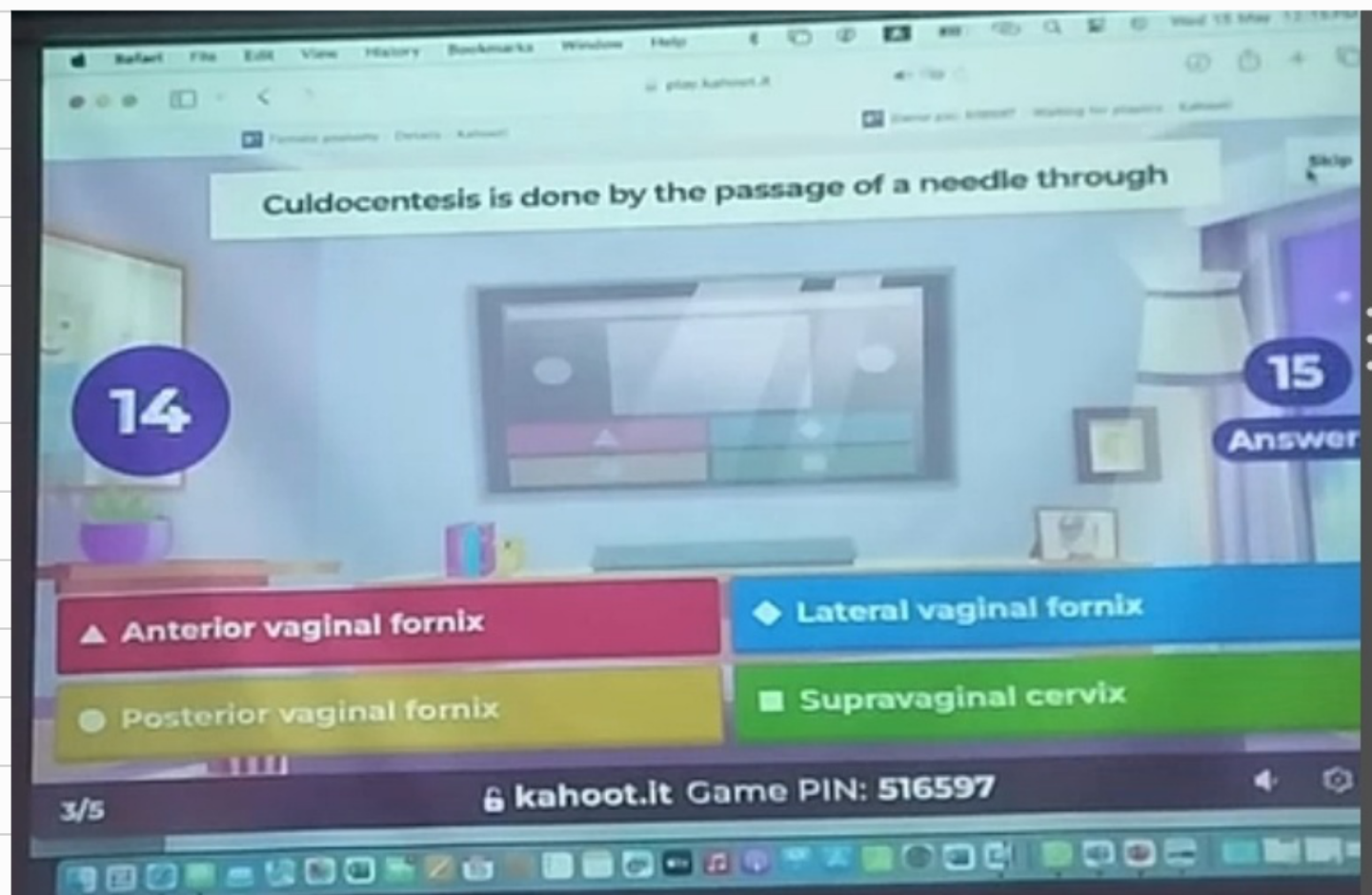
● Lower pole

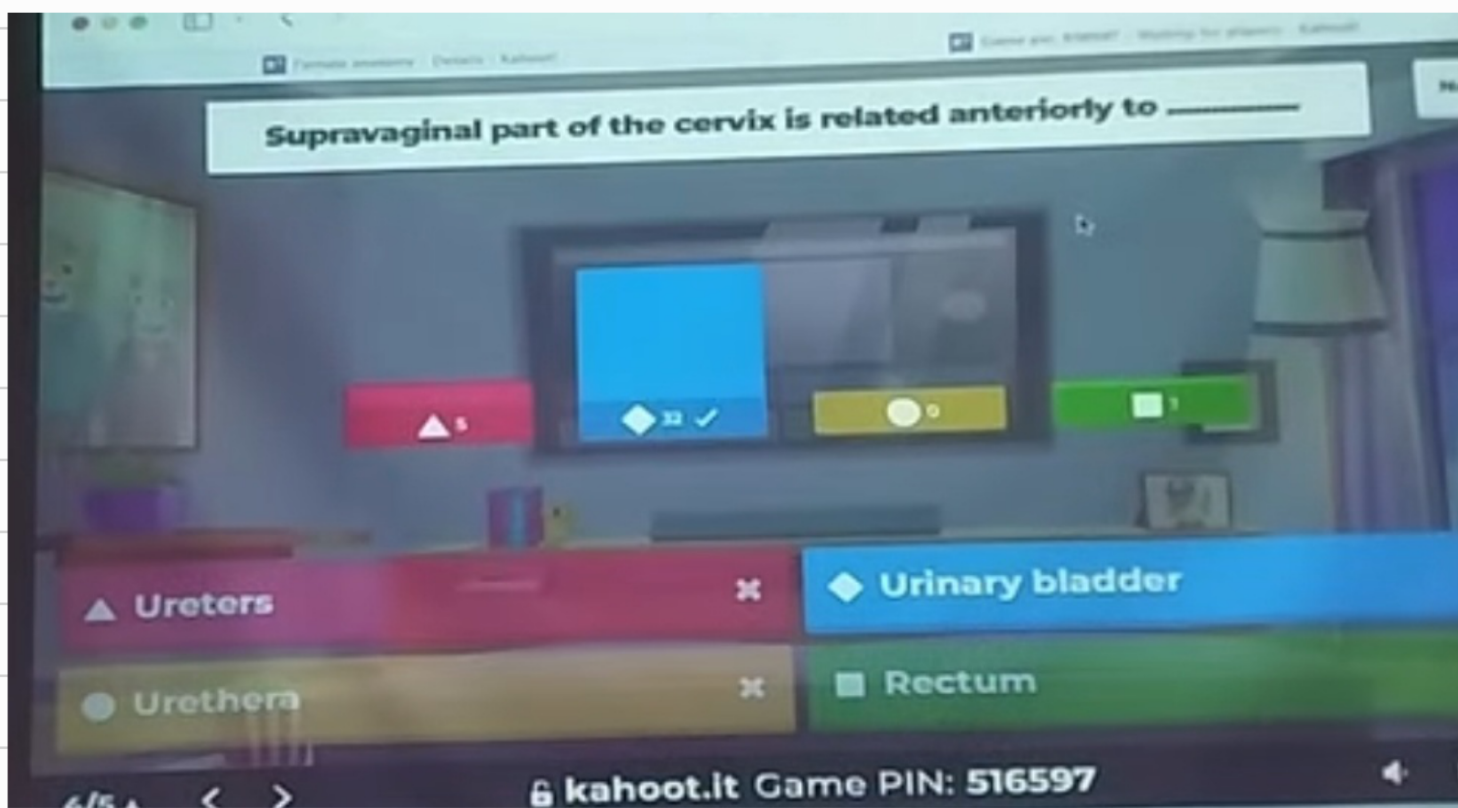
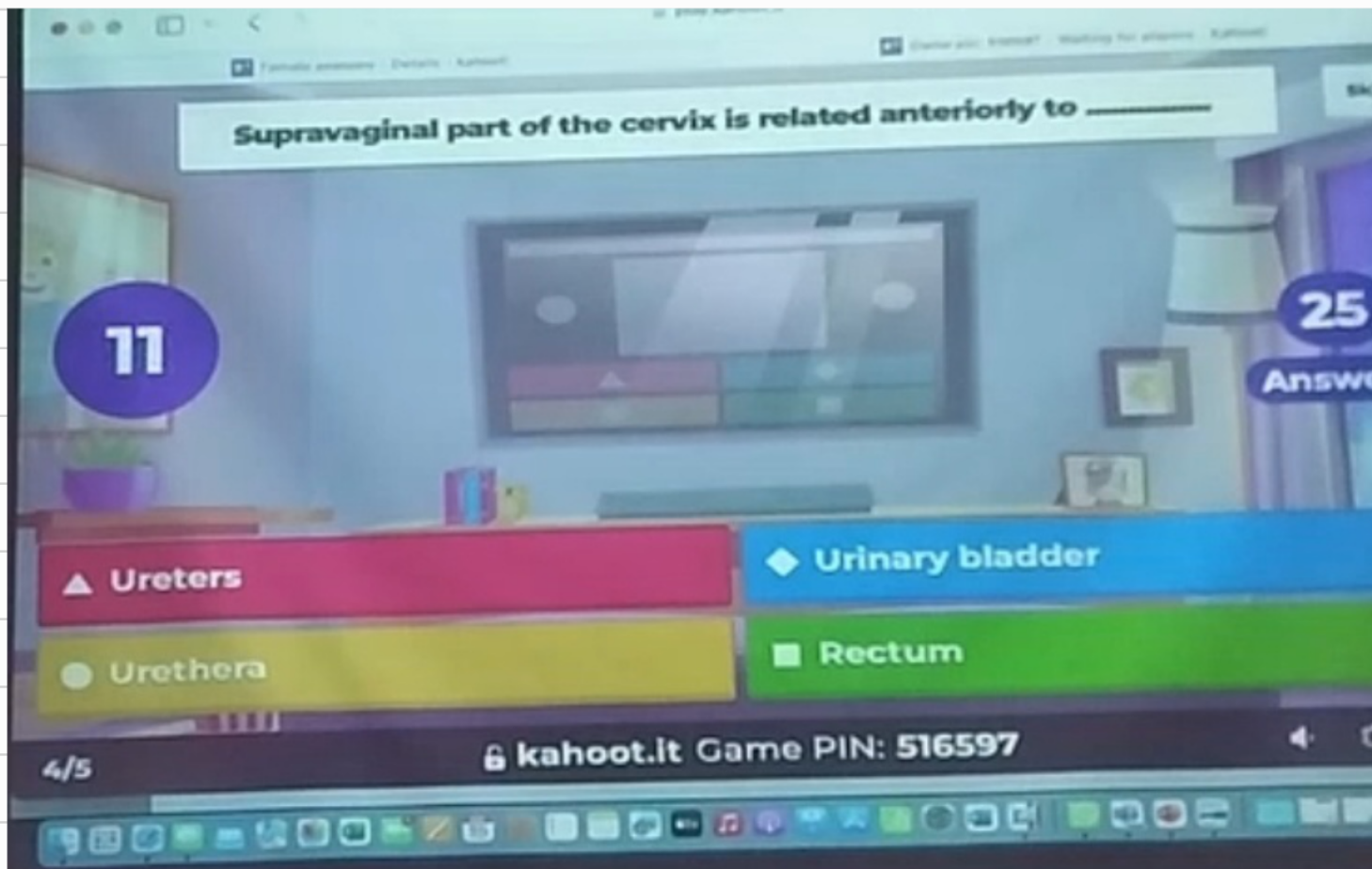
■ Anterior border

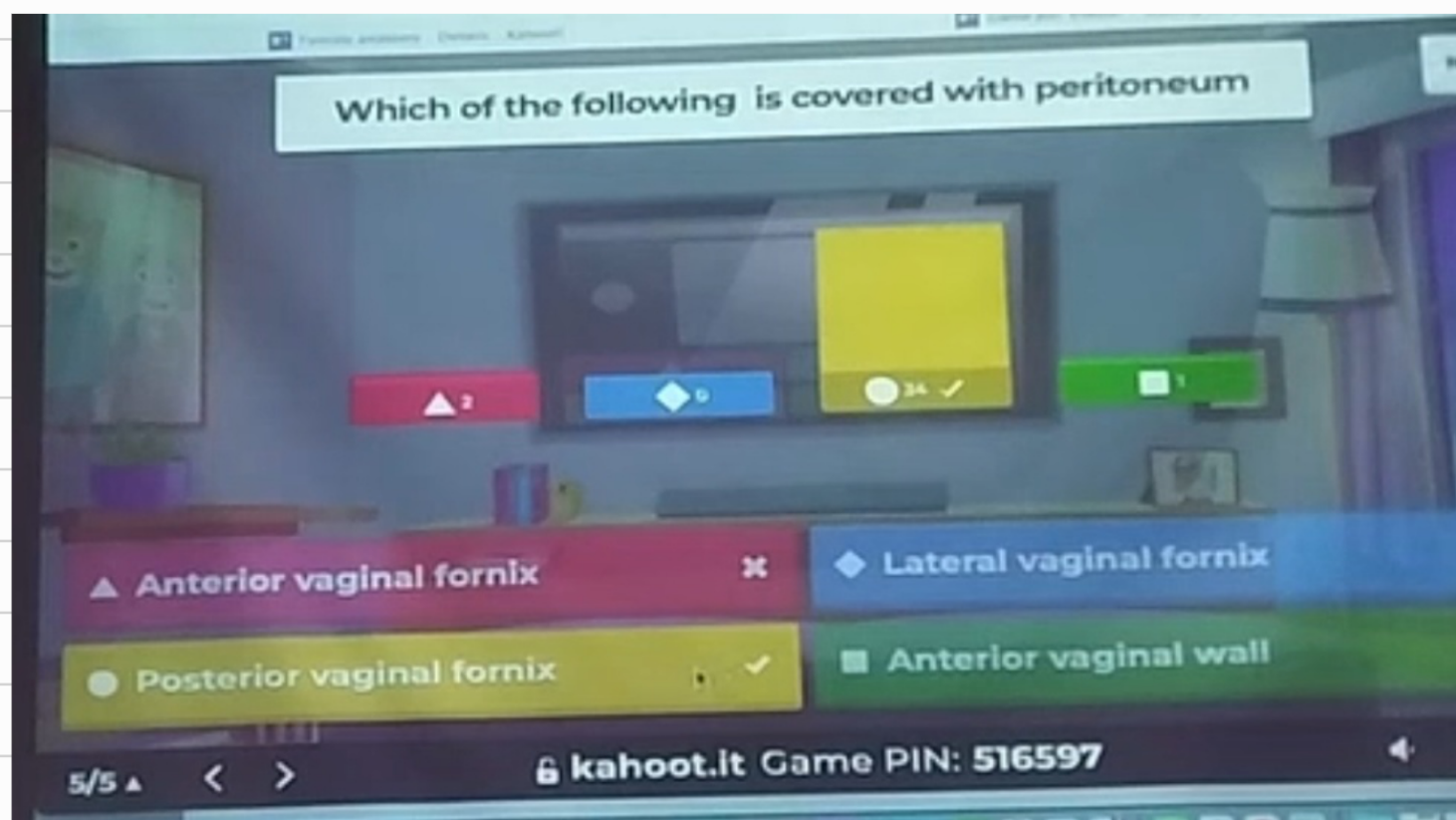
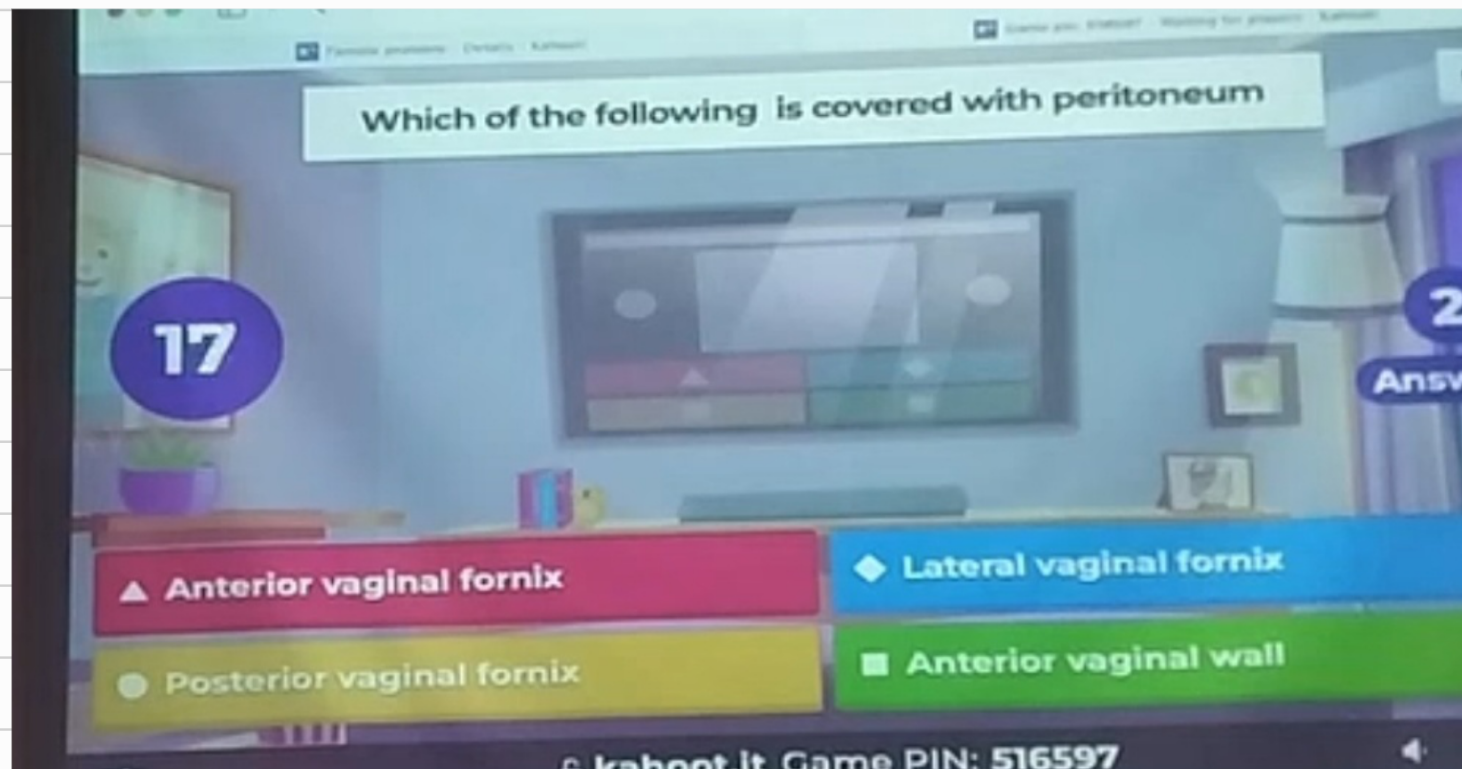
1/5

kahoot.it Game PIN: 516597











**LI**

**6. One of the following is wrong about vagina:**

- A. Perineal body separates it from rectum
- B. The posterior upper  $\frac{1}{4}$  is covered with peritoneum
- C. Lined with stratified squamous epithelium
- D. Posterior to it there is the base of the bladder

Answer: D

**9. All about the uterus is correct except:**

- A. Pear-shaped muscular organ situated in the lesser pelvis between the urinary bladder and rectum.
- B. The uterus is anteverted, anteflexed
- C. Anterior Inferior to the uterotubal junction it is attached to round ligament of uterus
- D. Posterosuperior to the uterotubal junction, it is attached to the round ligament of the uterus.

Answer: D

**10. Choose the WRONG statement:**

- A. Round ligament of the ovary is attached to the ovary's upper pole
- B. The posterior vaginal fornix is covered with peritoneum
- C. The lateral surface of the ovary is related to obturator nerve
- D. The upper part of the lateral vaginal surfaces is related to ureter
- E. Supravaginal cervix is related laterally to the uterine artery crossed by the ureter

Answer: A

**4. Choose the WRONG statement:**

- A. The fundus of uterus is drained by lateral aortic lymph nodes
- B. Round ligament of the uterus and the Uterosacral ligament is maintaining the uterus anteversion
- C. The lower part of lateral wall of the vagina is related to superficial transverse perineal muscle
- D. The lower inch of the vagina is supplied by pudendal nerve
- E. Suspensory ligament of the ovary extends between the superior end of the ovary and side wall of the pelvis

Answer: C

## 15. True about uterine artery:

Answer: tortuous in the broad ligament

## 17. Most common site of ectopic pregnancy?

Answer: Fallopian tube

## 7. Which of the following is covered with peritoneum?

- A. Anterior vaginal fornix
- B. Lateral vaginal fornix
- C. Posterior vaginal fornix
- D. Anterior vaginal wall

Answer: C

L2

## 1. The lower inch of the vagina is supplied by:

- A. Pudendal nerve
- B. Genitofemoral nerve
- C. Pelvic splanchnic nerve
- D. Superior hypogastric plexus
- E. Inferior hypogastric plexus

Answer: A

## 2. All the following structures prevent uterine prolapse, EXCEPT ONE:

- A. Levator ani and coccygeus muscles
- B. Round ligament of the uterus
- C. Mesometrium
- D. Sphincter urethrae and deep transverse perineal muscles
- E. Perineal body

Answer: C

**5. Uterine carcinoma can reach labia majora through:**

- A. lymphatics around round ligament of uterus
- B. lymphatics around round ligament of the ovary
- C. lymphatics around broad ligament
- D. superficial inguinal lymphatics

Answer: A

**7. The 2 embryonic remnants present in the broad ligament are remnants of:**

- A. Mesonephric tubules
- B. Pronephric ducts
- C. Mesonephric ducts
- D. Pronephric tubule
- E. Paramesonephric ducts
- F. 2 of the above

Answer: F

**8. Which ligament extends laterally from the cervix and upper part of the vagina to the side walls of the pelvis?**

- A. Uterosacral ligament
- B. Pubocervical ligaments
- C. Mackenrodt's ligaments
- D. Transverse cervical ligaments
- E. Two of the above

Answer: E

**11. Which of the following ligaments is attached to the body of uterus?**

- A. Pubocervical ligaments
- B. Transverse cervical ligaments
- C. Broad ligament
- D. Uterosacral ligaments
- E. More than one of the above

Answer: C

**13. Wrong about cervix of ureter?**

Answer: Kept in position by uterosacral ligament

**14. True about uterus:**

Answer: lower uterine segment is part of the cervix

**16. True statement?**

Answer: Uterine carcinoma can reach labia majora through lymphatics around round ligament of uterus

**3. Anteversion is the right angle between the uterus and the vagina?**

- A. True
- B. False

Answer: A

**5. The round ligament of the ovary is attached to the ----- aspect of the uterotubal junction.**

- A. Posterior superior
- B. Anterior inferior
- C. Posterior inferior
- D. Anterior superior

Answer: A

**8. During per rectal examination in females which of following structures can't be felt:**

- A. Cervix
- B. Sacrum
- C. Coccyx
- D. Urinary bladder
- E. Vagina

Answer: D

**9. Which of the following statements are incorrect:**

Answer: pelvic abscess is drained through the anterior vaginal wall

دعواتكم ♥



اسمعوا قرا  
! إذا ما بتدرسو  
منيح بقتلكم



يلا ادرسو  
انا بدي اخذ برونك  
هسايه