

★ Note: only things written / marked in Blue are required; anything else is to make your life easier: /  
Anyways, finish this lab already.



The University Of Jordan  
Faculty Of Medicine



# Male Genital system Practical

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*Handwritten signature: Hala Abu SBY*

### Checklist 3rd practical Male Genital system

- Scrotum and its layers ✓
- Testis ✓
- Epididymis (parts) ✓
- Spermatic cord, its contents ✓
- Vas deference ✓
- Seminal vesicles ✓
- Ejaculatory ducts ✓
- Prostate ✓
- Internal structure of the penis (root ,corpora ,bulb ) ✓
- Parts of male urethra ✓



\* imp to keep in mind for easy memorizations :-

→ Scrotum & testes we must regulate temp. for spermatogenesis how?

no fat to facilitate heat loss

mainly → muscles to contr/relax

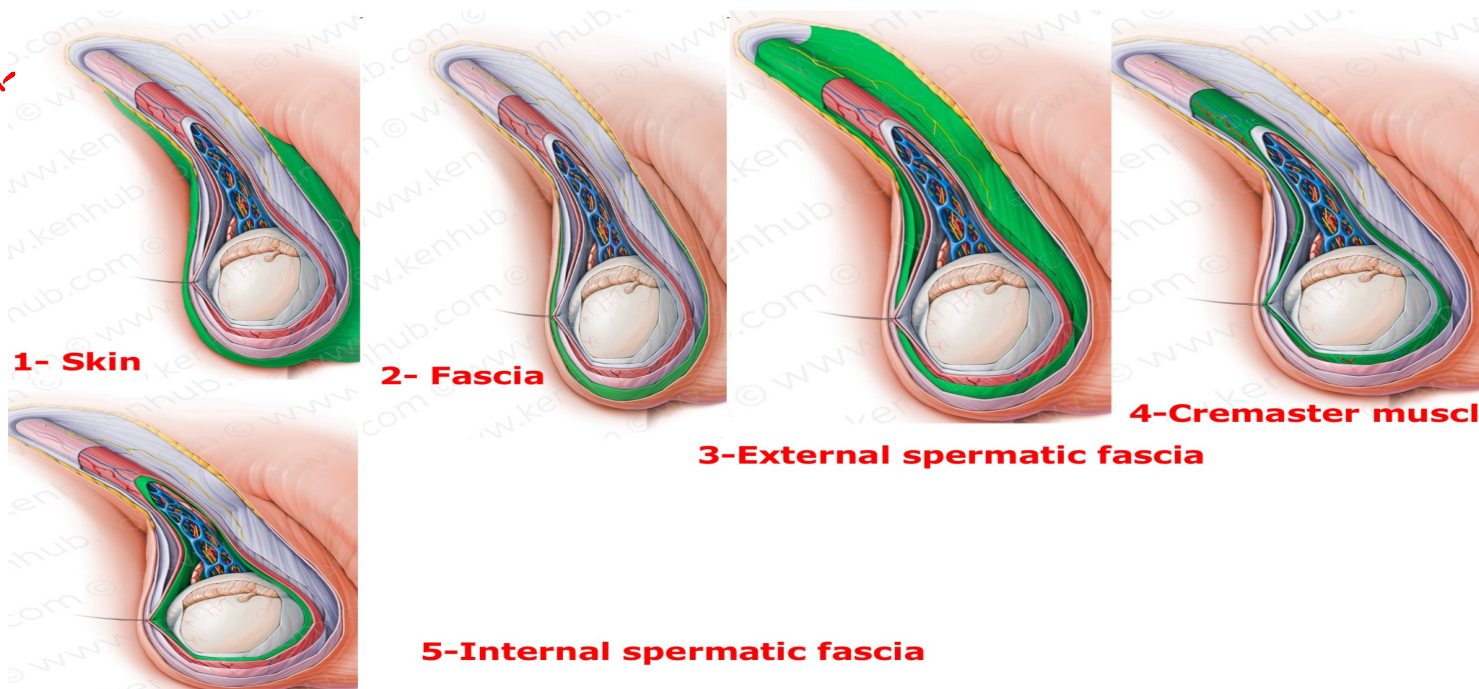
## ➤ Scrotum and its layers

\* Bag of skin outside the body why? needs thermoregulation

\* Content? Testis, Epididymis (who cares about the spelling? not me. anyway!)  
Part of vas deferens.

Layers of the anterior abdominal wall	Layers of the scrotum
Skin	Skin
* Superficial fascia :- (divided to 2 parts) ① Superficial fatty layer ② Deep membranous layer (Scarpa's fascia)	* Superficial fascia :- ① Replaced by <u>Dartos muscle</u> ② Deep membranous layer (Fascia of Colles)
External oblique muscle	External spermatic fascia
Internal oblique muscle	<u>Cremastric muscle and fascia</u>
Transversus abdominis *TAN"	<u>No corresponding layer</u>
Transversus fascia	Internal spermatic fascia
Extraperitoneal tissue ✓	Loose connective tissue ✓
Peritoneum ✓	<u>Tunica vaginalis around the testis ✓</u>

\* Extra Tip For Clarification :-



- **Testis** → \* Remember, it developed in abdomen & descended  
so peritoneum (Tunica Vaginalis) covers all parts except :- Posterior.
- **Epididymis (parts)** → Head, Body, Tail. ↳ like all coverings it has  
Parietal & visceral layers & serous space.

Vestige Tip of Proccus Vaginalis 1

8 Vas deferens

Straight Tubule 2

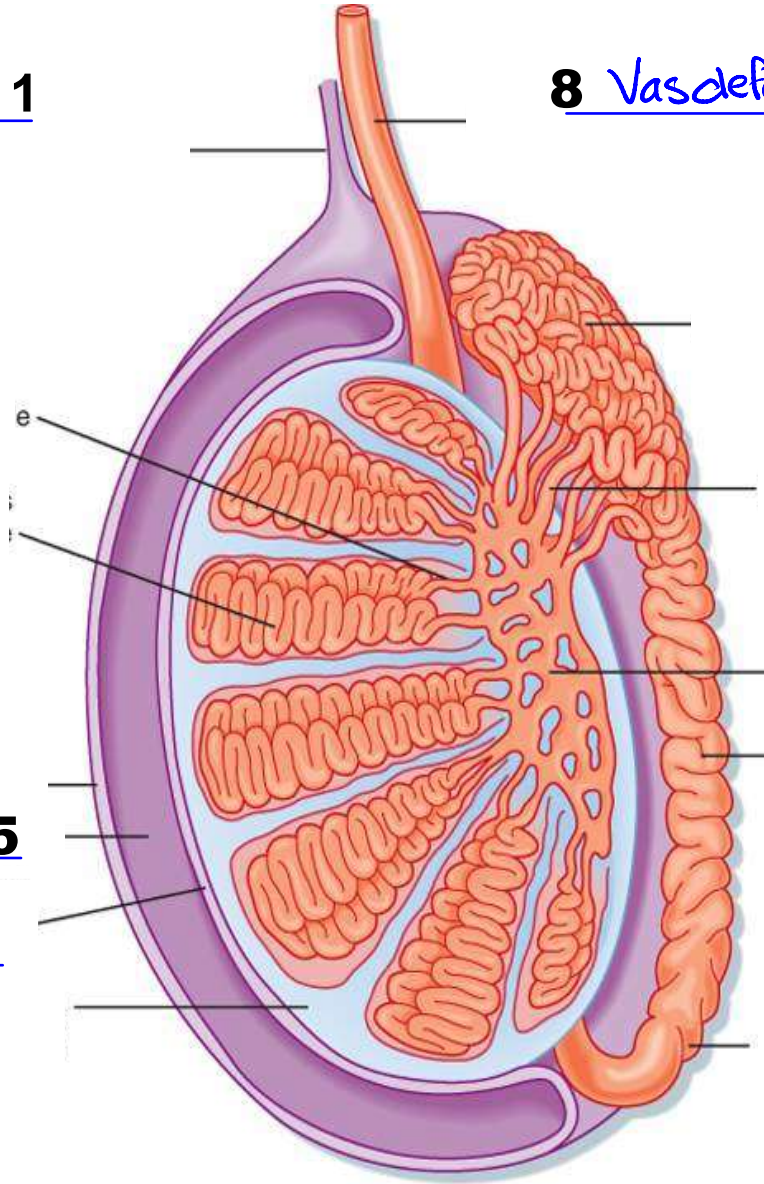
Seminiferous Tubules 3

Parietal layer of  
Tunica Vaginalis 4

Cavity of Tunica V 5

Visceral layer of Tunica  
Vaginalis 6

Tunica Albuginea 7



9 Head of Epididymis

10 Efferent Ductules

11 Rete Testis

12 Body of Epididymis

13 Tail of Epididymis

↳ passes posterolateral  
to testis &  
continues as  
vas deferens.

## ➤ Spermatic cord, its contents

[2] Spermatic Cord:- group of structures extending from deep inguinal ring & transverse inguinal canal to reach testis

N, A, V, L

⇒ include:-

\* Genital branch of genitofemoral N \*

\* Artery of vas \*

\* Pampiniform plexus of veins \*

\* loose areolar tissue \*

\* Symp. plex with A of vas \*

\* Testicular Artery \*

\* Vestige of processus vaginalis \*

\* lymph. of epid. & testis \*

\* Cremasteric Artery \*

\* vas deferens \*

## ➤ Vas deference

## ➤ Seminal vesicles

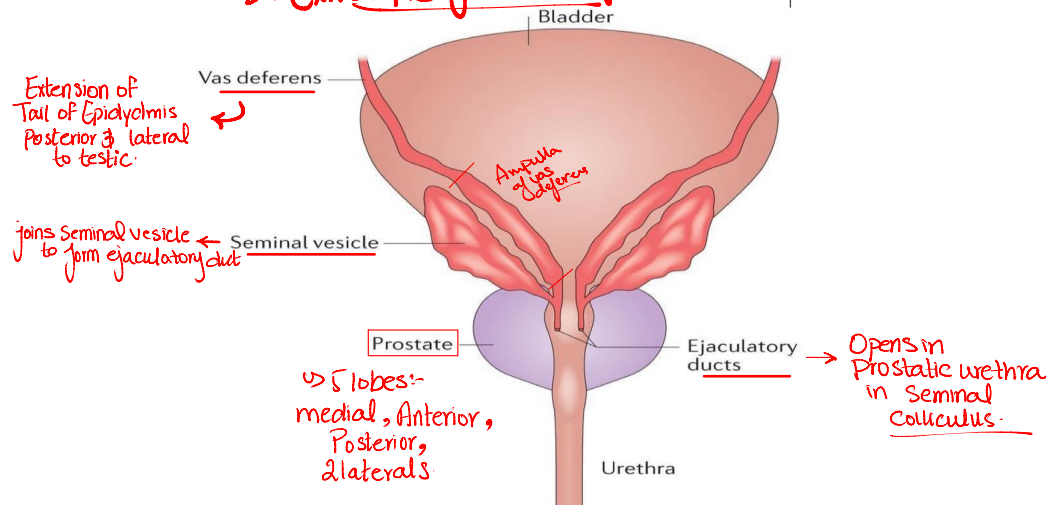
## ➤ Ejaculatory ducts

## ➤ Prostate

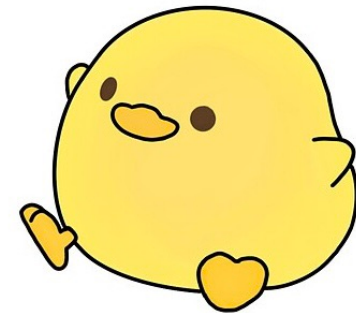
(Topics or details were mentioned regarding these so I don't think the doctor will ask about them)

↳ Let's take a quick look!

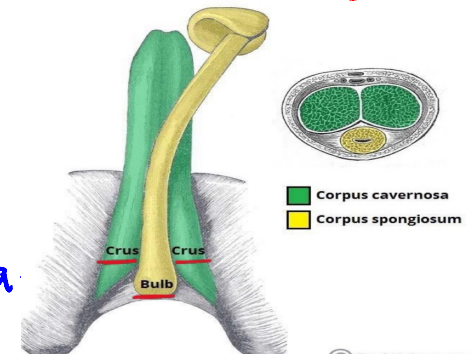
★ Extra Pic for clarifi



What The



★ Extra Pic for clarifi



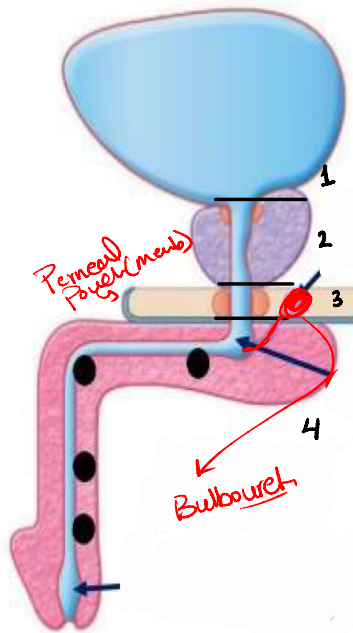
## ➤ Internal structure of the penis (root, corpora, bulb)

↳ \* 2 crus that continues as corpora cavernosa  
\* 1 bulb that continues as corpora spongiosum & contain urethra



# ➤ Parts of male urethra → The writing isn't blue but it's required:)

Male: 20 cm. long & consists of 4 parts → 2 in pelvis  
→ 2 in perineum.



**1- Preprostatic part of urethra**:- lies between neck of urinary bladder & Base of prostate gland.  
→ contains sphincter vesicae (internal)

- Smooth muscles fibers
- Involuntary
- Autonomic N. of inf. hypogast. plexus

**2- Prostatic part of urethra**:- (widest)

transverse deep between apex & base of prostate gland.

→ in post wall it contains urethral crest (median elevation.)

\* surrounded by shallow depressions:-

→ has a prominence in midline

prostatic sinuses → opening of prostatic ducts.

Seminal colliculus contains 3 opening:-  
prostatic urethra & 2 ejaculatory ducts.

- well developed in all
- F(x):- maint. of urine + prevent semen reflux in males.

**3- Membranous part of urethra** (narrowest & least dilatable)

→ Transverse the perineal pouch

→ calculus block.

→ contains sphincter urethra (external)

- Striated muscle fibers
- Voluntary

external & internal iliac. nodes  
deep & sup. inguinal nodes

→ Somatic: S. plexus → Pud. N.  
→ Perineal N.

**4- Spongy part of urethra: Penile**

→ Bulb of penis & corpus spongiosum

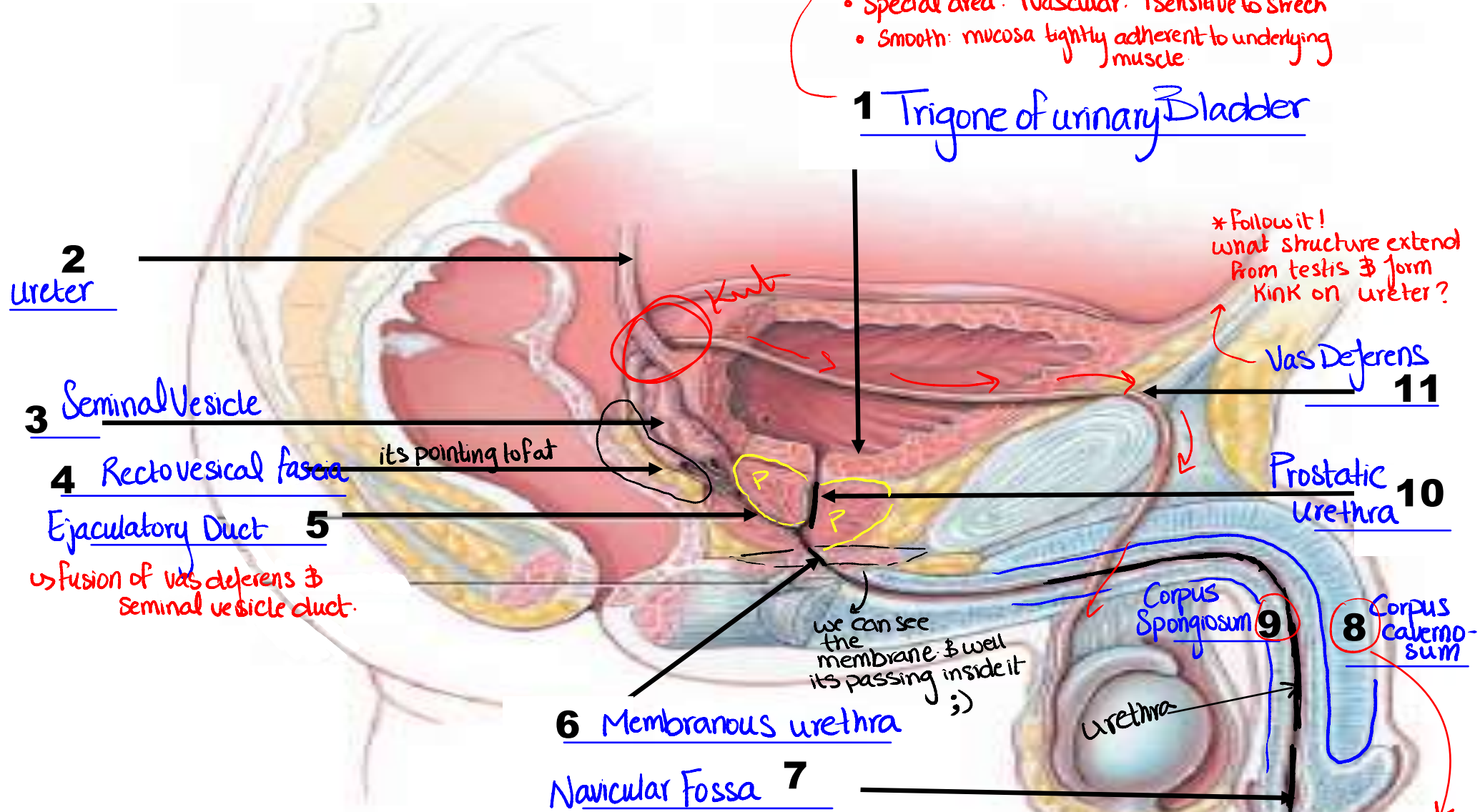
- well developed in males
- F(x):- maintain. of urine.

→ 2 dilations:-

A. Intrabulbar fossa:- at beginning & receives duct of bulbourethral gland.

B. Navicular fossa

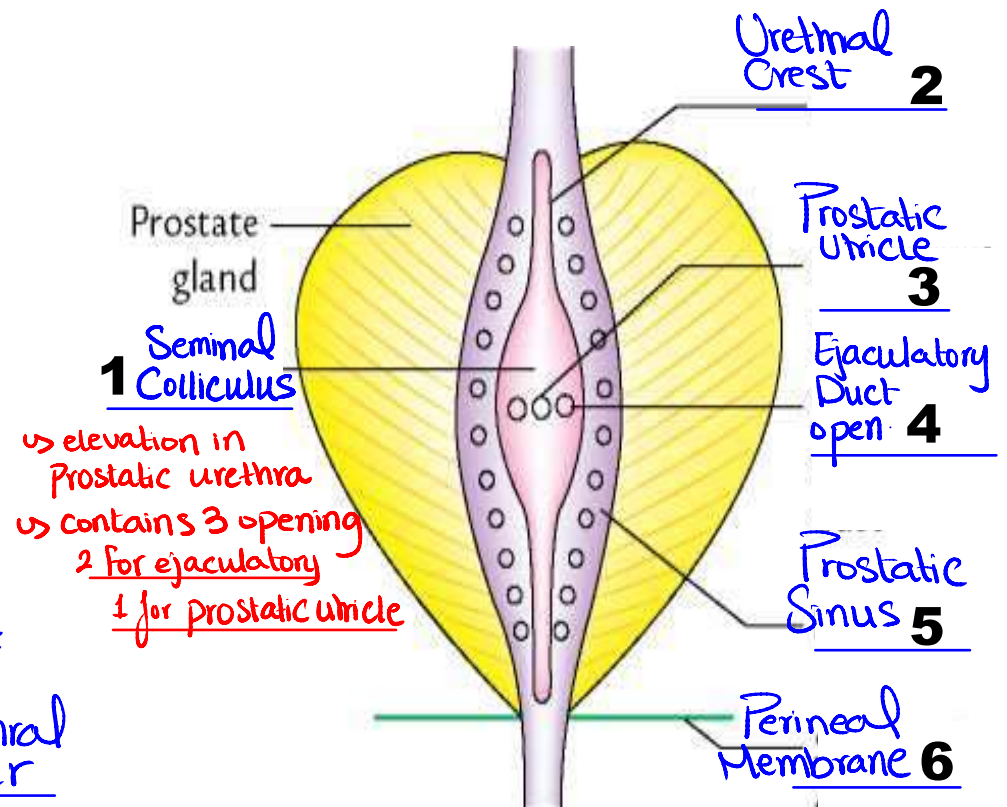
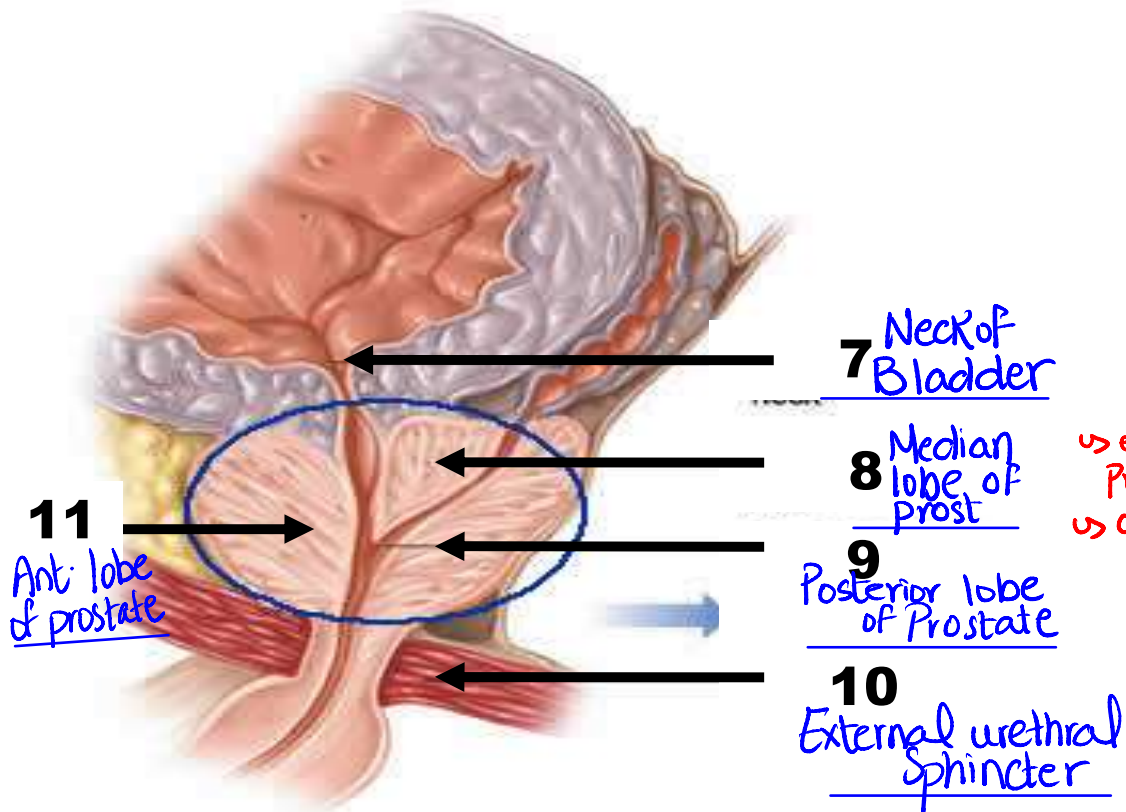
\* No, it's not hard it's a simple pic but focus 



\* We can see 2 compartments how to differentiate?  
as we know we have  
- 2 crus → give corpus cavernosum  
    &  
- 1 bulb → gives corpus spongiosum  
    & well we have 1 urethra so its inside C.S.

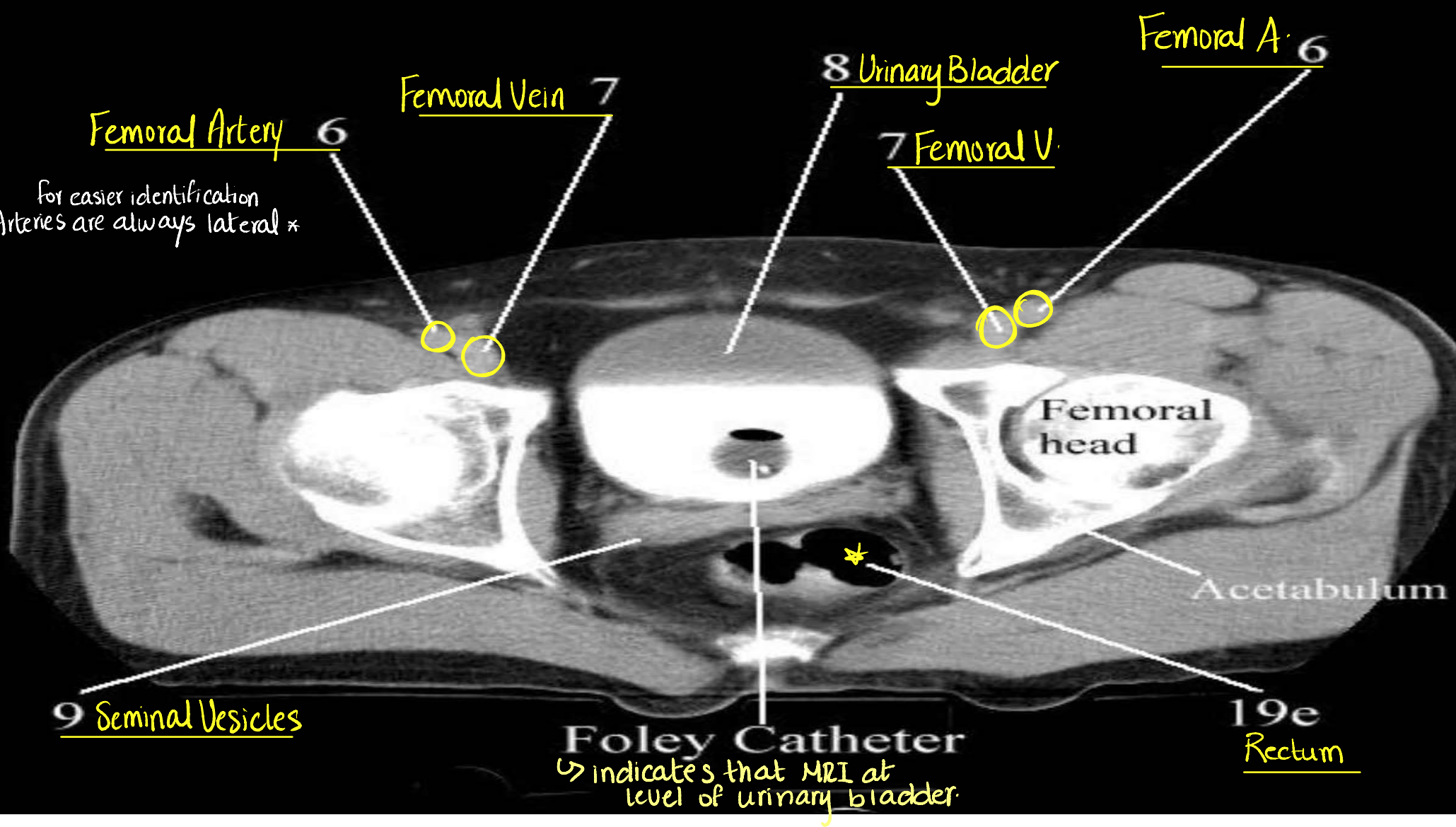


Side View



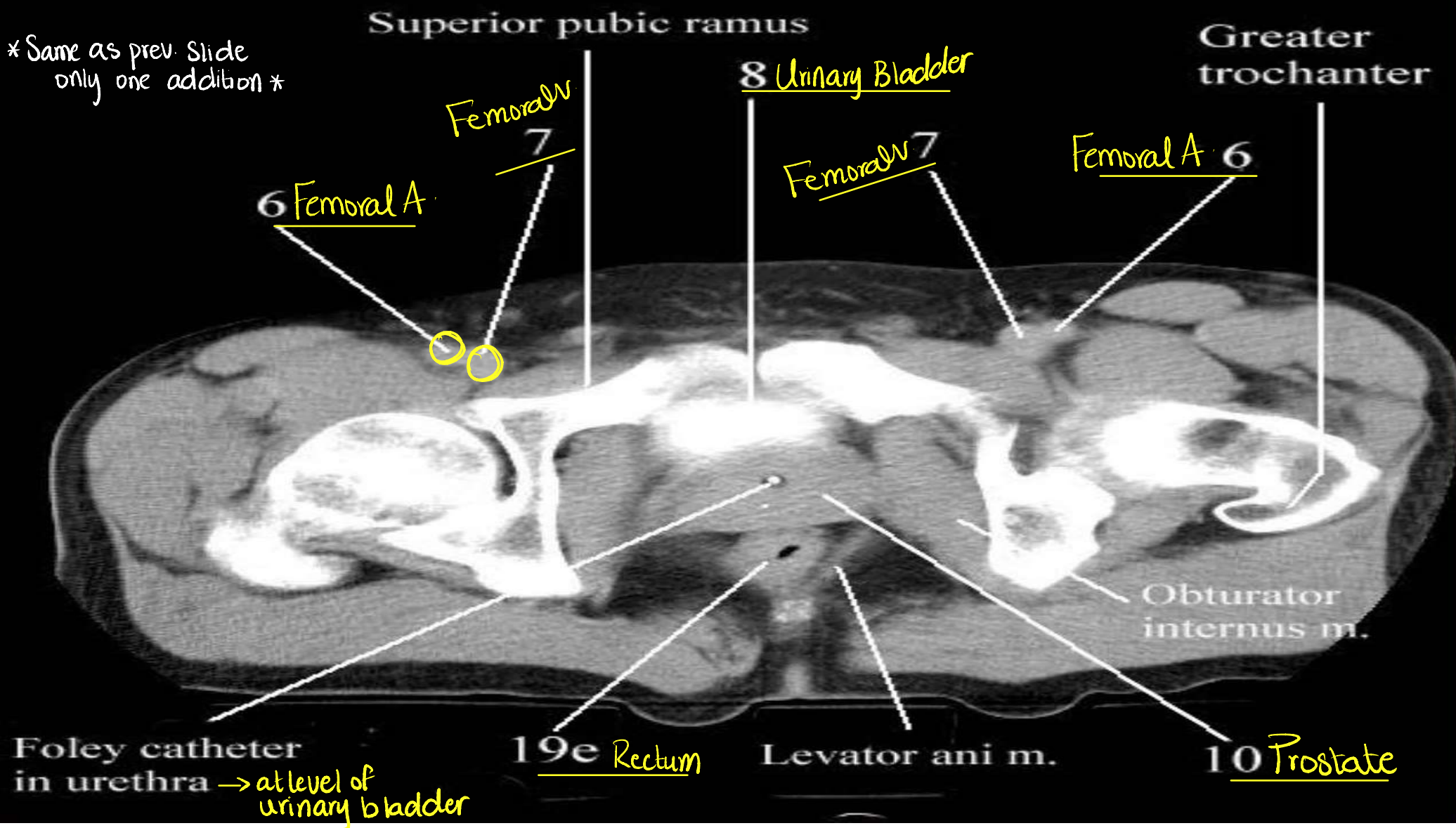
\*The writing is yellow!! Yayyy not required!  
Embala it's required yalla finish up 😊

# MRI OF PELVIS



# CT SCAN

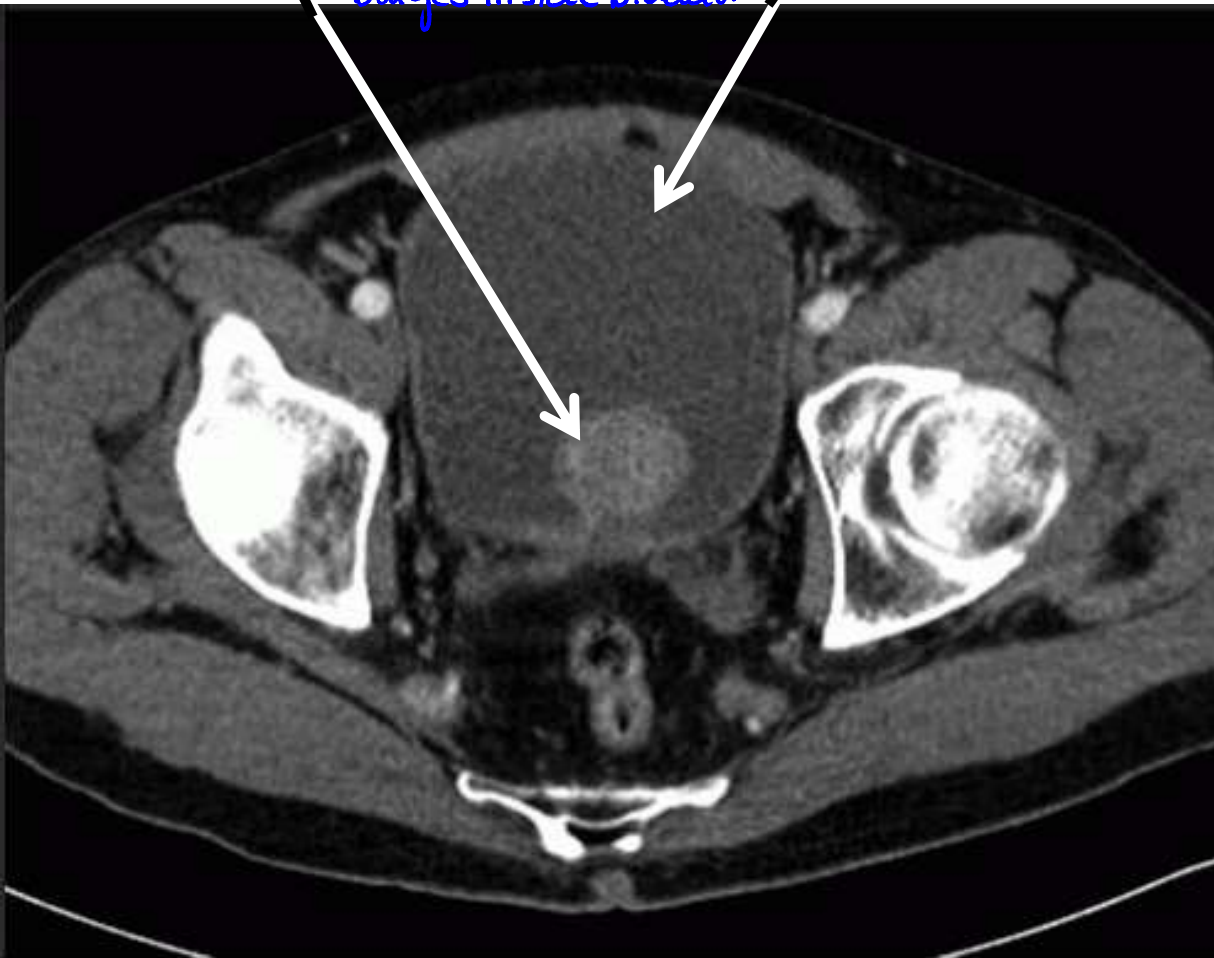
\* Same as prev. slide  
only one addition \*



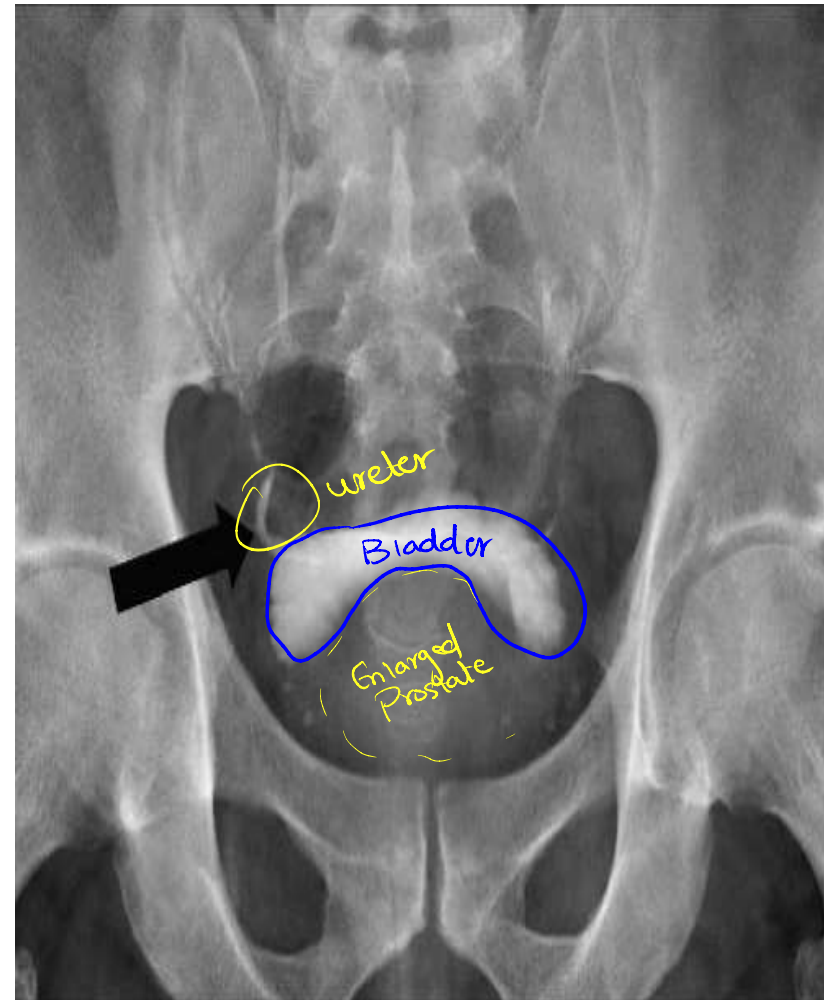


## CT Scan

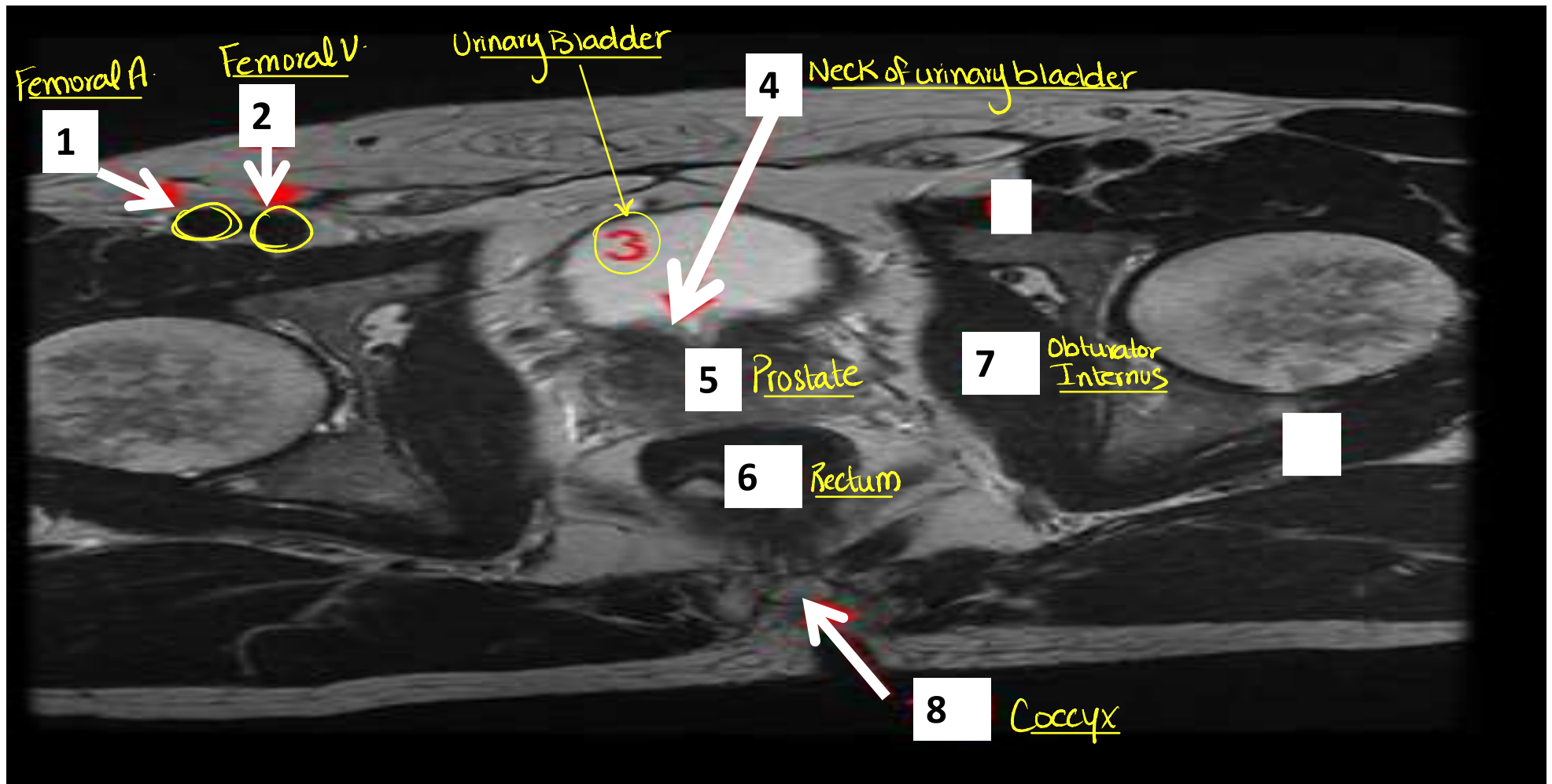
- 2 Enlarged Prostate  
Bulges inside bladder
- 1 urinary Bladder



## IVU.



↳ Enlarged prostate occupies  
large region of bladder.



Okay you can take a  
Short break !!  
I said Short not 3 hours ☹️





\* Moving On:-

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# Female Genital system and Perineum Practical

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### 4<sup>th</sup> Practical Check list

1. Ovaries ;surfaces ,poles ,ligaments ,relation, blood supply ✓
2. Uterus ;parts ,position, relation ,peritoneal covering ,blood supply ✓
3. Ligament of the uterus ✓
4. Cervix ,vagina ,vaginal fornices (covered in pictures)
5. Superficial ,deep perineal pouches ,boundaries ,contents ✓
6. Ischiorectal fossa ; boundaries ,contents ✓

# 1. Ovaries ; <sup>①</sup>surfaces , <sup>②</sup>poles , <sup>③</sup>ligaments , <sup>④</sup>relation , <sup>⑤</sup>blood supply

④ **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

Laterally: Obturator nerve

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

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## ① **Surfaces of the Ovary:**

**Lateral surface:** is related to the parietal peritoneum of the ovarian fossa which separates the ovary from obturator nerve and vessels.

**Medial surface:** is related to the uterine tube.

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## ② **Ends of the Ovary :**

**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**. This ligament brings blood and nerve supply from pelvic wall to the ovary.

**Inferior (uterine) end** : it is connected to superior aspect of the uterotubal junction (junction between fallopian tube and uterus) by the **round ligament of the ovary** (or ovarian ligament) which runs within the broad ligament .

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## ③ **Ligaments of the ovary**

1. **Round ligament of the ovary** (Ovarian ligament) : extends between the uterine end of the ovary (lower pole) and uterotubal junction.

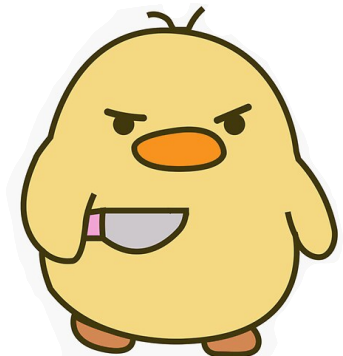
2. **Mesovarium** : is a short peritoneal fold between the anterior border of the ovary and posterior layer of the broad ligament. It contains the hilum of the ovary

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).

## ⑤ **Arterial Blood Supply:**

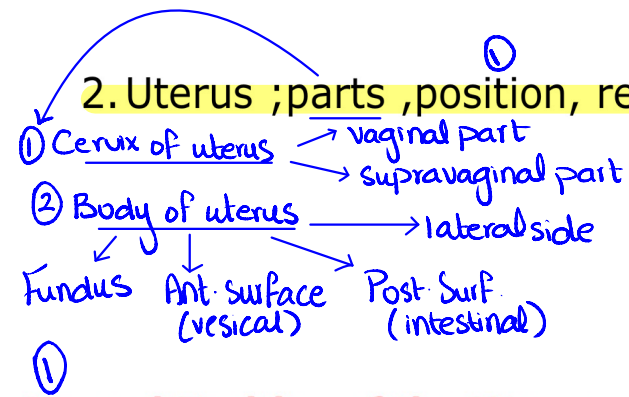
- By the ovarian artery (gonadal artery) .
  - The ovarian artery arises from the abdominal part of the aorta at the level L2. This is due to the fact that ovaries developed in abdominal cavity then descended to the pelvis like testis.
  - The artery passes through the suspensory ligament of the ovary, 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.

you better not



\*refer slides for relations of uterus\*

## 2. Uterus ; parts , position , relation , peritoneal covering , blood supply



### ② 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.

### ① 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  $170^\circ$

### ③ Arterial Blood Supply: by **uterine artery** (from *internal iliac artery*)

- 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)**

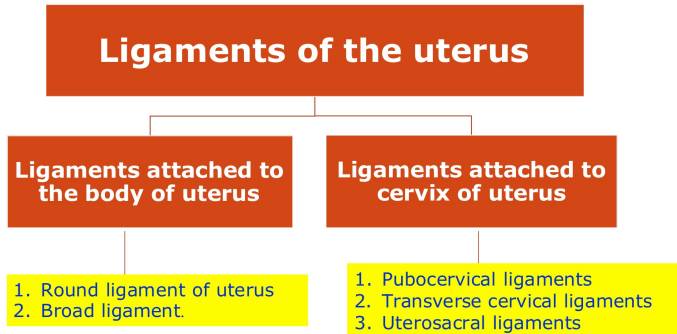
**So The ureters are at great risk during surgical procedures on the uterus and ovaries.**





✳ Zoom in for better view!

### 3. Ligament of the uterus



#### 1 Round ligament of the uterus :

It extends from anteroinferior aspect of the uterotubal junction to the subcutaneous tissue of the labia majora. (So the direction from anterior to inferior )

#### 2. The broad ligament :

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

#### Ligaments attached to cervix of uterus

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

**2. Transverse (lateral) 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 fornices to the front of S2, S3 vertebrae.

### 5. Superficial ,deep perineal pouches ,boundaries ,contents

#### Deep Perineal pouch :

##### Boundaries :

**Floor :** Perineal membrane (inferior fascia of urogenital diaphragm)

**Roof:** Inferior fascia of pelvic diaphragm (levator ani)

**On either side :** Obturator fascia.

**Posteriorly :** The pouch is closed by union of roof and floor.

**Anteriorly :** The pouch is closed by union of roof and floor below symphysis pubis to form the transverse perineal ligament.

#### Contents of Deep Perineal pouch

	Male	Female
<b>Urogenital Structures</b>	<ul style="list-style-type: none"> <li>Membranous urethra</li> <li>Bulbourethral glands</li> </ul>	<ul style="list-style-type: none"> <li>Part of the urethra</li> <li>Part of vagina</li> </ul>
<b>Muscles</b>	<ul style="list-style-type: none"> <li>Sphincter urethrae</li> <li>Deep transverse perineal muscles (These two muscles form the urogenital diaphragm.)</li> </ul>	
<b>Vessels</b>	<ul style="list-style-type: none"> <li>Internal pudendal A.</li> <li>Artery of bulb.</li> <li>Urethral A.</li> <li>Perineal A.</li> </ul>	<ul style="list-style-type: none"> <li>Internal pudendal A.</li> <li>Artery of bulb of vestibule.</li> <li>Perineal A.</li> </ul>
<b>Nerves</b>	<ul style="list-style-type: none"> <li>Dorsal N. of penis.</li> <li>Perineal N.</li> </ul>	<ul style="list-style-type: none"> <li>Dorsal N. of clitoris.</li> <li>Perineal N.</li> </ul>

**N.B. :** the greater vestibular glands of the female lie in the superficial perineal pouch, the bulbourethral glands of the male lie in the deep perineal pouch

#### Superficial Perineal Pouch:

##### Boundaries :

**Floor :** Membranous layer of the superficial fascia of the perineum (Colles fascia).

**Roof :** Perineal membrane.

**On either side :** both roof and floor are attached to the side of the pubic arch .

**Posteriorly :** The pouch is closed by union of the roof and floor.

**Anteriorly :** The pouch is opened and continuous with the interval between the membranous layer of anterior abdominal wall and the external oblique aponeurosis

#### Contents of Superficial Perineal Pouch

	Male	Female
<b>Urogenital Structures</b>	<ul style="list-style-type: none"> <li>Root of penis (2 crura +Bulb)</li> <li>Penile urethra in corpus spongiosum (bulb of penis)</li> </ul>	<ul style="list-style-type: none"> <li>Root of clitoris (2 crura)</li> <li>Two bulbs of vestibule</li> <li>Greater vestibular glands.</li> </ul>
<b>Muscles</b>	<ul style="list-style-type: none"> <li>Two ischiocavernosus muscles cover the 2 crura</li> <li>Bulbospongiosus muscle covers bulb of penis.</li> <li>Two superficial transverse perineal muscles.</li> </ul>	<ul style="list-style-type: none"> <li>Two ischiocavernosus</li> <li>Bulbospongiosus muscle</li> <li>Two superficial transverse perineal muscles.</li> </ul>
<b>Vessels</b>	<ul style="list-style-type: none"> <li>Dorsal A. of penis.</li> <li>Deep A. of penis.</li> <li>Two scrotal arteries</li> </ul>	<ul style="list-style-type: none"> <li>Dorsal A. of clitoris.</li> <li>Deep A. of clitoris.</li> <li>Two labial arteries.</li> </ul>
<b>Nerves</b>	<ul style="list-style-type: none"> <li>Dorsal N. of penis.</li> <li>Two scrotal nerves</li> </ul>	<ul style="list-style-type: none"> <li>Dorsal N. of clitoris.</li> <li>Two labial nerves</li> </ul>

### 6. Ischiorectal fossa ; boundaries ,contents

#### Boundaries : It has

**1. Apex :** it is the origin of levator ani from the lateral pelvic wall (White line)

**2. Base :** skin on either side of the anal orifice (skin of the base is supplied by inferior rectal N.).

**3. Anteriorly :** the posterior border of the perineal membrane

**4. Posteriorly :** sacrotuberous ligament covered by lower border of gluteus maximus muscle.

**5. Lateral wall :** is vertical formed by :

➤ Lower part of obturator internus muscle and lower part of obturator fascia splitting to form pudendal canal.

➤ Medial surface of ischial tuberosity.

**6. Medial wall :** formed by :

➤ Levator ani muscle (lower surface).

➤ External anal sphincter.

#### Contents of Ischiorectal fossa :

1. Pudendal nerve.

2. Internal pudendal vessels.

3. Inferior rectal nerve.

4. Inferior rectal vessels.

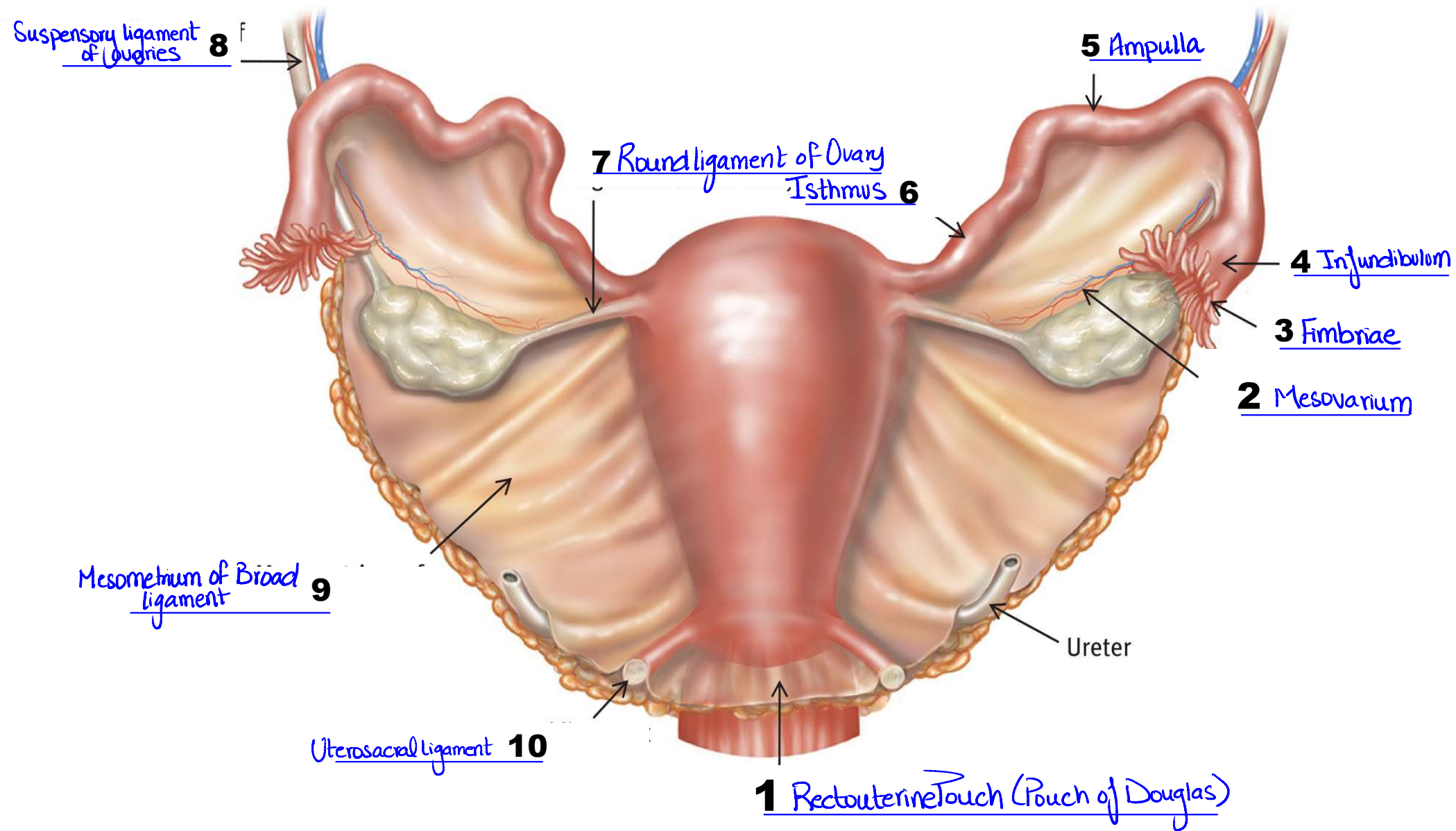
5. Posterior scrotal nerves.

6. Posterior scrotal vessels.

7. Perforating cutaneous N. (S2, S3) .

8. Pad of Fat : It is rich in fibroelastic fibres and has two functions :





Rectouterine Pouch  
of Douglas

**1**

Round ligament of Ovary

**5**

Vesicouterine Pouch

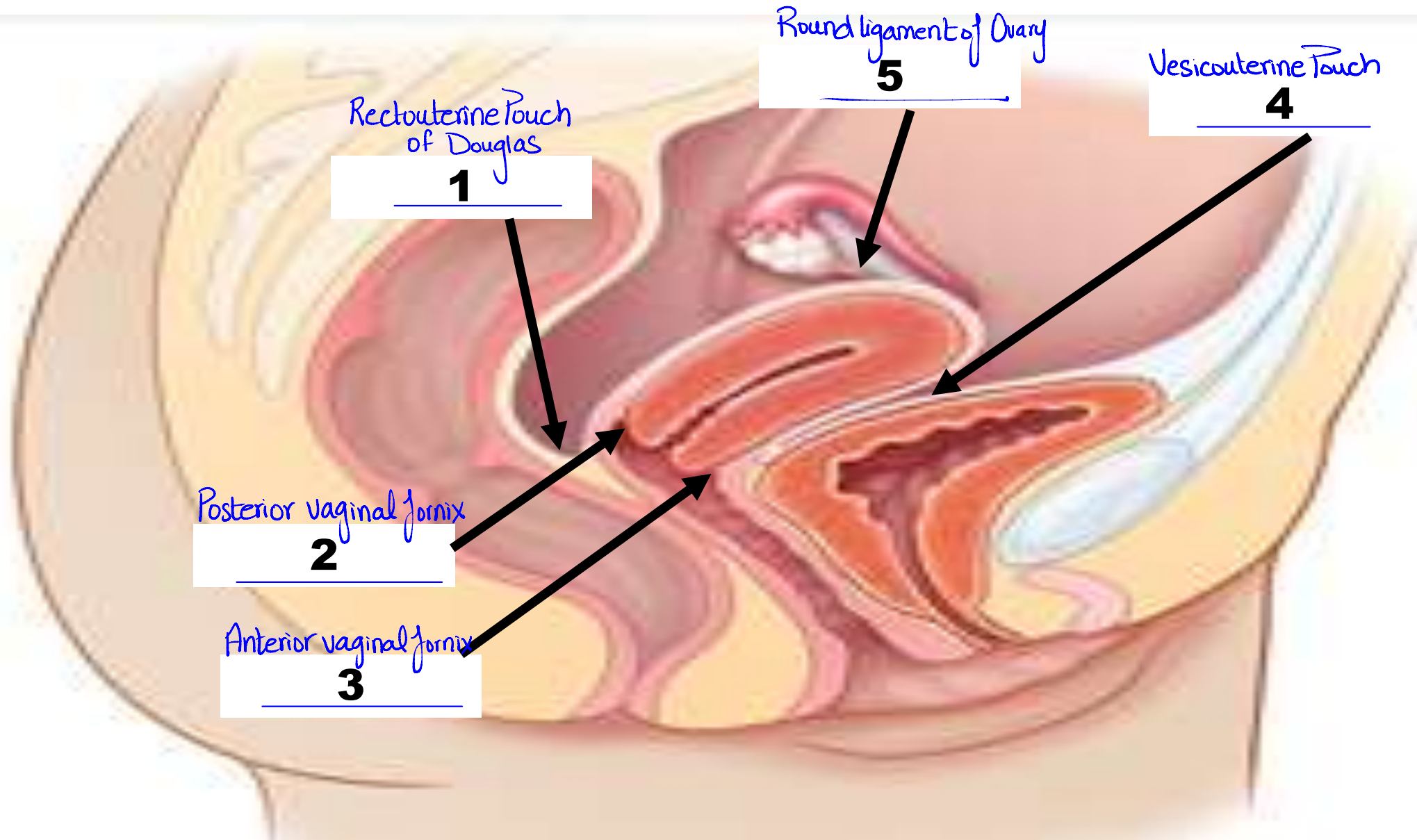
**4**

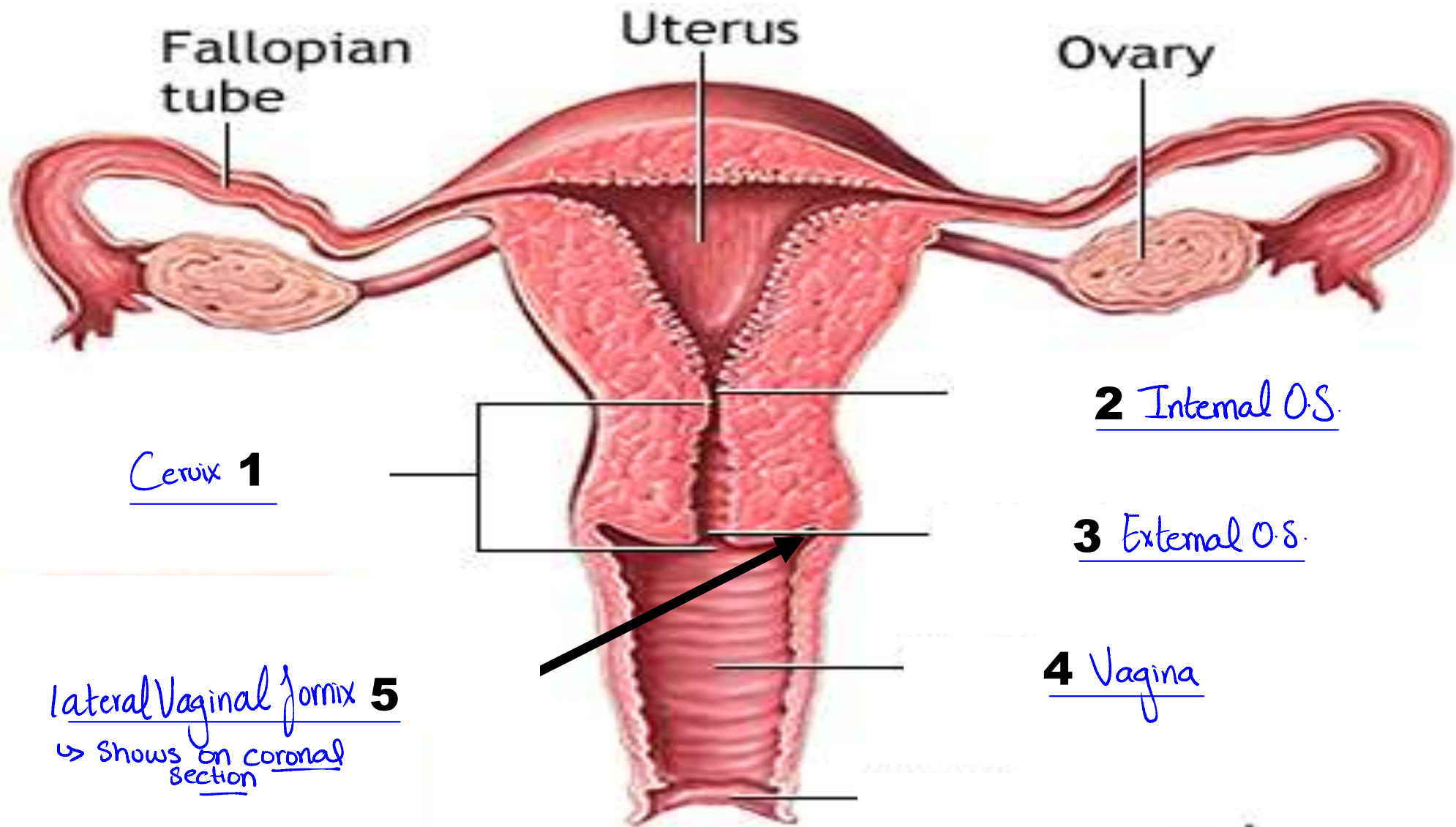
Posterior vaginal fornix

**2**

Anterior vaginal fornix

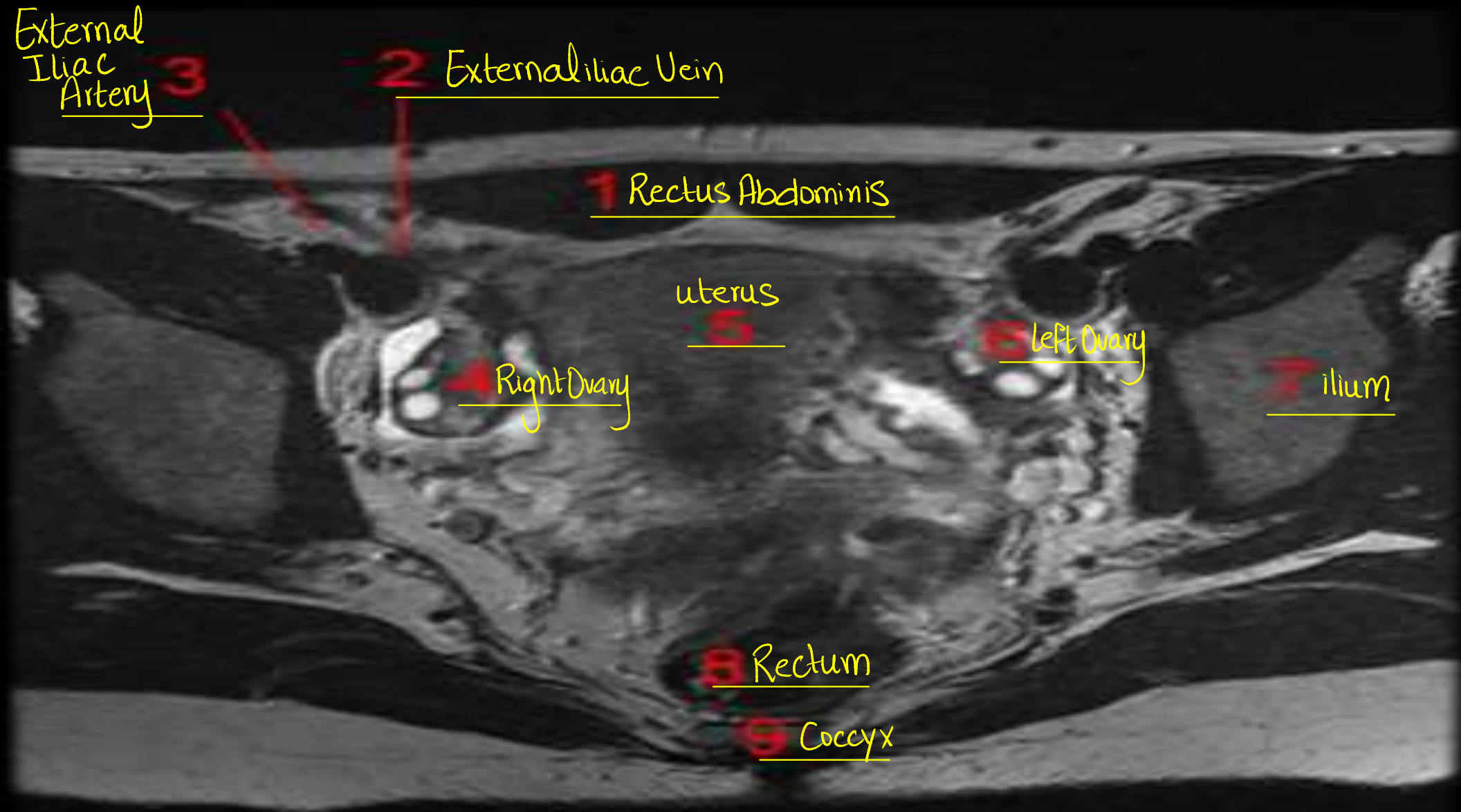
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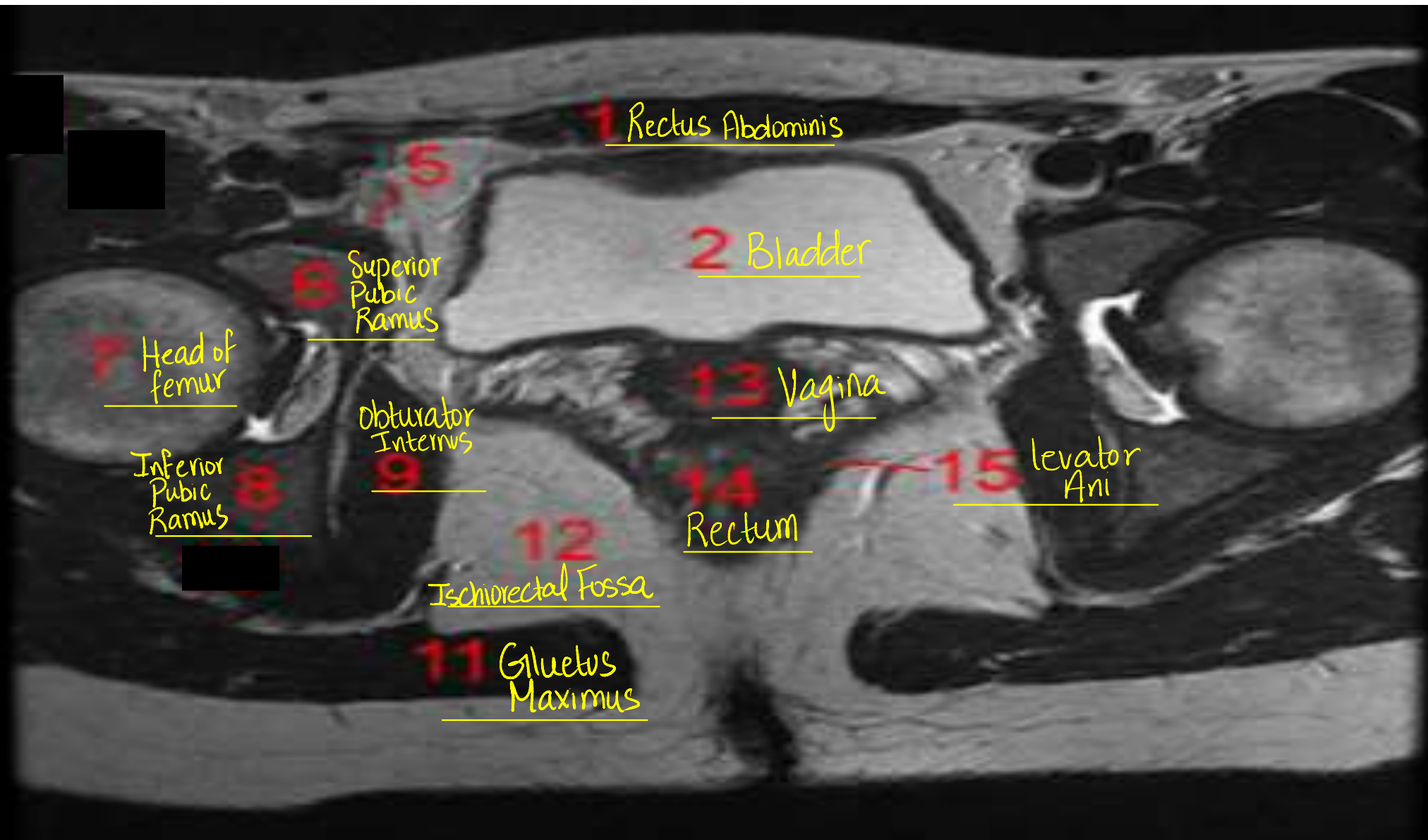






\* Everything written in yellow is required.







\* Red writing is extra (not required) \*

