

وسهلا



أهلا

يُمنع أخذ السلايدات بدون
إذن المحرر واي اجراء
يخالف ذلك يقع تحت طائلة
المسؤولية القانونية
جميع المعلومات للاستخدام
التعليمي فقط

الأستاذ الدكتور يوسف حسين

كلية الطب - جامعة مؤتة - الأردن

دكتورة من جامعة كولونيا المانيا

اليوتيوب د. يوسف حسين

Prof. Dr. Youssef Hussein Anatomy - YouTube

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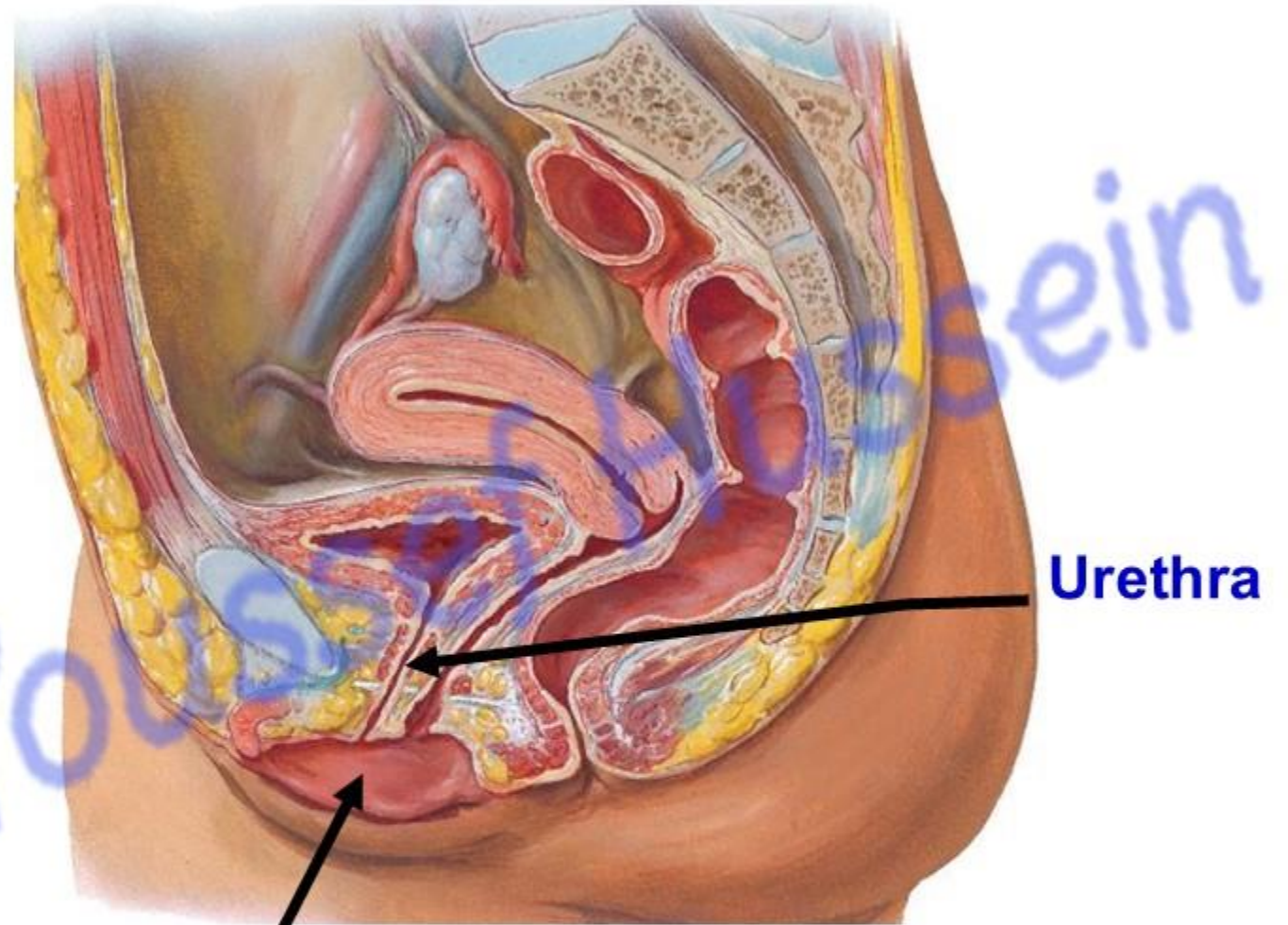
Anatomy of Female urethra

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

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• Female Urethra

- The female urethra is very short, about 4 cm long.
- It begins from internal urethral orifice in the neck of urinary bladder.
- It ends by external urethral orifice into the vestibule.
- It is surrounded by internal urethral sphincter (smooth muscle) and external urethral sphincter (striated muscle).



→ The both Internal & external are overlapped ⇒ as this females can make urine retention in higher amount than male.

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Anatomy of Male urethra

3 part :-

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بسلامة و تفسير كافي ما يصير هاء اليجي

2 Prostatic urethra

* IF Urine Stored converted to Acidic Fluid that kills Sperm.

2 Membranous urethra, the narrowest part, completely surrounded by external urethral sphincter in deep perineal pouch

3 Spongy (Penile) Urethra

transverses penis through its corpus spongiosum.

- It presents 2 dilatation, a- Bulbar fossa, at its beginning in the bulb.

b- Navicular fossa at its termination in the glans penis.

Internal urethral meatus at neck of UB

External urethral sphincter

Penile portion of spongy urethra

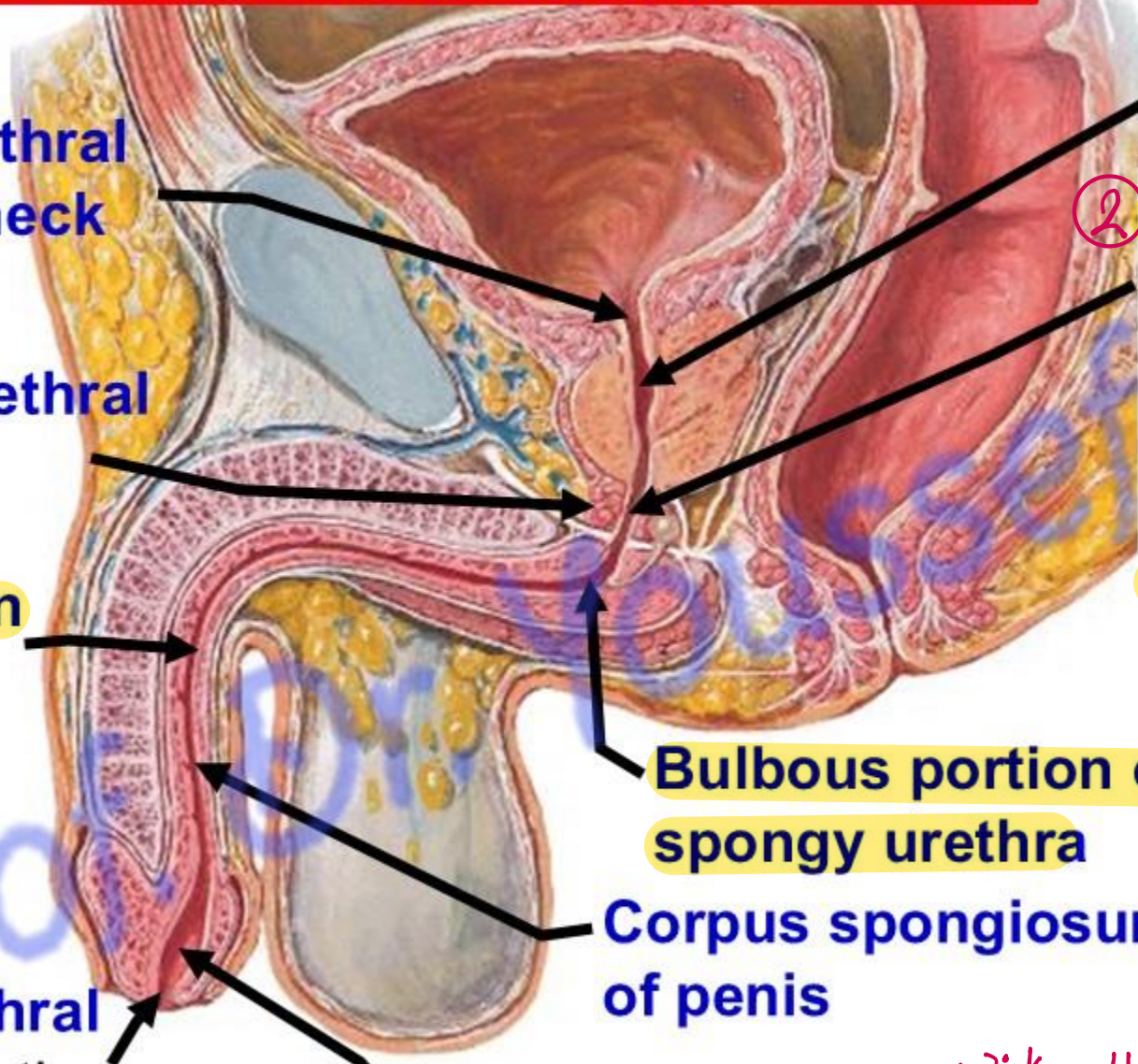
External urethral meatus at the tip of the glans penis

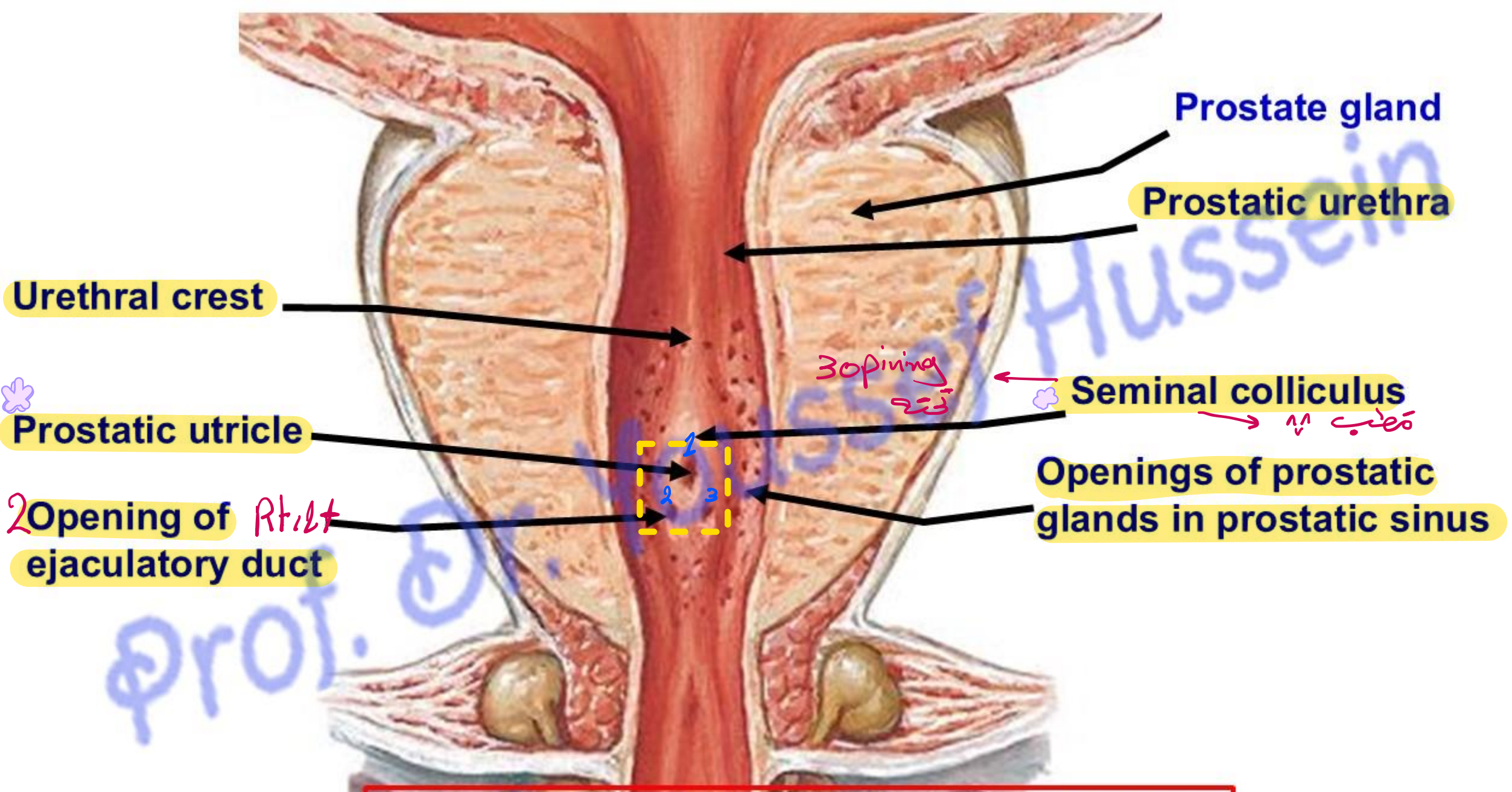
Bulbous portion of spongy urethra

Corpus spongiosum of penis

Navicular fossa in the glans penis

more Risky than bulbar Fossa specially in BPH elderly patient





• Prostatic Urethra

- It pierces the base of the prostate and exits from its apex.
- It is the widest part of the male urethra.
- It lies nearer the anterior surfaces of the prostate.

• **The posterior wall** presents several features.

1- Urethral crest, a median longitudinal elevation.

2- Prostatic sinuses, shallow grooves around the urethral crest receiving the opening of the **prostatic glands**.

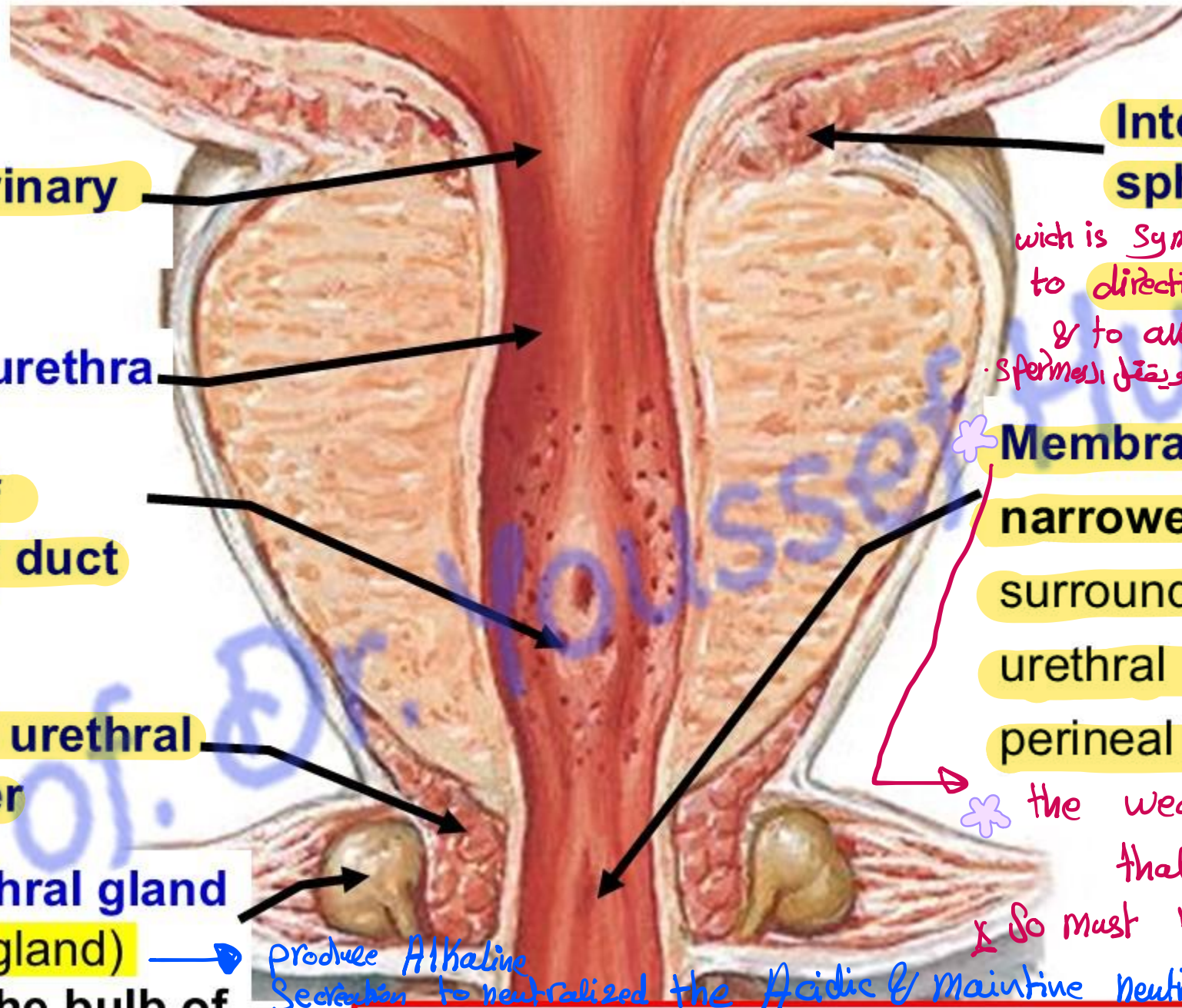
3- Seminal colliculus is a swelling in the middle of the urethral crest showing **3 openings**;

a- Opening of the **prostatic utricle** (**resemble uterus in female**).

- It is a blind sac directed upward and backward .

b- 2 lateral openings of the **ejaculatory ducts**.

** as the Begining of male & female the same , then hormones wich differ frome bothe gender
controlle which specialized every gender?*



Neck of urinary bladder

Prostatic urethra

Opening of ejaculatory duct

External urethral sphincter

Bulbourethral gland (Cooper's gland) opens in the bulb of the penis

Internal urethral sphincter

during ejaculation which is sympathetic this sphincter contracts to directing the semen to outside & to abide its back to urinary bladder. * لأنه اذا رجع مع ال urine ويقفل (sperme)

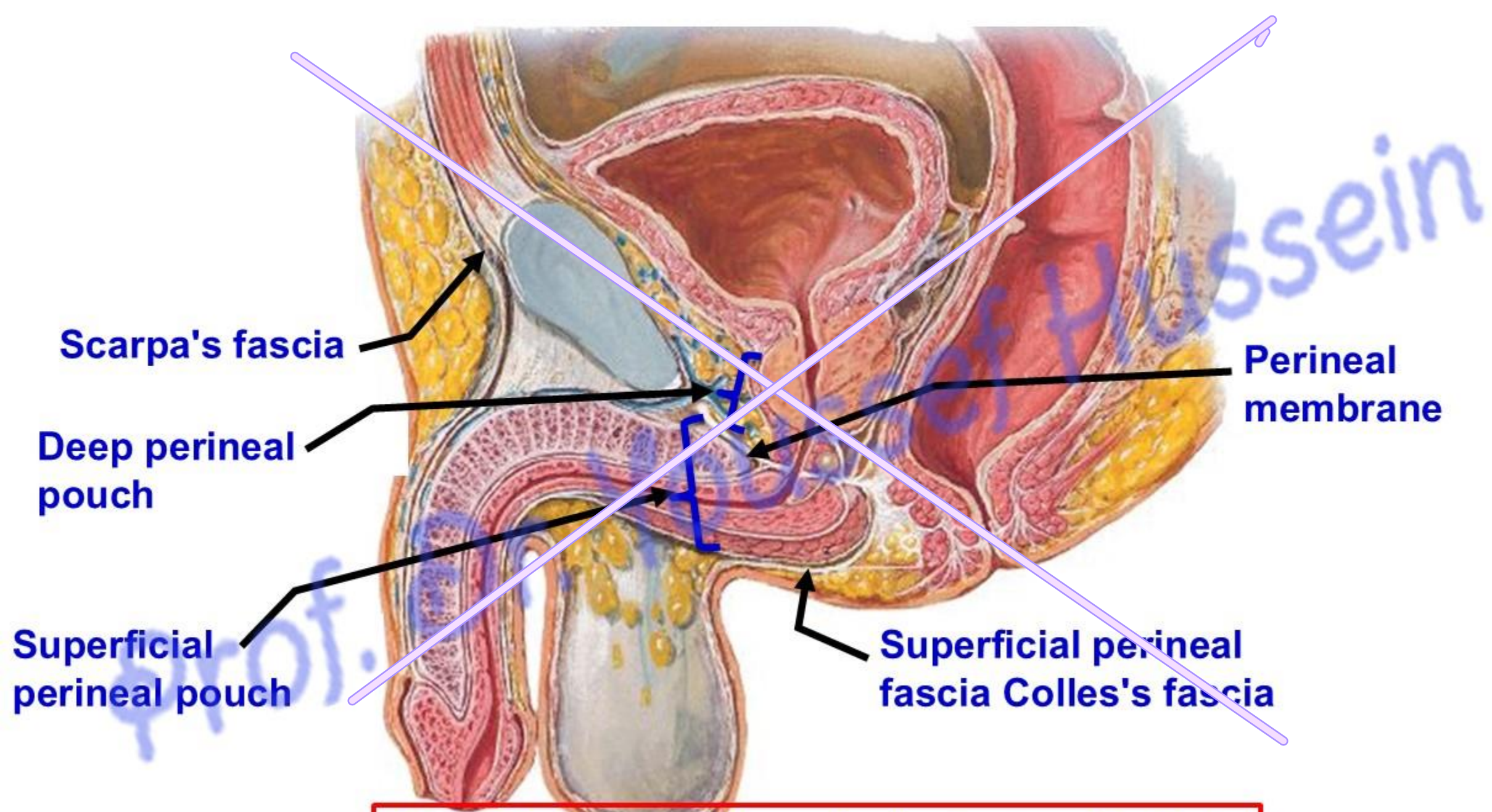
Membranous urethra, the narrowest part, completely surrounded by external urethral sphincter in deep perineal pouch

the weakest region in urethra that liable to be injury. So must keep care in catheterization.

produce Alkaline secretion to neutralized the Acidic & maintine neutral urethra [suitable environment of sperm]

Urethral sphincters

Internal urethral sphincter	External urethral sphincter
It surrounds ^{from} neck of the bladder and prostatic urethra above the ^{to} opening of the ejaculatory ducts.	It surrounds membranous urethra in the deep perineal pouch
Smooth muscle fibers	Striated muscle fibers
Involuntary	Voluntary
Supplied by autonomic fibers	Supplied by the pudendal nerve
Prevent reflux of seminal fluid into urinary bladder during ejaculation	Control the urine



Scarpa's fascia

Deep perineal pouch

Superficial perineal pouch

Perineal membrane

Superficial perineal fascia Colles's fascia

- **Extravasated urine**

- **Rupture of the bulbous portion of the spongy urethra** below the urogenital diaphragm (perineal membrane); The urine may pass into the superficial perineal pouch then
 - ❖ **Inferiorly** spread into the scrotum
 - ❖ **Anteriorly** spread around the penis
 - ❖ **Posteriorly** cannot spread into anal region (ischioanal fossa) because perineal membrane and superficial perineal fascia (Colles's fascia) are continuous together.
 - ❖ **Superiorly** spread into the lower part of the anterior abdominal wall. The urine cannot spread into the thigh because Deep membranous layer of anterior abdominal wall (**Scarpa's fascia**) are connected with the deep fascia of the thigh (fascia lata) just below the inguinal ligament.
- **Rupture of membranous part of the urethra**, urine escapes into the deep perineal pouch and can extravasate **upward** around the prostate and urinary bladder or **downward** into superficial perineal space.

Sacral plexus

حسب ترتيب تاني حرف أبجدياً :-

- 3P :-

* Piriform → S1,2

* Post Cut. N → S1,2,3

* Pudendal → S1,2,3,4

- Sciatic No
84
لتا صاعدا

* أسياد بتساعد على الحفظ :-

- البداية L4 و النهاية S4

- على الترتيب L4 فوق ← Sup. glut. N

L5 تحت ← Inf. glut. N

- الأسياد الكبيرة تحت والصغيرة الخفيفة فوق

Tensor Fasc. lata, Glutius medius, minimus → Sup. glut. N

glut. Max. ← Inf. glut. N
ms

Lumbosacral trunk

L.4,5

Superior gluteal nerve
L.4,5, S.1

Inferior gluteal nerve
L.5, S.1,2

Nerve to piriform
S.1,2

Sciatic nerve
L.4,5, S.1,2,3

Nerve to quadratus femoris and inferior gemellus
L.4,5, S.1 → *Sup. G.N*

Nerve to obturator internus and superior gemellus
L.5, S.1,2 → *Inf. G.N*

L4

L5

S1

S2

S3

S4

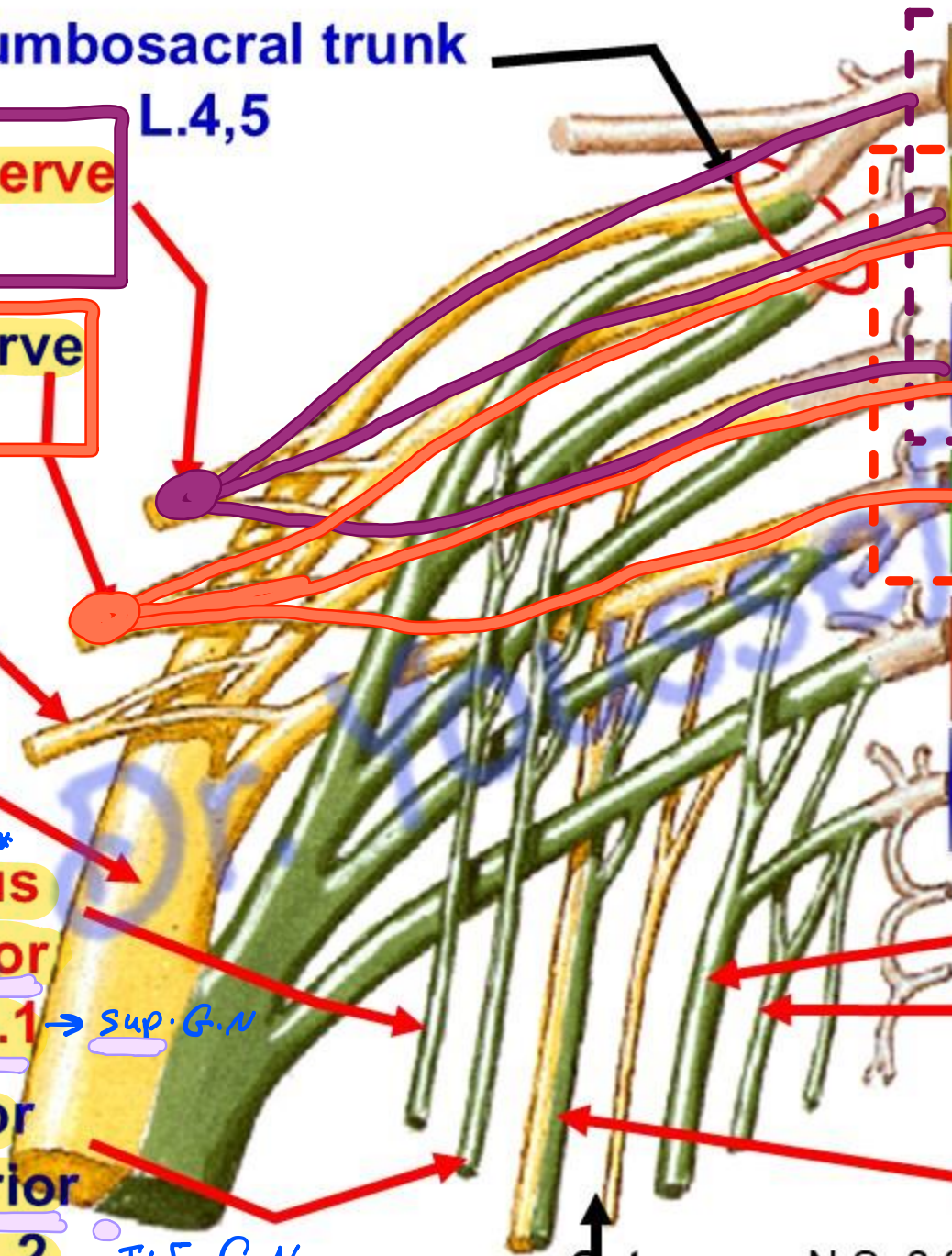
- Roots, Lumbosacral trunk ventral rami of L.4,5
- Ventral rami S.1, 2, 3, 4
- Each ramus divided into anterior and posterior division

Pudendal nerve
S.2,3,4

Nerve to levator ani and coccygeus
S.4,5

Posterior cutaneous nerve of thigh
S.1,2,3

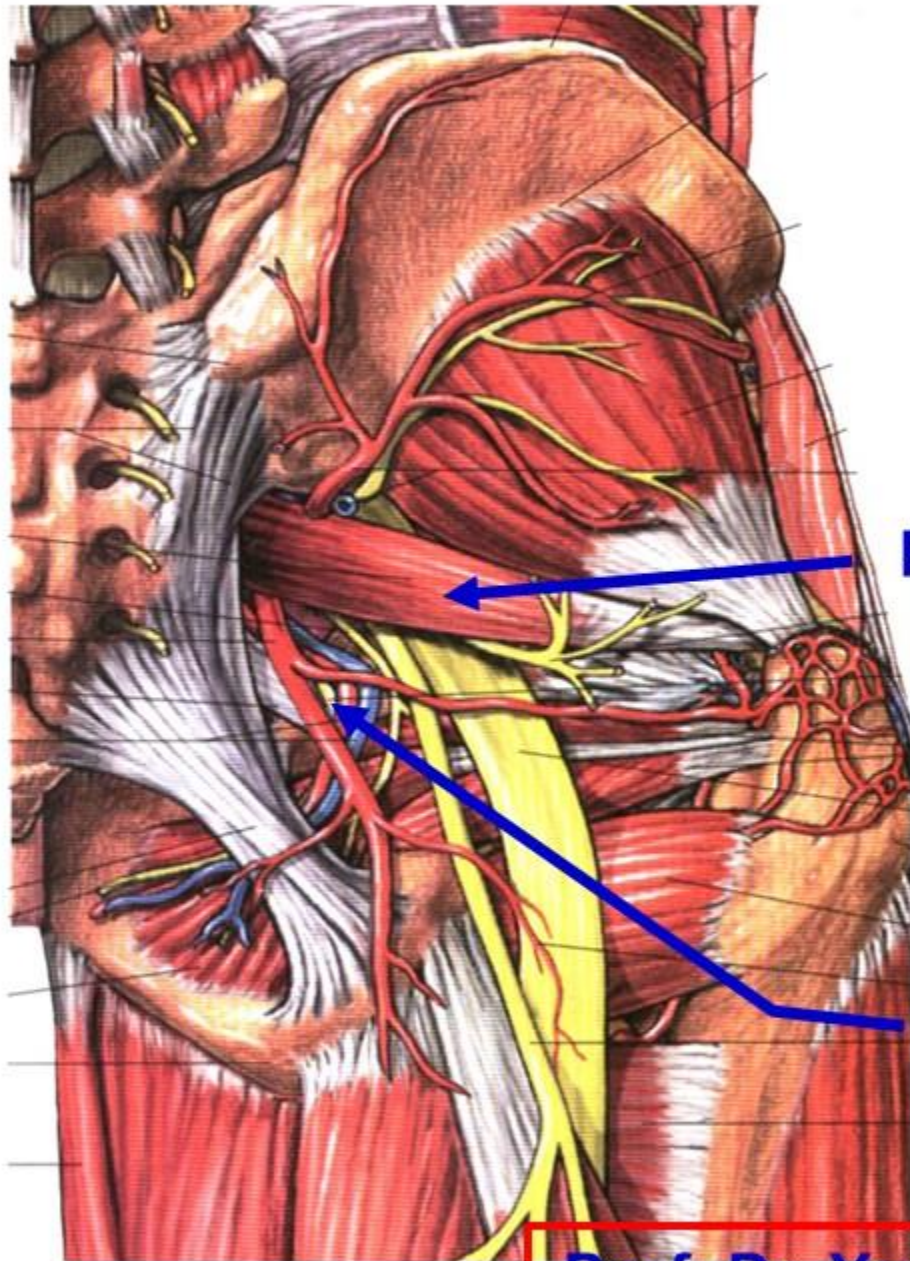
Cutaneous N S. 2,3



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Pudendal Nerve

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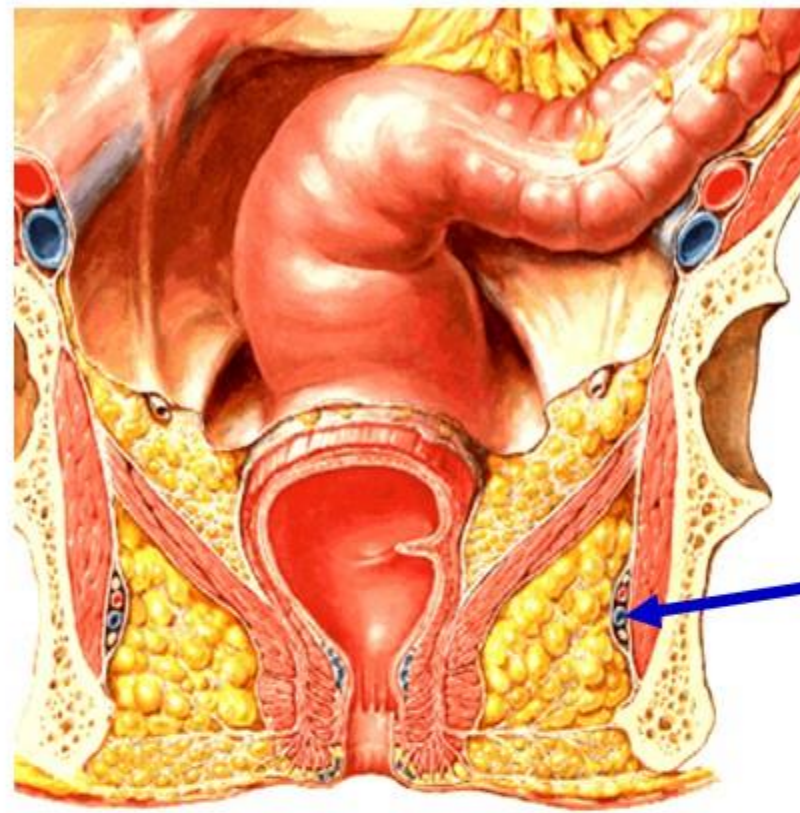
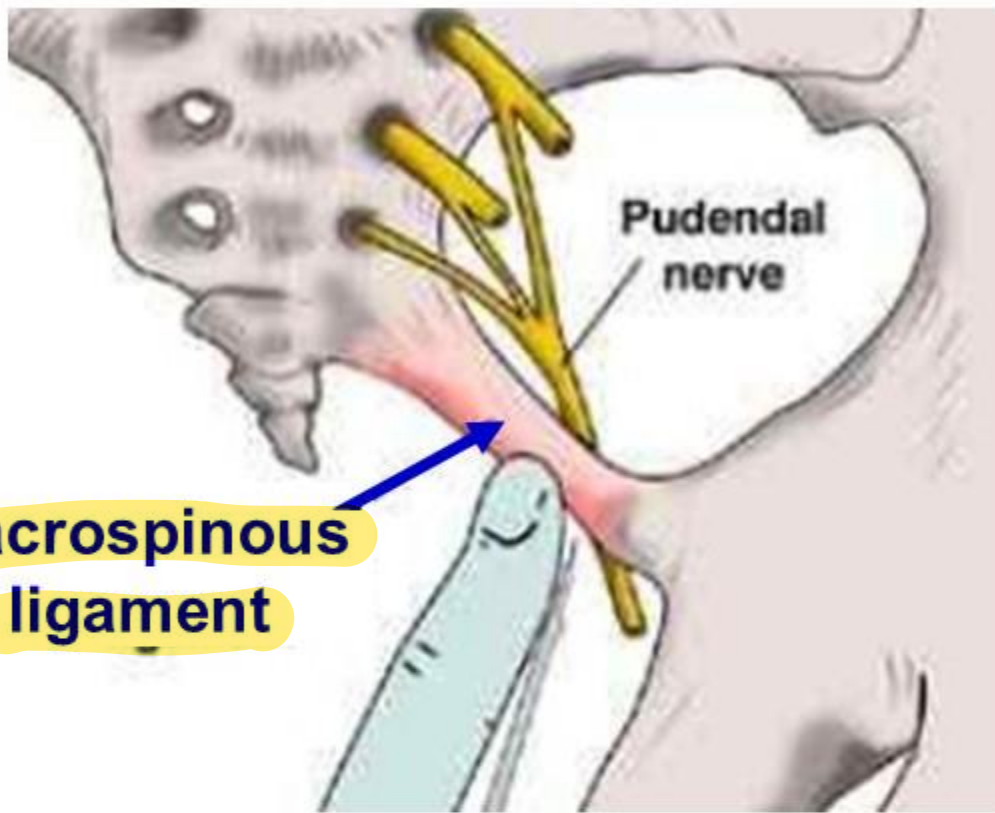


**Piriformis
muscle**

Pudendal Nerve

Pudendal Nerve

- **Origin**, sacral plexus, from anterior division of ventral rami of S 2, 3, 4.
- **Course** :
 - It passes through greater sciatic foramen below the piriformis muscle to the gluteal region deep to gluteus maximus.



Pudendal canal

Pudendal Nerve (S 2, 3, 4)

- Then, It crosses ^{☆ Imp} sacrospinous ligament close to its attachment to tip of the ischial spine to re-enter the pelvis through the lesser sciatic foramen
- Then passes in pudendal canal with internal pudendal vessel.

☆ greater ← طلع من ال
 ☆ lesser ← دفل من ال
 Sacrospinous لغا صولين ال
لغا
 Pelvis عشان يدخل والتانية

In lateral wall of pelvis

Branches of pudendal nerve

Posterior scrotal N

Deep branch of perineal N

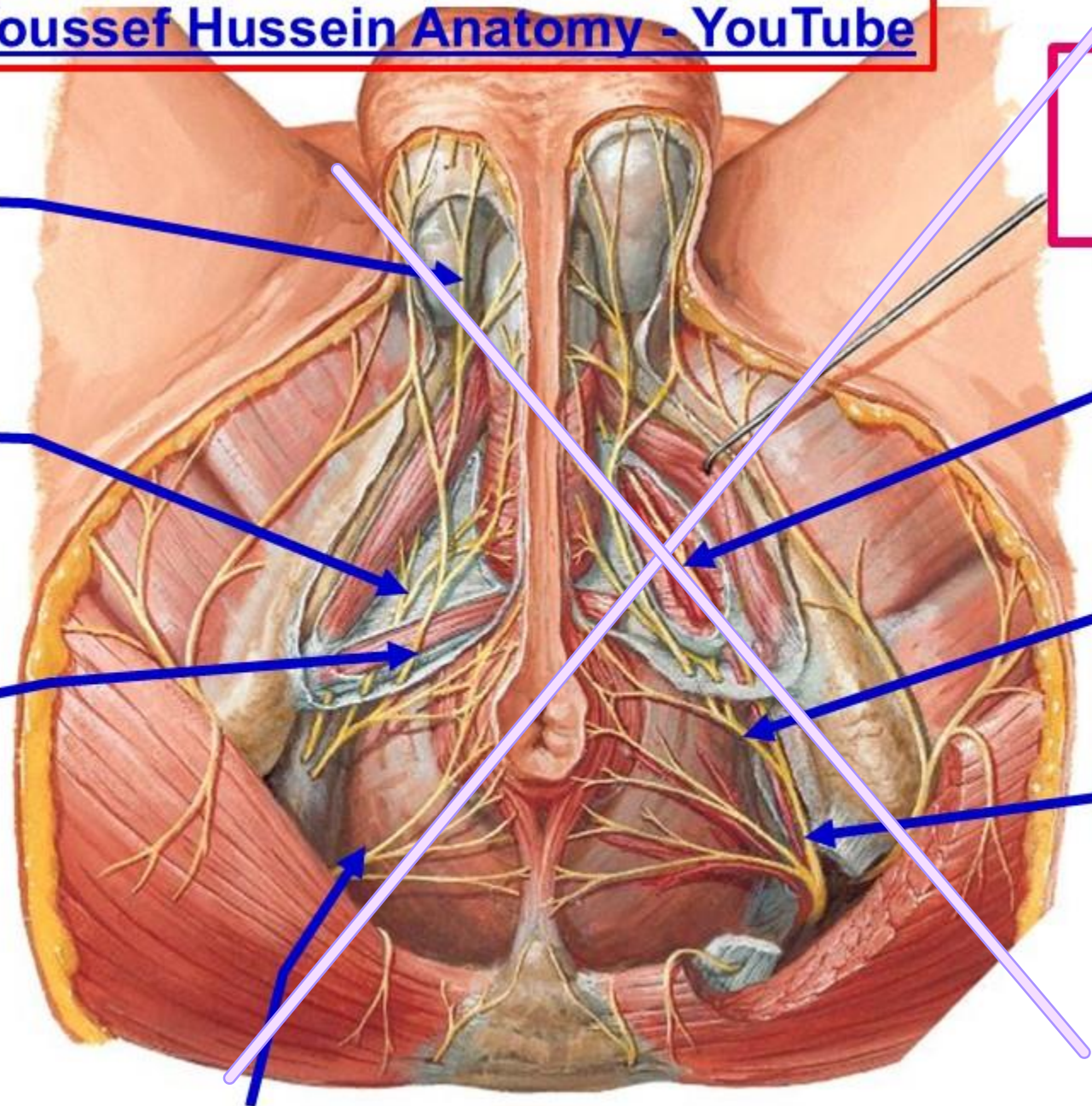
Superficial branch of perineal N

Inferior rectal nerve

Dorsal nerve of penis (Continuation)

Perineal nerve

Pudendal Nerve in pudendal canal



**** Branches of pudendal nerve:**

1. Inferior rectal nerve: arises inside pudendal canal and crosses the ischiorectal fossa to supply Levator ani and External anal sphincter.

- It gives sensation to lower part of anal canal and perianal skin

2. Perineal nerve: arises inside the pudendal canal.

A- Deep branch: Muscular branches to levator ani and all perineal muscles (Bulbospongiosus, ischiocavernosus, External urethral sphincter, superficial and deep transverse perineal muscles)

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B- Superficial: (sensory) Posterior scrotal or labial nerves, Sensory to perineum, scrotum (male) or labia majora and minora (female).

3. Dorsal nerve of penis or clitoris (sensory) its continuation.

- It provides voluntary control of fecal and urinary continence
- It carries sensation from external genitalia,
skin around anus and perineum

* نائية --

Clinical notes

* Uterine prolapse happen when tearing of levator ani ms.

Pudendal nerve block

* mostly بعد الطول الخامس

- It is formed during vaginal childbirth, **episiotomy** and other minor vaginal procedures
- The patient in lithotomy position and **ischial spine is palpated transvaginal**
- **Local anesthesia is injected in the tissue around the ischial spine.**
- The procedure is done on the opposite side.
- As the pudendal nerve is accompanied with **internal pudendal artery**, it is essential to **aspirate** before **injecting local anesthesia**, to avoid administration of local anesthesia to the systemic circulation

ما Cut lateral wall of vagina
صاها عند الولادة الأولى عشان يعمل توسع.

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دعواتكم

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Thank You

Questions

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