

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

رئيس قسم التشريح والأنسجة والأجنة

كلية الطب - جامعة مؤتة - الأردن

دكتورة من جامعة كولونيا المانيا

Prof. Dr. Youssef Hussein Anatomy - YouTube

الواتس 00201224904207

# Diaphragm

الواتس 00201224904207

<https://www.youtube.com/c/ProfDrYoussefHusseinAnatomy/featured>

sternal origin

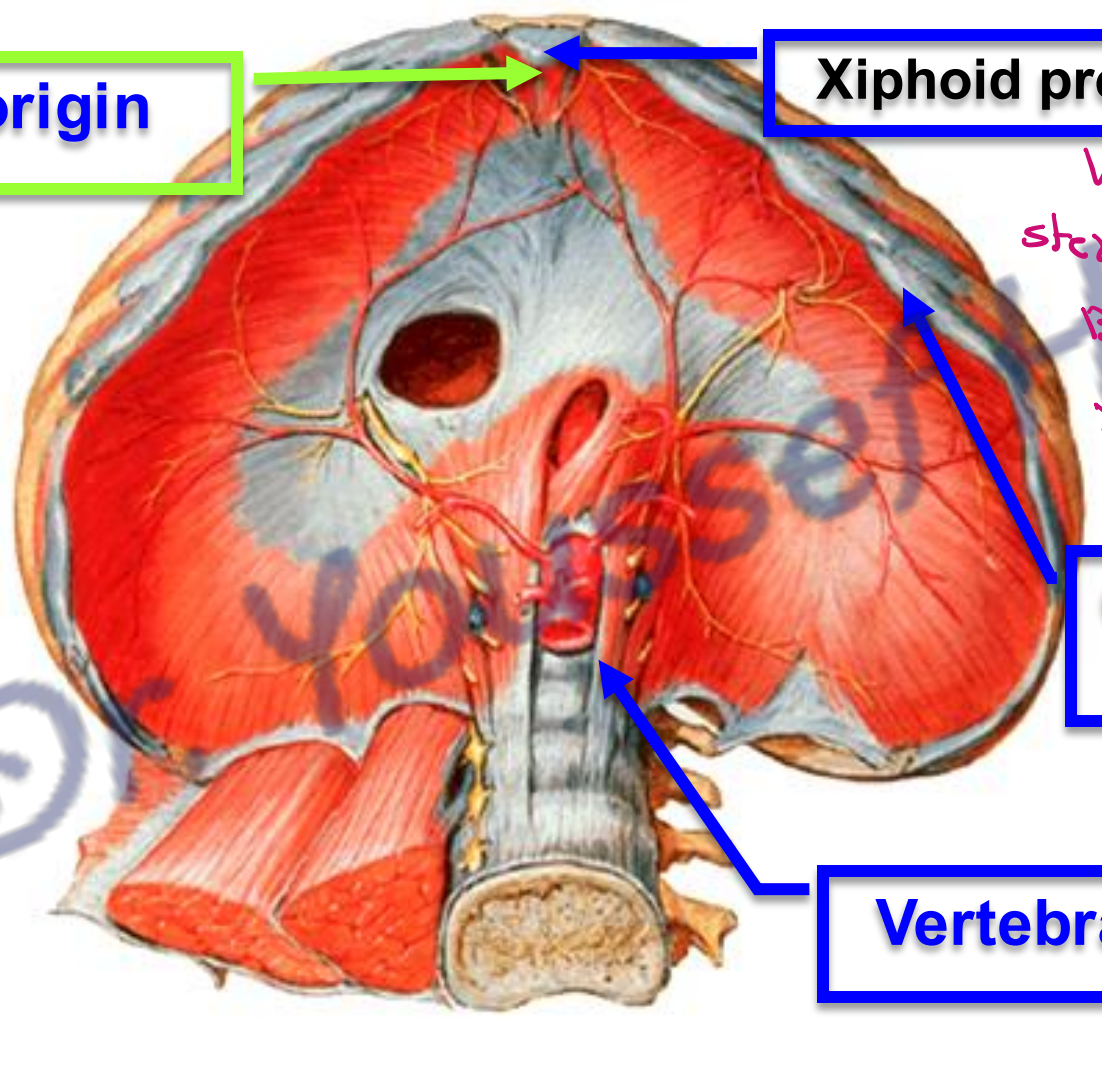
Xiphoid process

ly on sternum head &  
Back of  
Xiphoid process

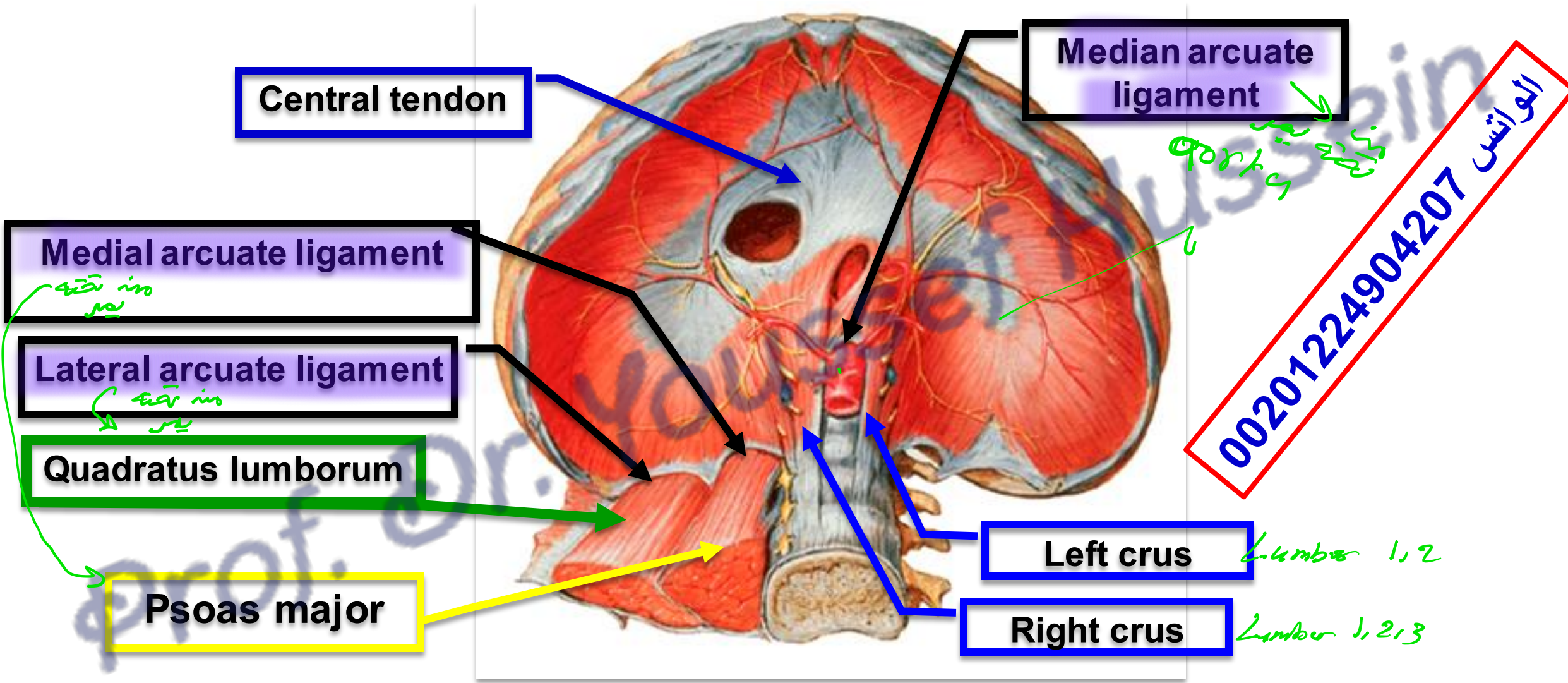
Costal origin  
Lower 6 CC

700-9=21

Vertebral origin



الواتس 00201224904207



<https://www.youtube.com/c/ProfDrYoussefHusseinAnatomy/featured>

• Origin of Diaphragm → origin

1- **Sternal origin** from the back of the xiphoid process.

2- **Costal origin**: from the lower 6 costal cartilages.

3- **Vertebral origin**:

a- **Right crus**: from bodies of **upper 3** lumbar vertebrae.

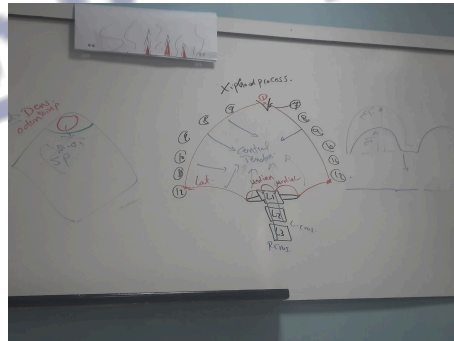
b- **Left Crus**: from bodies of **upper 2** lumbar vertebrae.

c- **Median arcuate ligament**: connecting the two crura.

d- **Medial arcuate ligaments** one on each side connecting **crus** with the tip of the transverse process of **L1 vertebra**.

e- **Lateral arcuate ligaments**, one on each side, connecting tip of the transverse process of L1 with the last rib.

Bony or  
Attachment  
insertion but  
has no Bony Attachment



الواتس 00201224904207

كل المرات لا اعطى المحاضرة على  
بجسدي هو يوجد في  
Medulla Oblongata

<https://www.youtube.com/c/ProfDrYoussefHusseinAnatomy/featured>

posterior cruceo arthral muscle  
المخبرية  
مخبرية  
لا تترك

**Actions of the Diaphragm**

main muscle of expiration

↳ Latissimus dorsi

- 1- It is the **main muscle of inspiration**.
- 2- It **increases** the intra-abdominal pressure.
- 3- Right crus acts as a **sphincter** for oesophagus.

**Nerve supply of the Diaphragm**

أخذ من قاع الأذن  
embryo

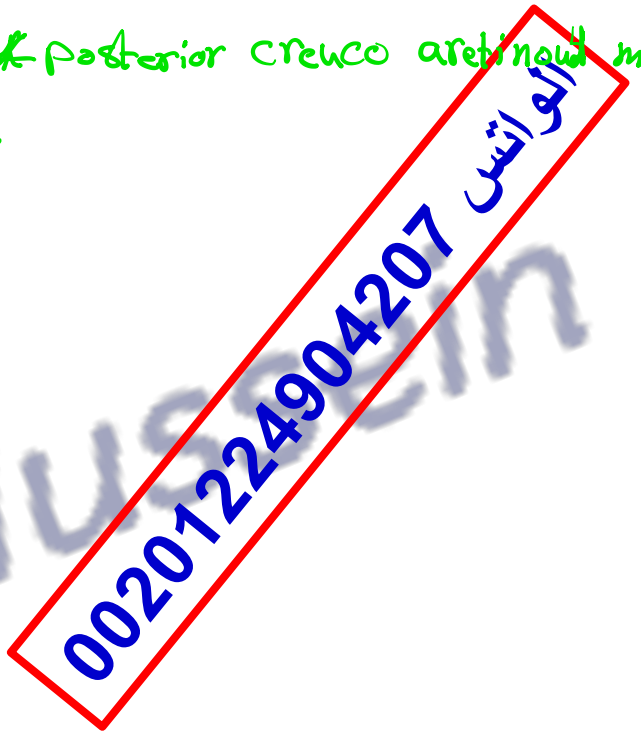
main origin C4  
الأغصان العصبية  
من الرقبة

- ❖ Motor: Phrenic nerve (**C3,4,5**) to the inferior surface
- ❖ Sensory: Lower 5 intercostal and subcostal nerves

nerve of  
بعض الأعصاب  
12

- **Injury of the phrenic nerve in one side** leading to **paradox movement** (diaphragm ascends during inspiration and descends during expiration)
- Injury of **both sides** leading to **death**.
- Irritation of the diaphragm causes referred pain to the shoulder tip.
- **Hiccough** is the result of repeated spasmodic contraction of the diaphragm.

الحازوقة  
نتيجة عنه التقلبات وتقلبات  
تغير كاملة



Vena caval opening

Oesophageal opening

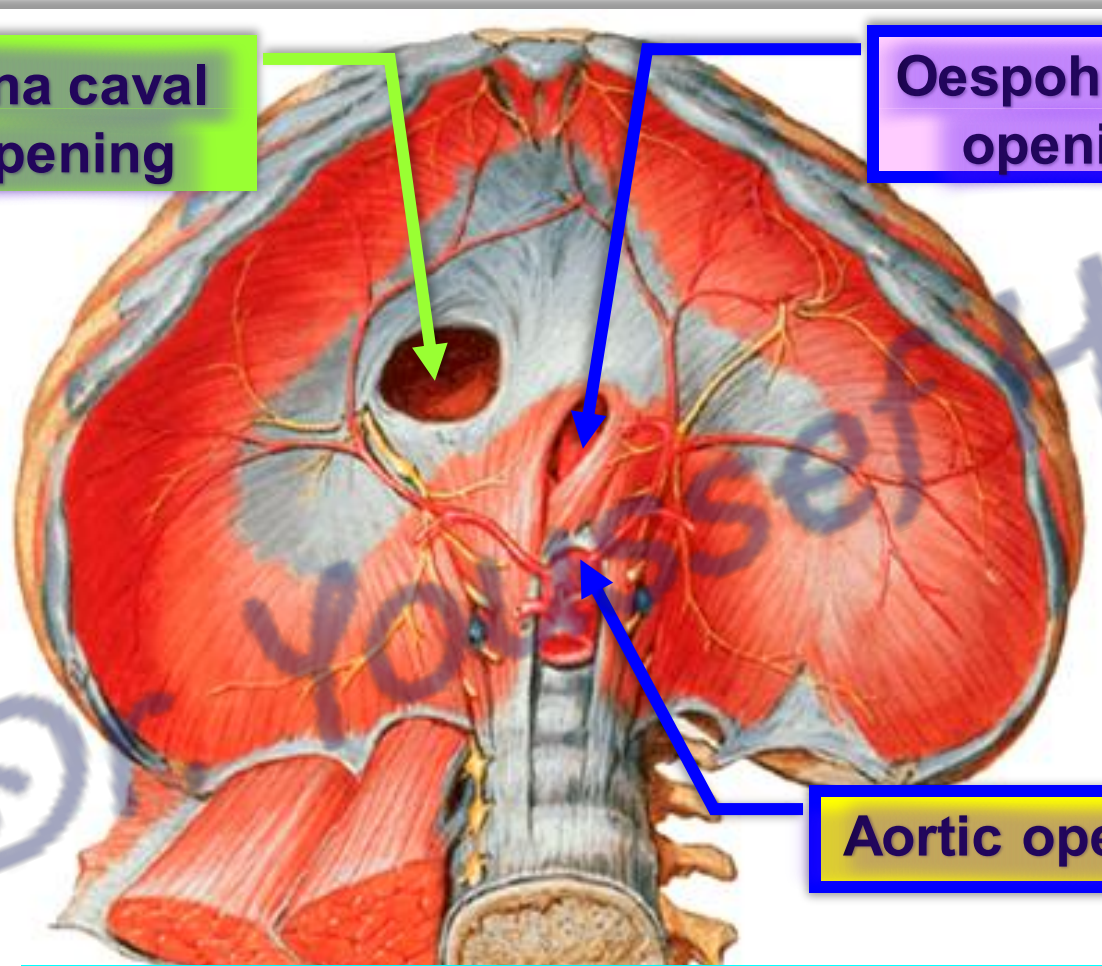
Aortic opening

Major openings == Voice Of America

<https://www.youtube.com/c/ProfDrYoussefHusseinAnatomy/featured>

الپروفیسر ڈاکٹر یوسف حسین

الواتس 00201224904207



## Major openings in the diaphragm (Voice Of America)

	Vena caval opening	Oesophageal opening	Aortic opening
<b>Vertebral level</b>	Opposite T8	Opposite T10	Opposite T12
<b>Site</b>	- One inch <u>right</u> to median plane.	- One inch <u>left</u> to median plane.	In <u>median</u> plane
<b>Contents</b>	a- Inferior vena cava. b- Right phrenic nerve. c- Lymph vessels.	a- Oesophagus b- Oesophageal branches of left gastric vessels. c- Anterior & posterior gastric nerves.	a- Aorta b- Thoracic duct c- Azygos vein <i>Handwritten notes in Arabic:</i> الأوعية الدموية الأوعية اللمفاوية الأعصاب الأعصاب الحجابية الأعصاب الكبدية الأعصاب الكظرية الأعصاب القصبية
<span style="font-size: 1.2em; color: blue;">00201224904207</span> الواتس			



## \*\* Minor openings of the diaphragm

- 1- **Superior epigastric vessels:** descend between sternal and costal origins.
- 2- **Musculophrenic vessels:** pass between slips of the costal origin.
- 3- **Lower 5 Intercostal nerves and vessels:** between slips of the costal origin.
- 4- **Subcostal nerves and vessels:** pass behind lateral arcuate ligament.
- 5- **Sympathetic trunk:** descends behind the medial arcuate ligament.
- 6- **Splanchnic nerves** pierce the corresponding crus.
- 7- **Hemiazygos vein:** pierces the left crus of the diaphragm
- 8- **Left phrenic nerve** pierces the left cupola of the diaphragm.

اليوثيوب د. يوسف حسين



# Muscles of Posterior Abdominal wall

Quadratus  
lumborum M

Psoas major M

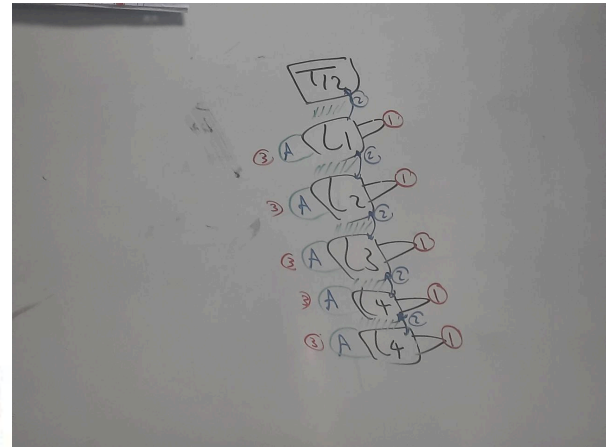
Psoas Minor M

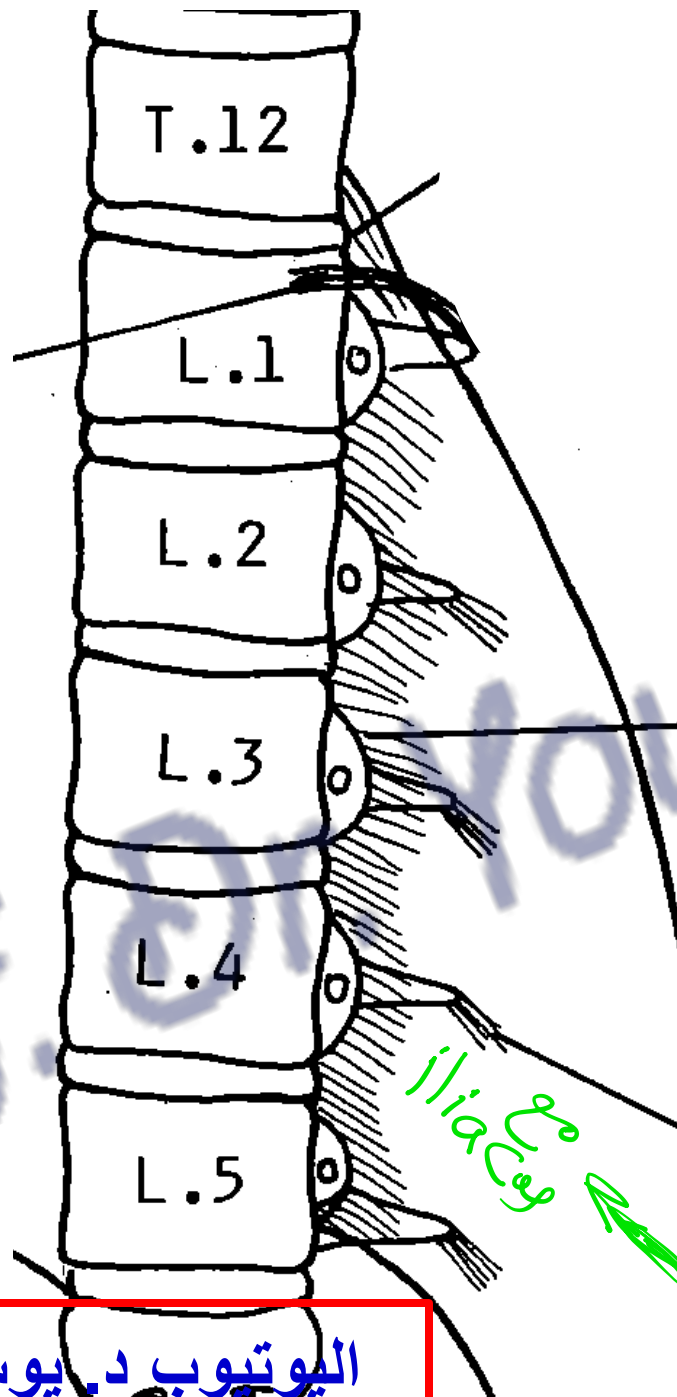
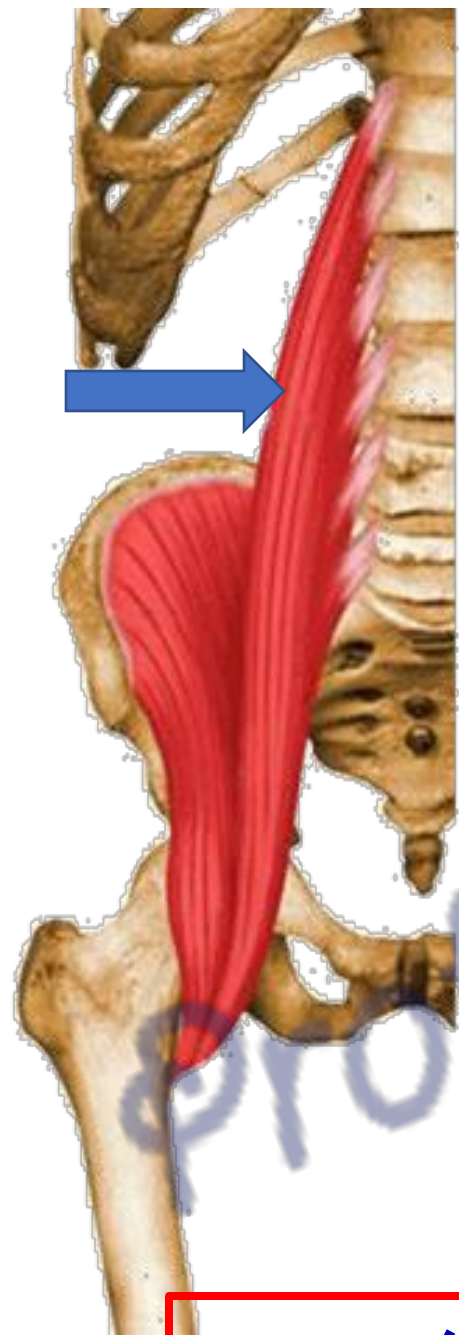
Iliacus M

اليوثيوب د. يوسف حسين

Prof. Dr. Youssef Hussein Anatomy - YouTube

حسين  
Hussein





## • Psoas Major Muscle

### \*\* Origin:

**a- 5 digitations** from transverse processes of lumbar vertebrae.

**b- 5 digitations**, each from the bodies of 2 adjacent vertebrae and discs in between (the 1<sup>st</sup> digitation from the T12 and L1).

**c- 5 digitations** from tendinous arches over the lumbar vessels.

\*\* **Insertion:** iliopsoas into the lesser trochanter of the femur

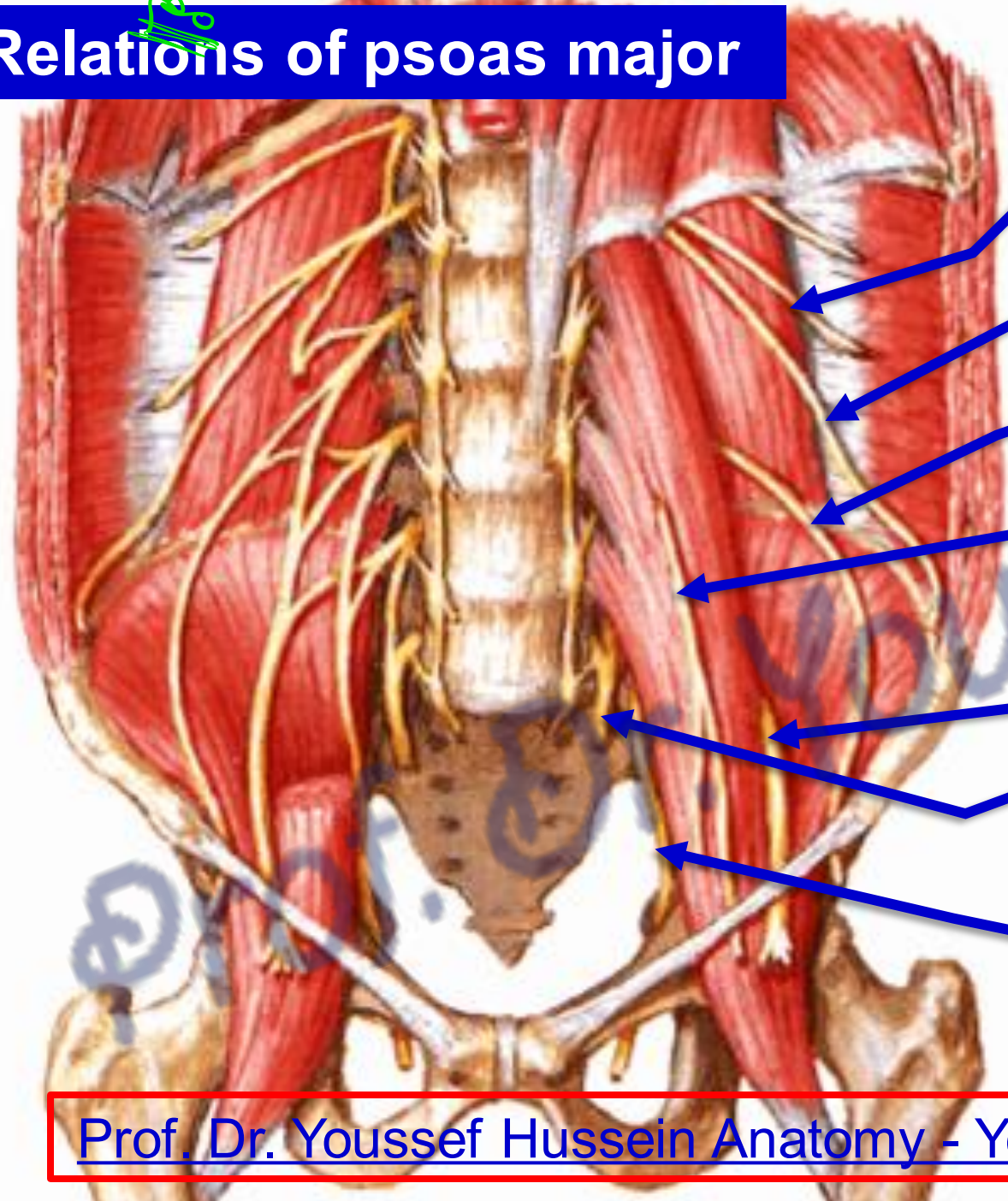
\*\* **Nerve supply:** ventral rami of L1, 2, 3.

### \*\* Actions:

- 1- Main flexor of the hip joint.
- 2- Flexion of the trunk.

\* Muscle of the hip joint

# Relations of psoas major



Iliohypogastric nerve (lat)

Ilioinguinal nerve (lat)

Lateral cutaneous Nerve of thigh (lat)

Genitofemoral nerve (infront)

Kidney and ureter

Femoral Nerve (Lat)

Lumbosacral trunk (medial)

Obturator Nerve (medial)

*\* Relation  
Tropic muscle  
psoas*

## \*\* Relations of psoas major muscle

Handwritten notes in Arabic: "مخبر حوض الحوض" (Anatomical region) and "العضلة" (Muscle).

- **Within the muscle;** Lumbar plexus.

- **Laterally:** 2 muscles and 4 nerves (lateral branches of the lumbar plexus);

1- Quadratus lumborum.

2- Iliacus muscle.

3- Iliohypogastric nerve.

4- Ilioinguinal nerve.

5- Lateral cutaneous nerve of thigh.

6- Femoral nerve.

- **Medially:** 1- Obturator nerve.

2- Lumbosacral trunk.

- **Anteriorly:**

1- Kidney and ureter.

2- Duodenum.

3- Genitofemoral nerve.

4- Psoas minor (if present).

5- Root of the mesentery and superior mesenteric vessels.

- **Posteriorly:** Hip joint.

## • Quadratus Lumborum Muscle

\*\* **Origin:** Posterior 1/3 of inner lip of iliac crest and iliolumbar ligament.

\*\* **Insertion:**

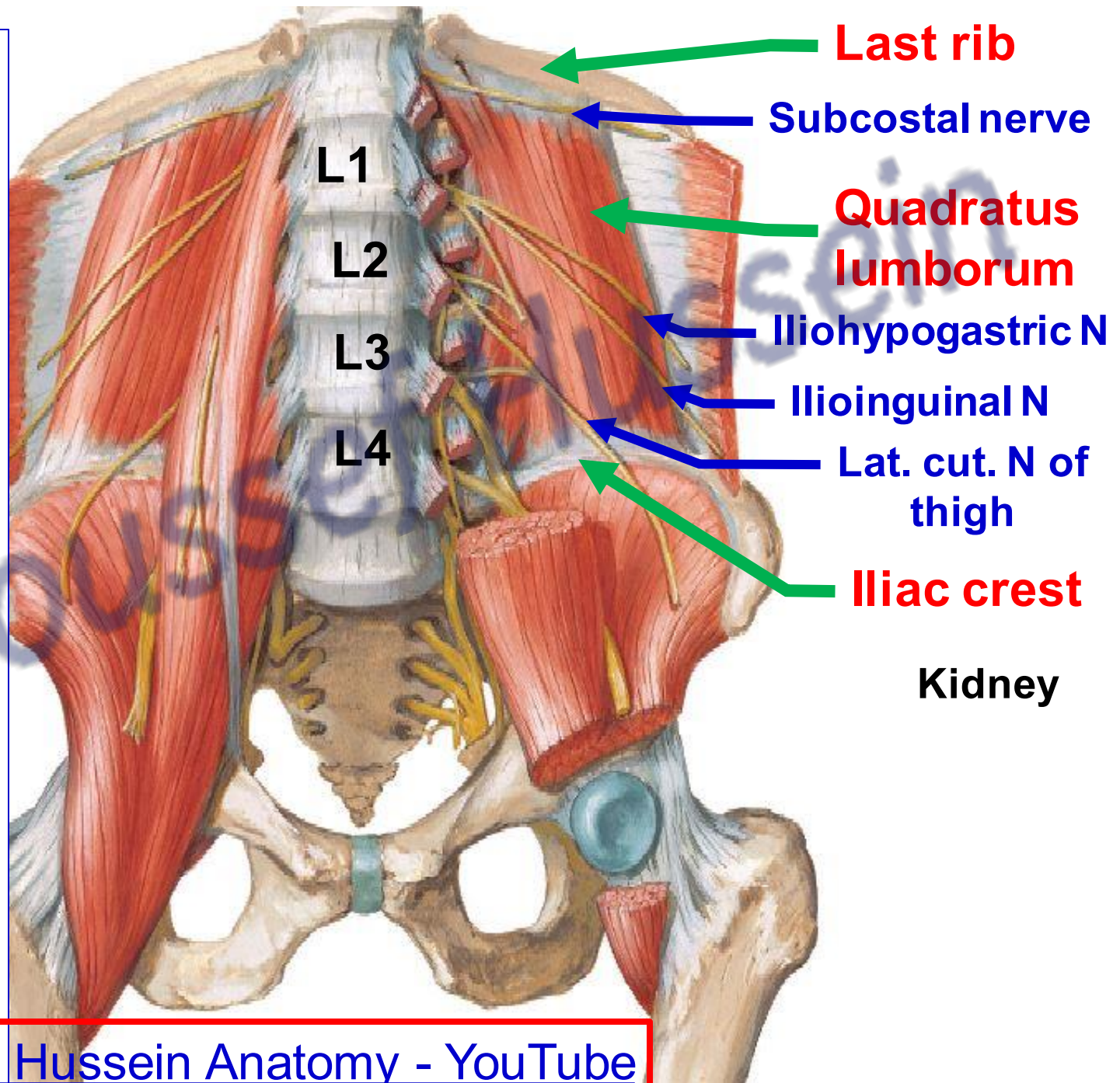
- 1- Medial 1/2 of the last rib.
- 2- Tip of transverse processes of upper 4 lumbar.

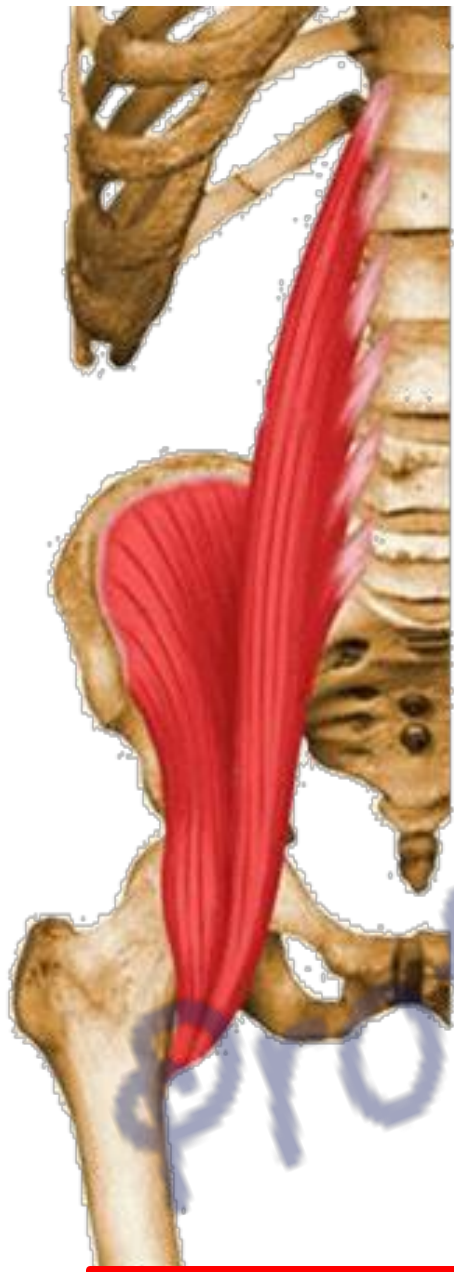
\*\* **Nerve supply:** ventral rami of L1, 2, 3.

\*\* **Action:**

- 1- Lateral flexion of the trunk.
- 2- Fixes the last rib during contraction of the diaphragm

\*\* **Anterior relations**





- **Iliacus Muscle**

**\*\* Origin:**

- 1- The iliac fossa of the hip bone.
- 2- Upper surface of the ala of the sacrum.

**\*\* Insertion:** iliopsoas into the lesser trochanter of the femur and one inch below it.

**\*\* Nerve supply:** femoral nerve.

**\*\* Action;** flexor of the hip Joint.



- **Psoas fascia**

- It covers the ventral aspects of the psoas major muscle.

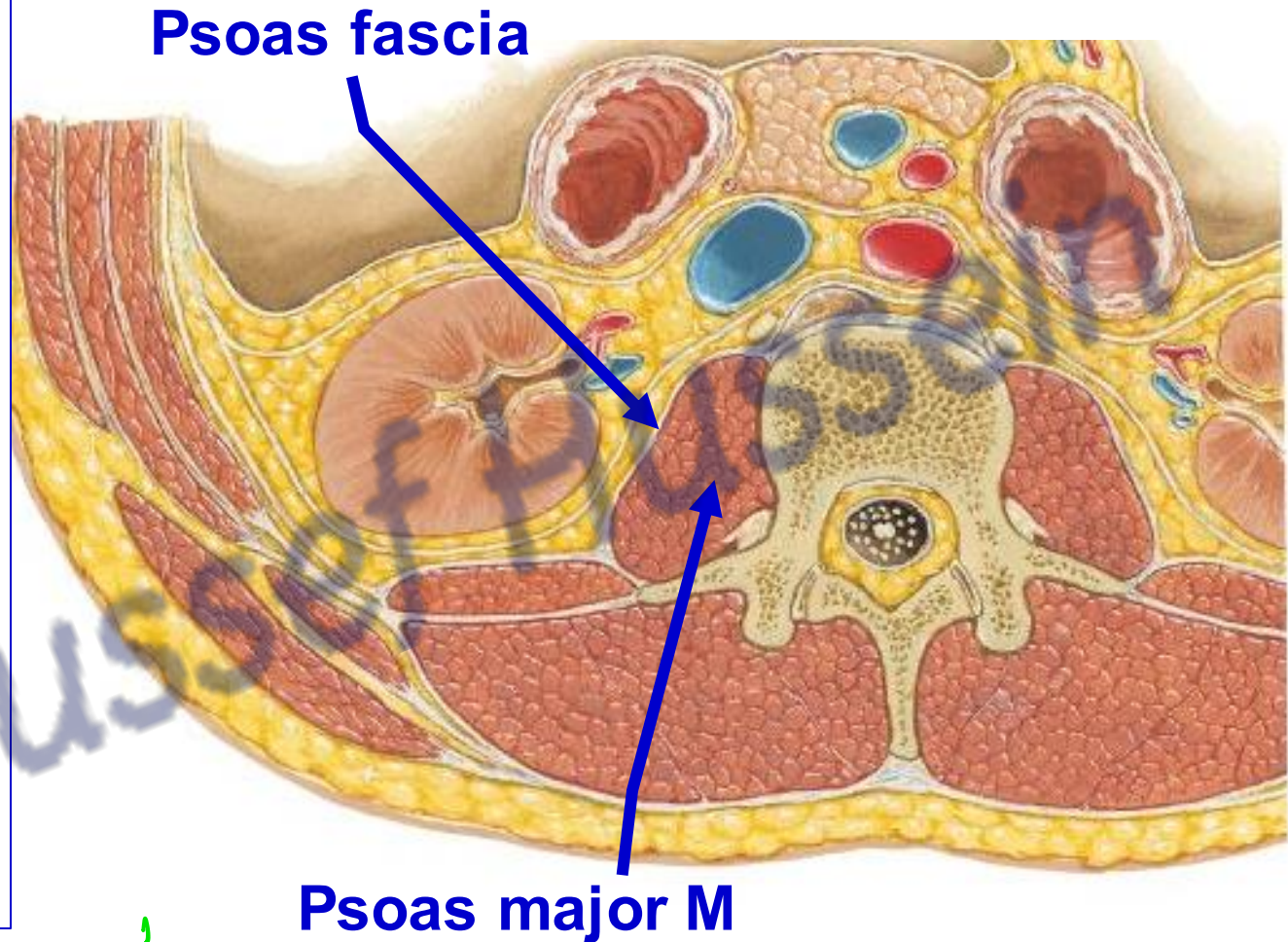
**\*\* Attachments:**

- **Medially** to the lumbar vertebrae.

- **Laterally** fused with thoracolumbar fascia.

- **Superiorly**, thickened to form the medial arcuate ligament of diaphragm.

- **Inferiorly**, continues with fascia iliaca.



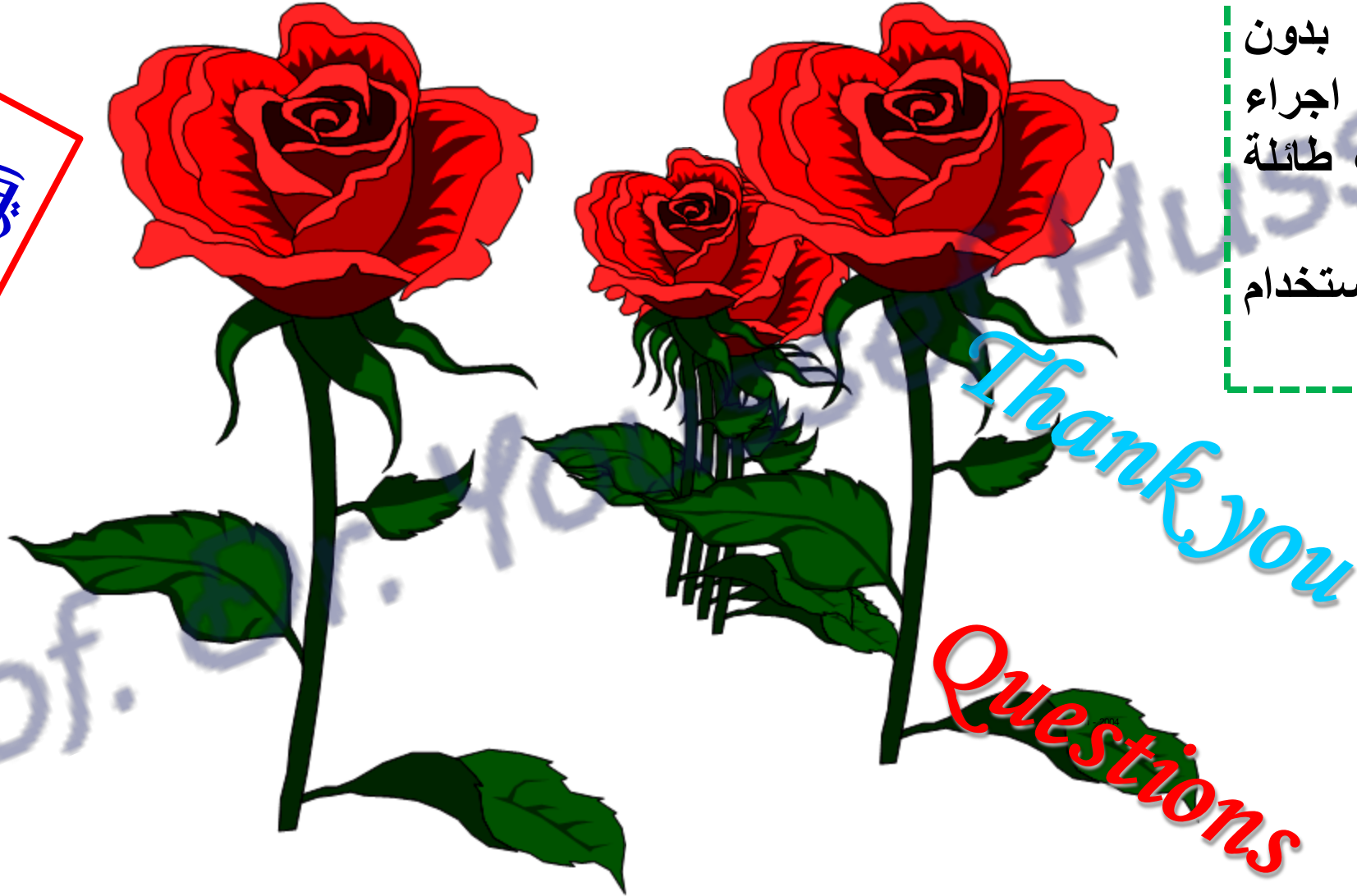
- **Psoas abscess**

- Pus in the lumbar region reaches the front of the thigh just below the inguinal ligament through the psoas fascia.

[https://www.youtube.com/channel/UCVSNqbibj9UWYaJdd\\_cn0PQ](https://www.youtube.com/channel/UCVSNqbibj9UWYaJdd_cn0PQ)

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

اليوتيوب د. يوسف حسين



<https://www.youtube.com/@ProfDrYoussefHusseinAnatomy/playlists>