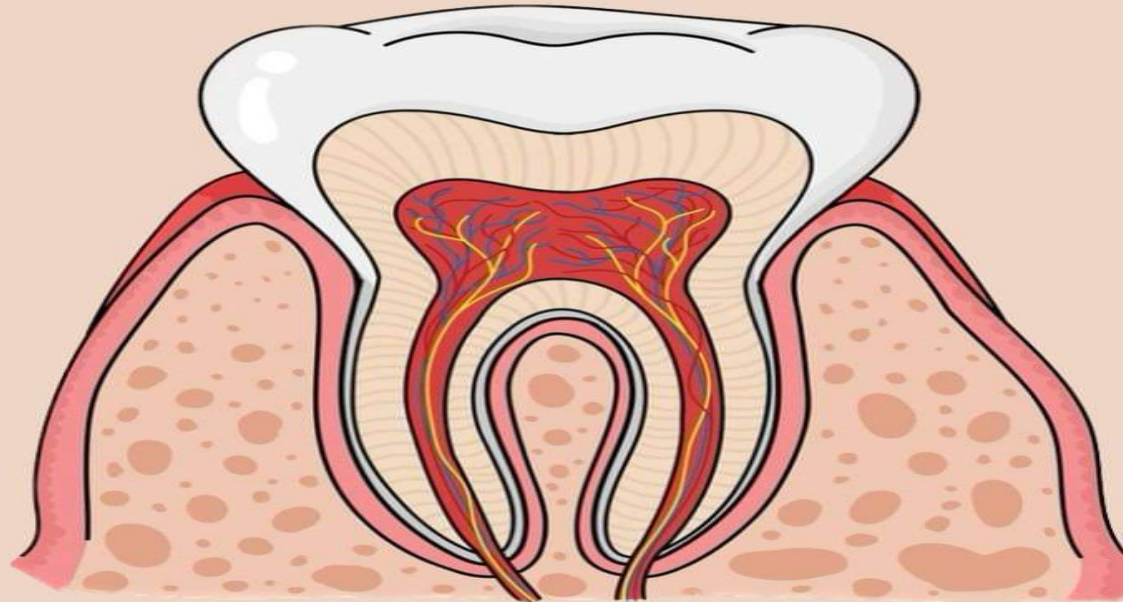




ANATOMY

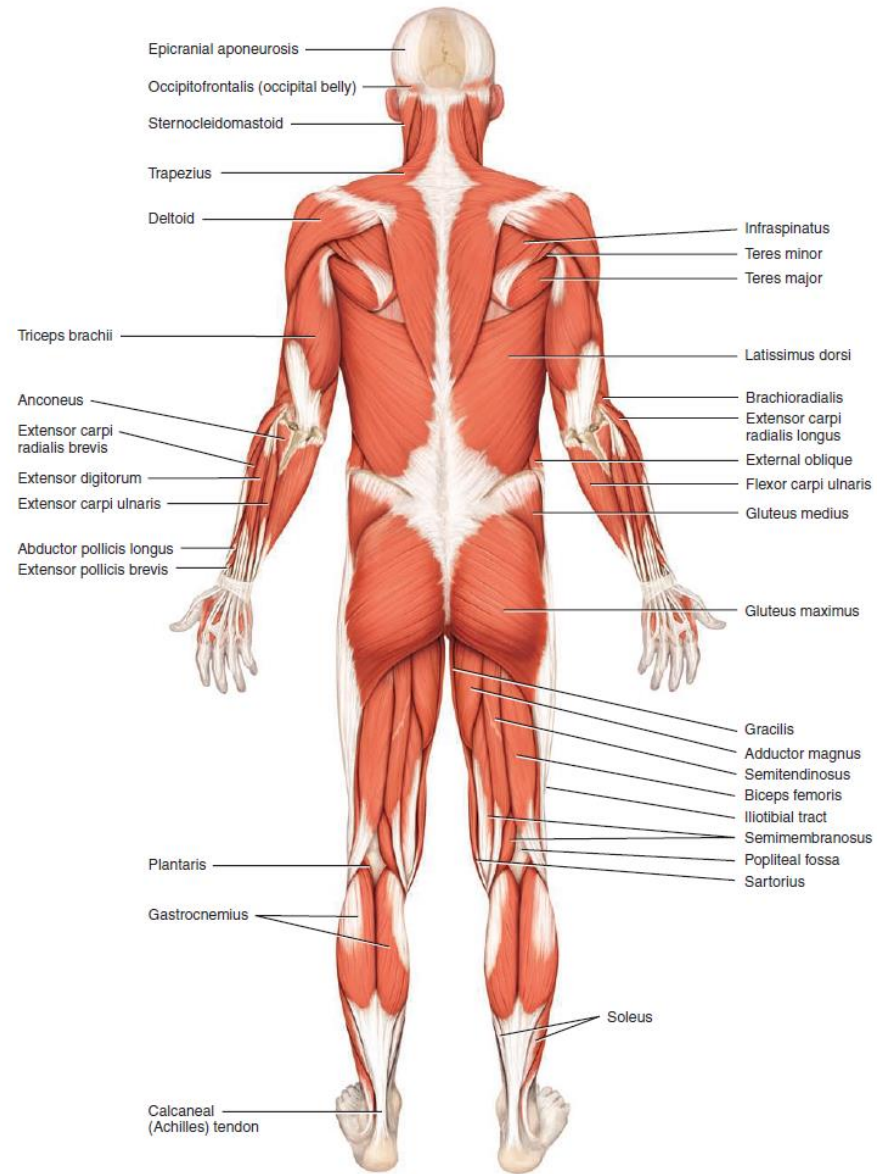
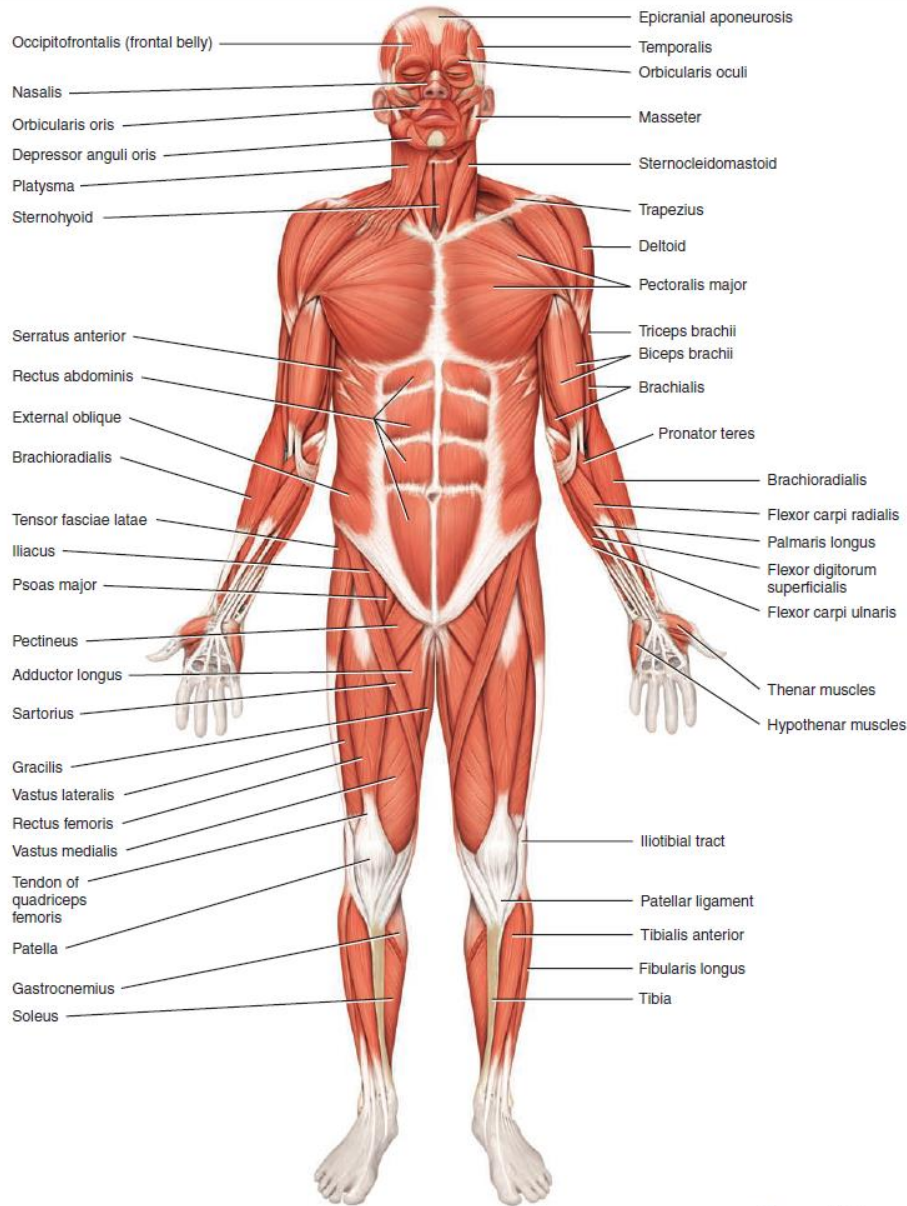


LEC NO. : 9

DONE BY : Nouf Al-amoush.

وَقُلْ رَبِّ زِدْنِي عِلْمًا

The Muscular System



(b) Posterior view

Respiratory Muscles Of The Thorax

- Respiratory muscles alter the size of the thoracic cavity which affects the pressure in the lungs, and that determines whether we **inhale** or **exhale**.

دخول الهواء للرنيتين
يحتاج انه يصير
contraction of
muscles

① **Intercostal muscles** arranged in three layers: the

بين الأضلاع
Origin & insertion = ribs

Their action : increased in horizontal dimension of the thoracic cavity

وظيقتهم بعملية التنفس و في عندي ثلاثة انواع
النوع الاول بزيد حجم thoracic cavity اذا ازداد الحجم بالعمود
و برضو عنا بتزيد الحجم أفقياً
النوع الثالث يساعد في زيادة الحجم

1. **External intercostal muscle**

2. **Internal intercostal muscle**

3. **Innermost intercostal muscle.**

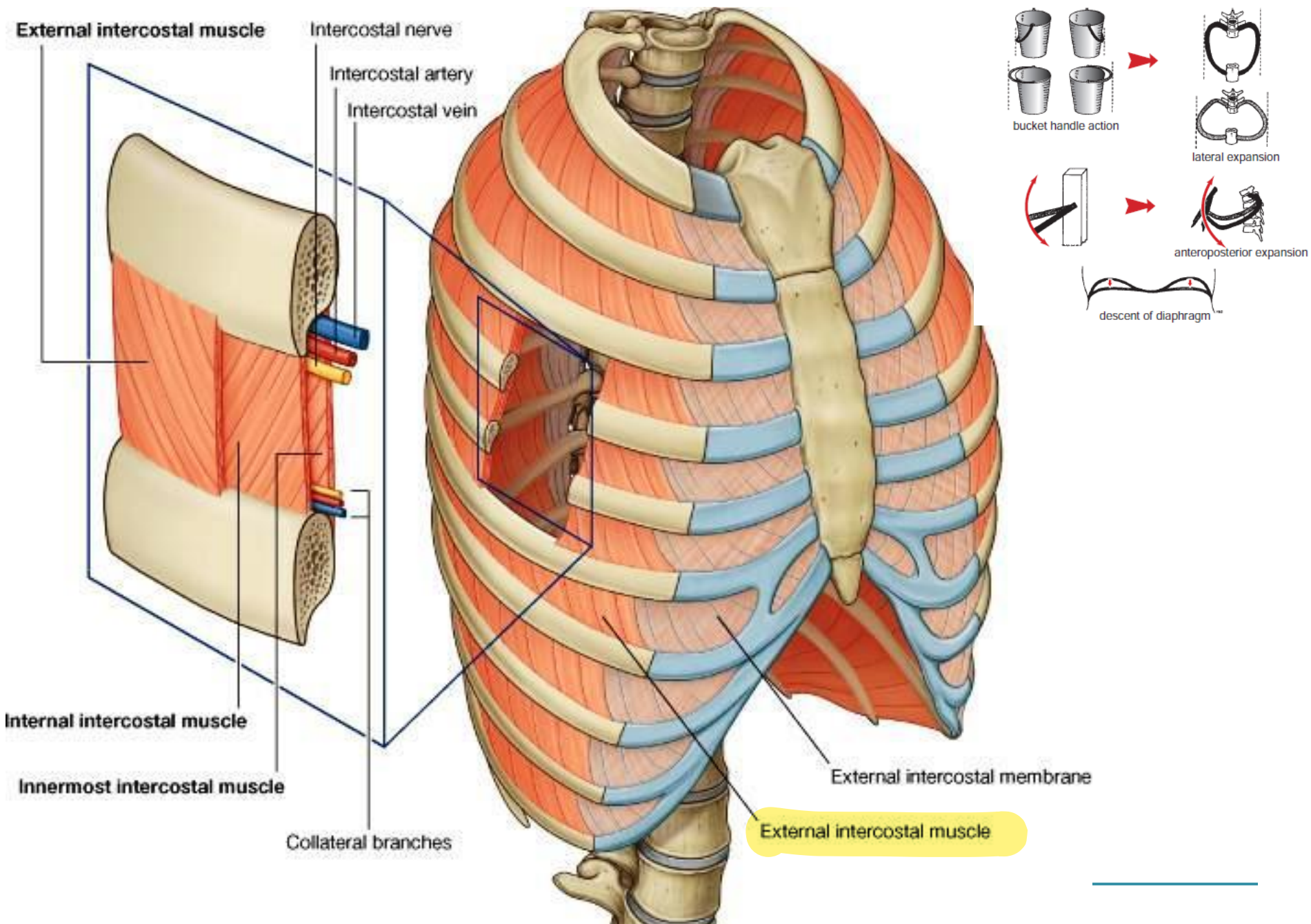
During contraction
Insertion to origin

Accessory muscles useful in forced breathing:

1. **SCM (Sternocleidomastoid muscle)**

2. **Scaleni muscles**

Ana muscle attached to the ribs, sternum, clavicle
روح يساعدوا بعملية respiration

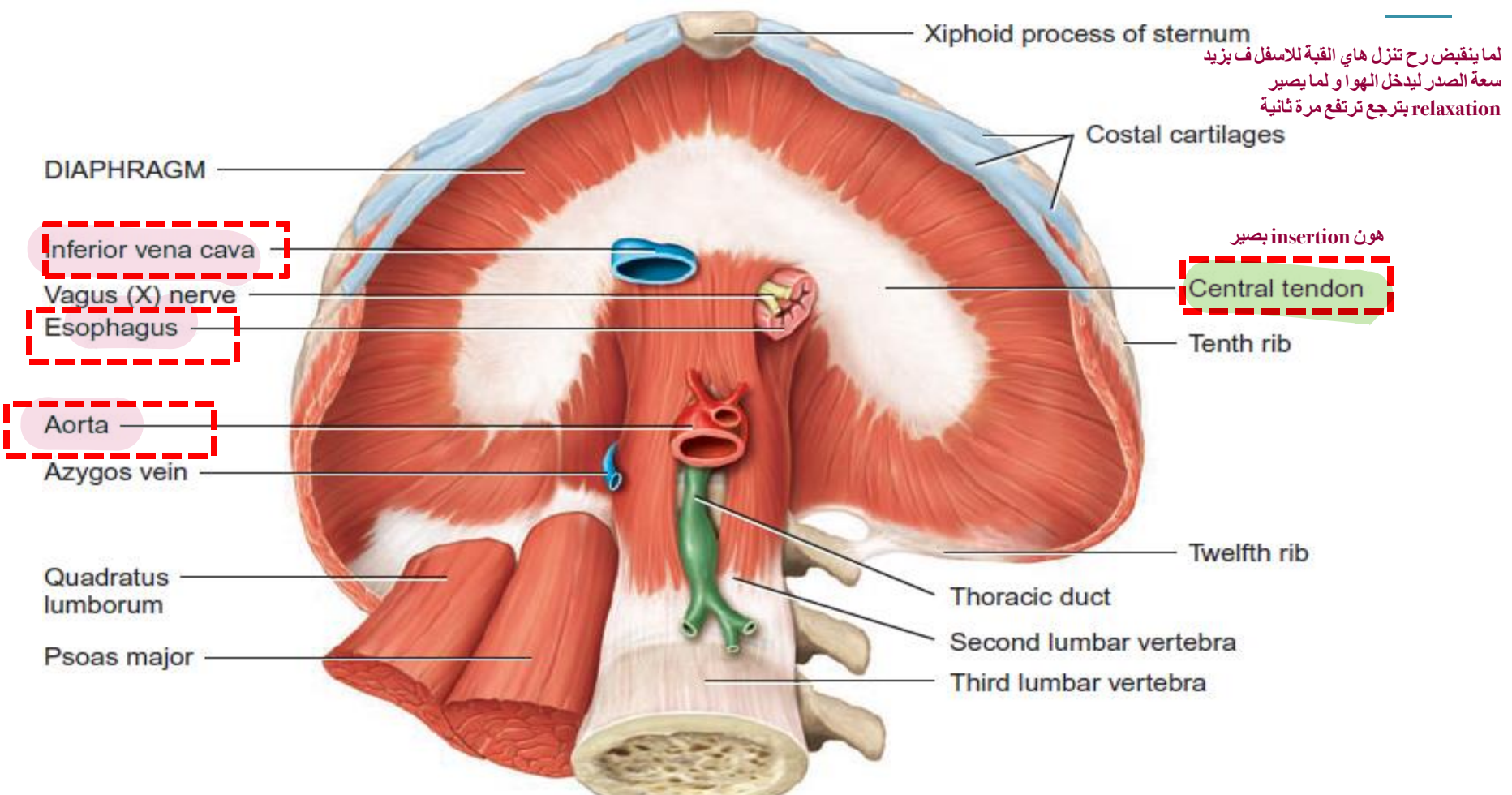


The Diaphragm Skeletal muscle

The diaphragm is the most important muscle of respiration

Muscle	Origin	Insertion	Nerve	Action
<p>مطلوب حفظ كل اشي عنه</p> <p>Diaphragm</p>	<p>1) Sternal part: Xiphoid process</p> <p>2) Costal part: Lower 6 costal cartilages and adjacent ribs</p> <p>3) Vertebral part: Upper 3 lumbar vertebrae and their discs</p>	<p>All muscle fibers converge to be inserted into a centrally located tendon</p>	<p>Phrenic nerve</p> <p><small>One of the spinal nerve</small></p>	<p>Contraction of the diaphragm increases vertical diameter of thoracic cage causing inhalation. Its relaxation leads to exhalation.</p> <p><small>استنشاق زفير</small></p>





Xiphoid process of sternum

لما ينقبض رح تنزل هاي القبة للأسفل ف يزيد
سعة الصدر ليدخل الهواء و لما يصير
relaxation بترجع ترتفع مرة ثانية

Costal cartilages

DIAPHRAGM

Inferior vena cava

Vagus (X) nerve

Esophagus

هون insertion بصير

Central tendon

Tenth rib

Aorta

Azygos vein

Quadratus lumborum

Psoas major

Twelfth rib

Thoracic duct

Second lumbar vertebra

Third lumbar vertebra

Three major openings

• **Caval opening (inferior vena cava) T8**

الوريد الاجوف السفلي

Thoracic vertebrae 8

• **Esophageal hiatus T10**

كانه في ممر ميطن

• **Aortic hiatus T12**

يخرج من القلب و رح ينزل لمنطقة abdomen رح ناخده ب cvs

Anterior Abdominal Wall Muscles على مستوى lumber

- The anterolateral abdominal wall includes:

1. **External oblique muscle**

Downward & medially

serratus ribs من رايحة ل anterior

2. **Internal oblique muscle**

Upward & medially

3. **Transversus abdominis muscle**

ماشية بشكل افقي

4. **Rectus abdominis muscle**

عمودية

1+2+3

ما بيكونو بالوسط، بيتحدوا مع بعض و بشكلوا tendon عريض اسمه aponeurosis و هو ينقسم الى قسمين

ما الهدف من كل هاد التداخل؟
عشان يعطيني ثبات
لل skeleton لانه بيعمل
support of the bone

- The aponeuroses of #1+2+3 form the **rectus sheaths**.

- **Rectus sheath** encloses #4 right and left **Rectus abdominis**

- **Linea alba**: a median connective tissue band of the rectus sheath extending from the xiphoid process to the pubic symphysis.
origin insertion

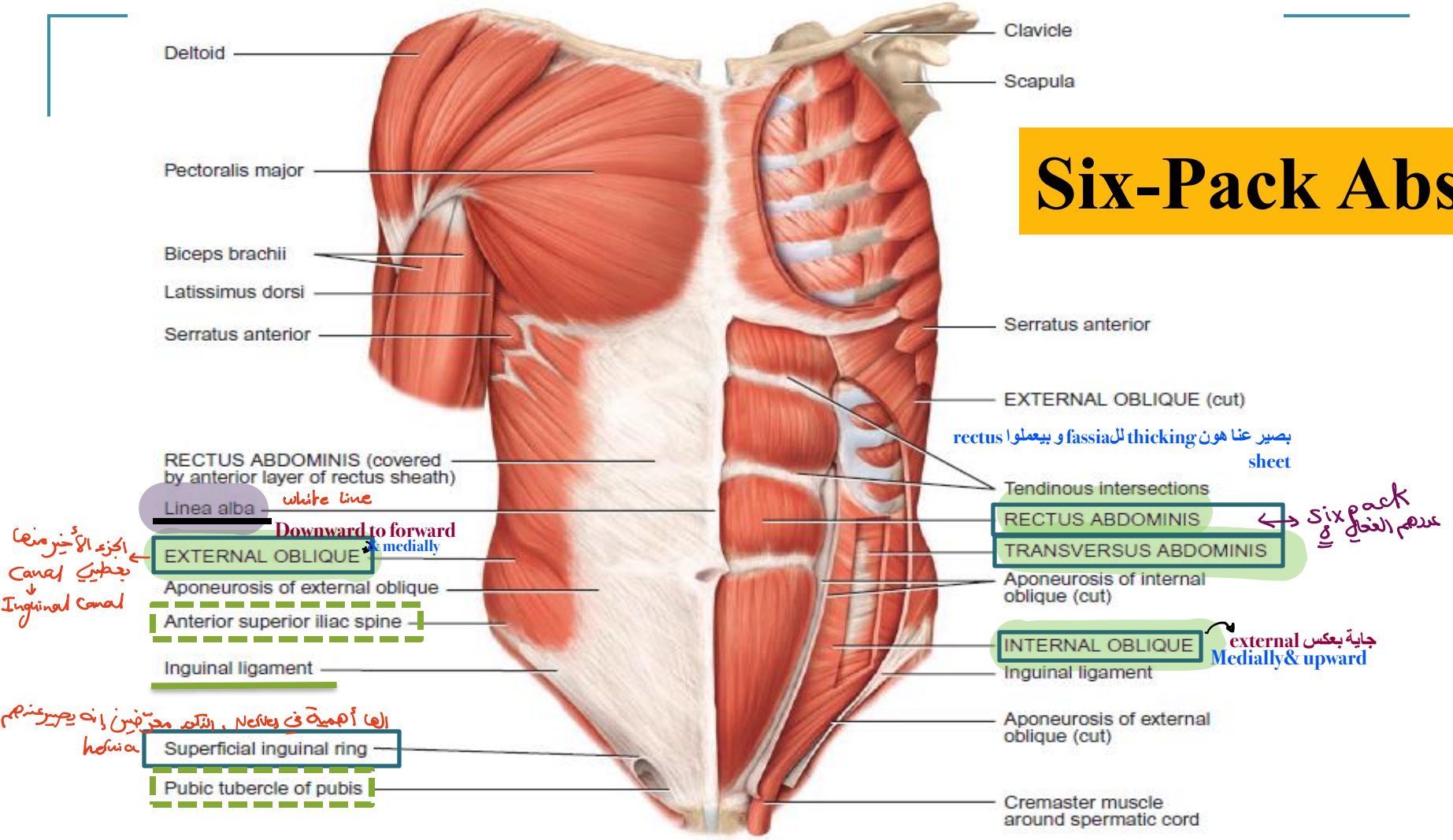
- **Inguinal ligament**: Thick ligament formed of the aponeurosis of the external oblique extend from

Anterior superior iliac spine



Pubic tubercle

Six-Pack Abs



Superficial inguinal ring, the outer opening of the inguinal canal an inguinal hernia

Actions:

1. They **retain** the organs within the abdominal cavity. (Liver, spleen, ---)
2. The oblique muscles laterally **flex** and rotate the trunk.
3. The rectus abdominis **flexes** the lumbar vertebrae.
4. By contracting simultaneously with the diaphragm, they increase intra-abdominal pressure and help in micturition, defecation, vomiting, and labor.
تستعمل للضغط الذي يسبب عد
على الولادة .
5. They may contract at the end of expiration, pushing the relaxed diaphragm further upwards into the thorax **(forced exhalation)**.

Posterior Abdominal Wall Muscles

Psoas minor

Quadratus lumborum: depresses 12th rib,
lateral flexion of lumbar region spine

Iliac crest

PSOAS MAJOR

ILIACUS

Flex thigh on trunk. If thigh is fixed, flexes trunk on thigh (Waking up muscle)

insertion → in the femur.

TENSOR
FASCIAE LATAE

Sartorius

Rectus femoris

Pectineus

Adductor longus

Gracilis

(a) Anterior deep view

