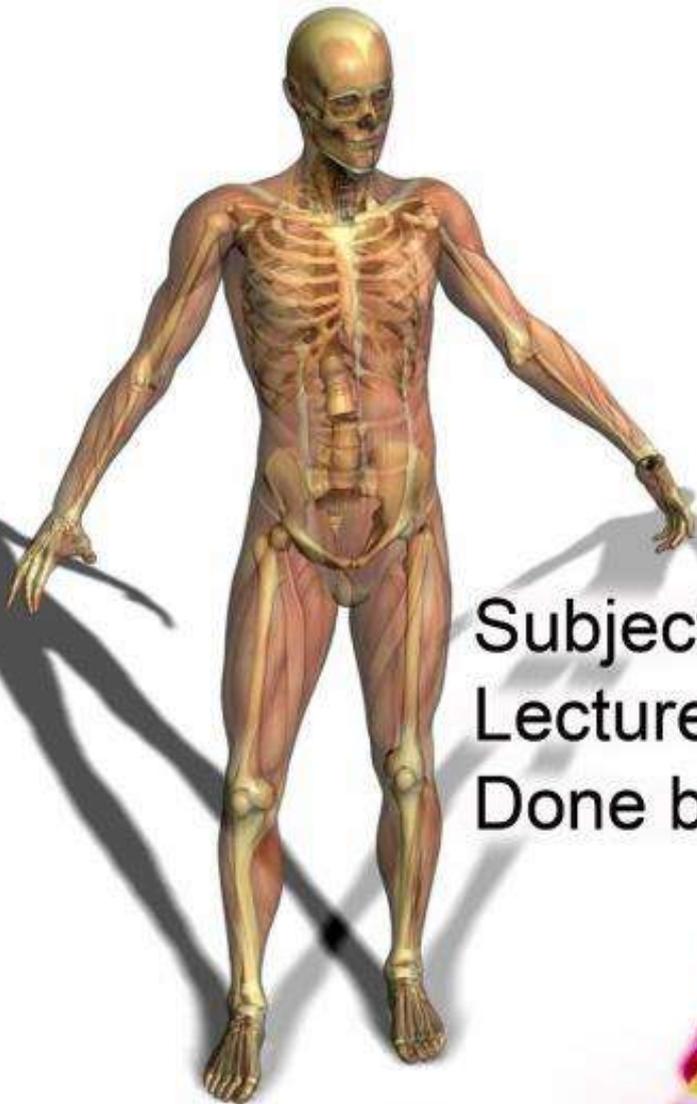




ANATOMY



Subject : *Introduction to Anatomy*

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lecture # : 23

Date : Mar/26th/2013

Thorax:

❖ The thorax consist of :

■ **Thoracic cage** (thoracic wall) which consist of :

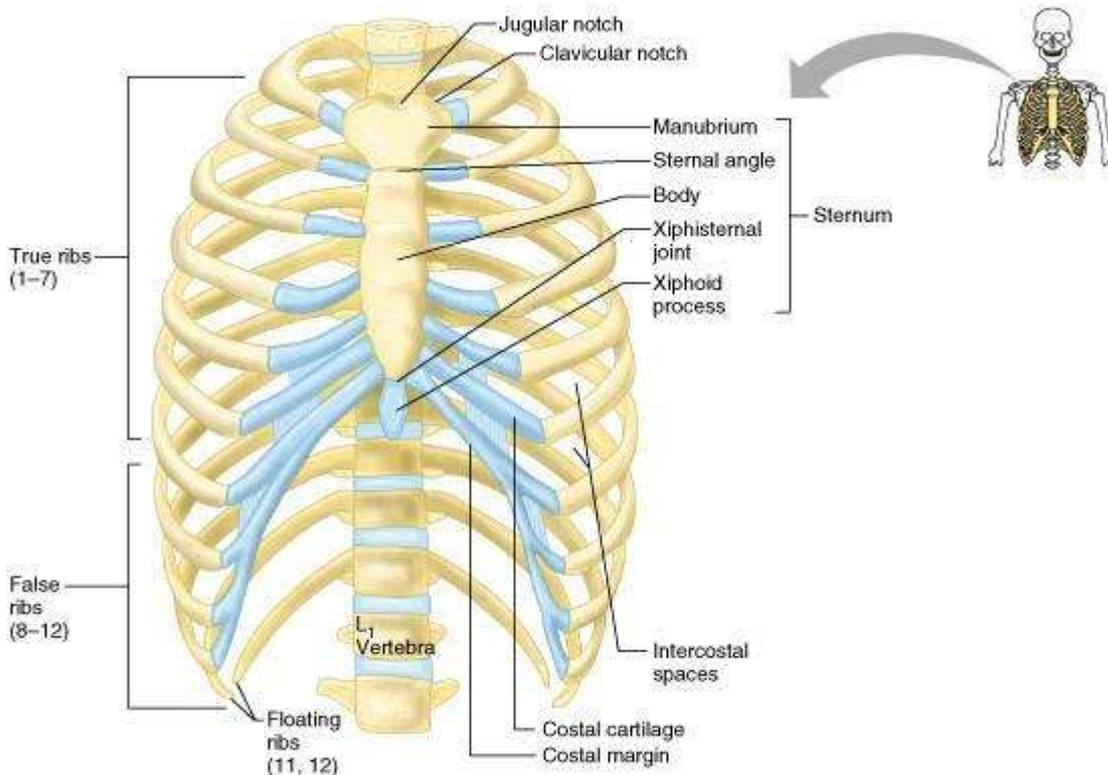
- Sternum (anteriorly) which is called breast bone , it is flat and spongy bone , located anterior to the heart , it is like a dagger , and it is divided into three parts :
 - **Manubrium** (manubriosternal) : form the upper part of the sternum .
 - **Body**
 - **Xiphoid process** → cartilaginous if you are < 40 years

Note: between manubrium and body there is angle called sternal angle (angle of Lewis) , this angle located at the second rib level .

spongy bone → contain bone marrow

cancer → we take the sample from it, in order to test it.

يتم الضغط عليها في إنعاش القلب و الرئتين.



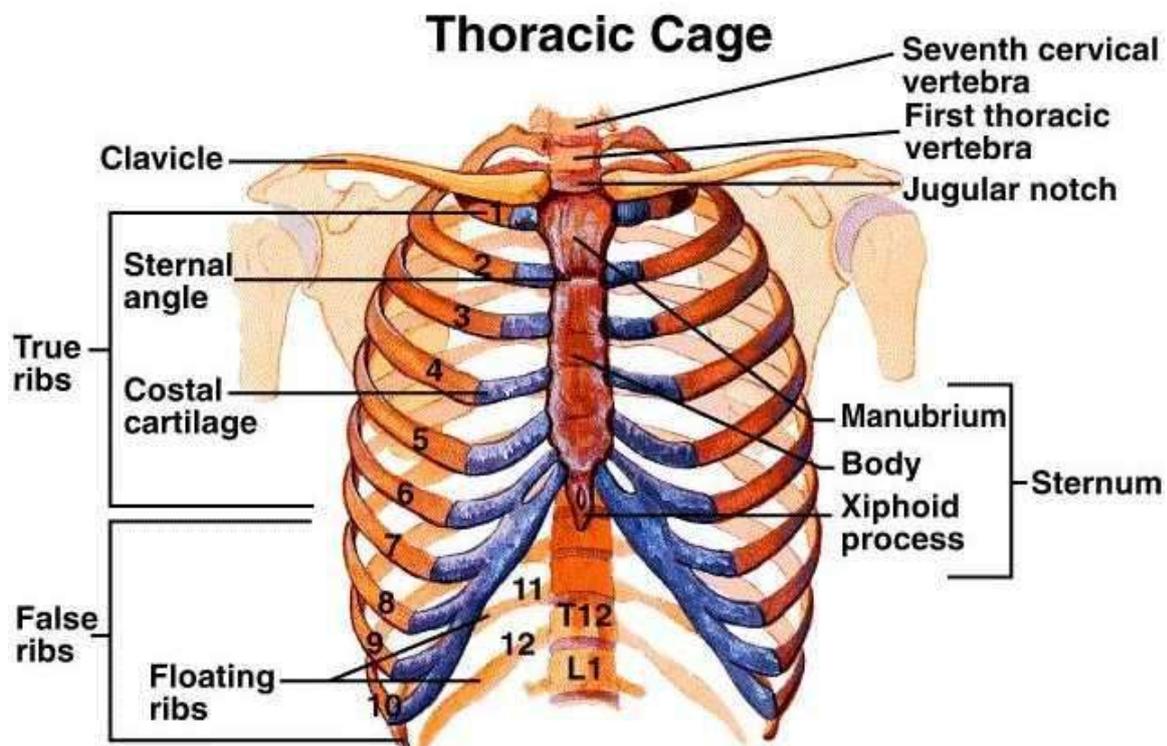
(a)

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- 12 thoracic vertebrae (posteriorly) .
- 12 pairs of ribs (on both sides).
- 12 pairs of costal cartilages (hyaline cartilages) .

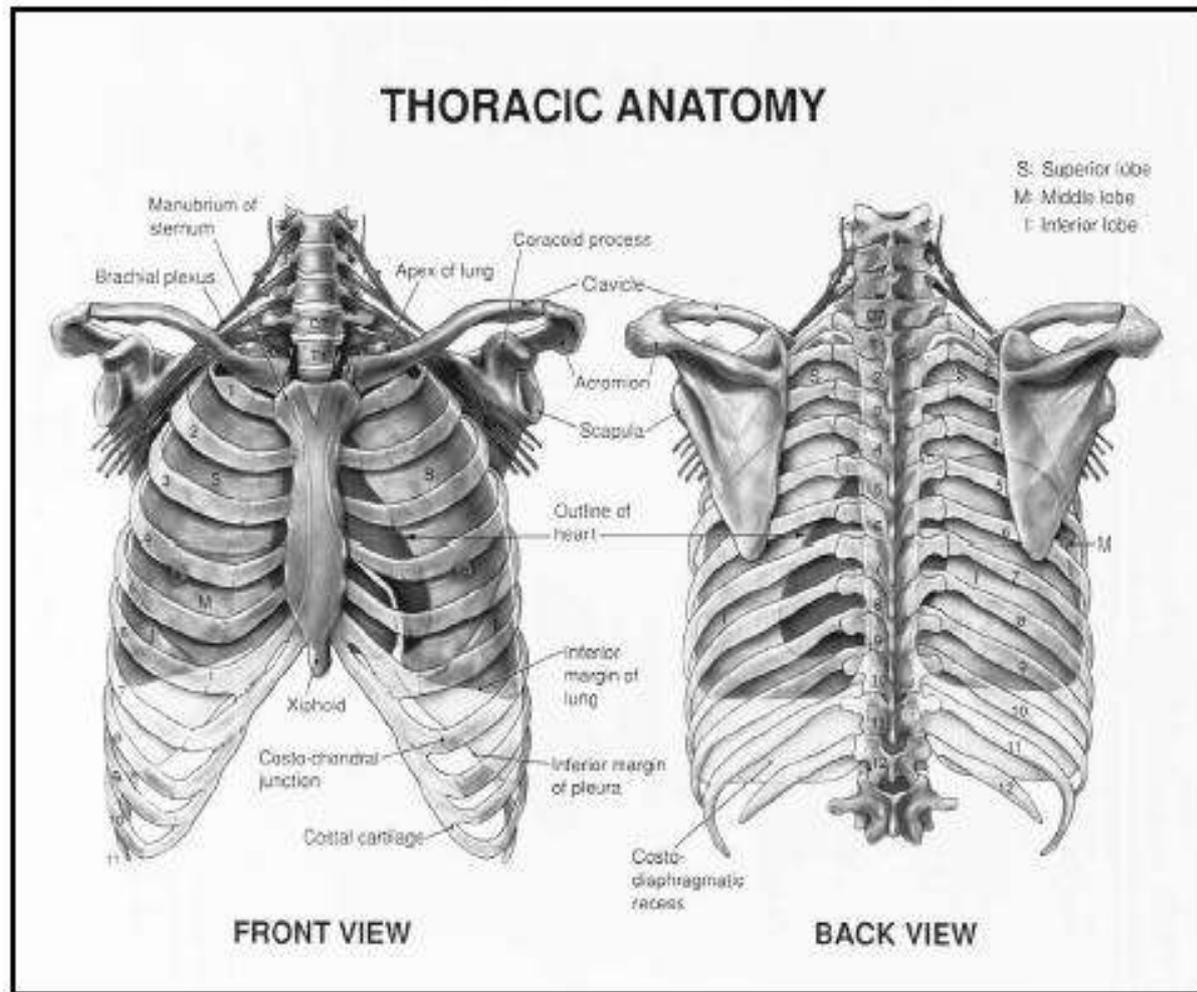
all the ribs extend from posterior (vertebrae) to anterior (sternum)
some of the ribs attach directly to the sternum from (1-7) and called true ribs , and from (8- 10) called false ribs and attach *indirectly* to the sternum , and from (11- 12) called floating ribs attach to muscles of the abdominal wall .

Covering lining : the thorax wall has a covering from the outside (skin) and from inside (pleura)_ This pleura cover the lungs and their cavity .



■

■ Thoracic cavity



There are 12 sequential ribs between each of them

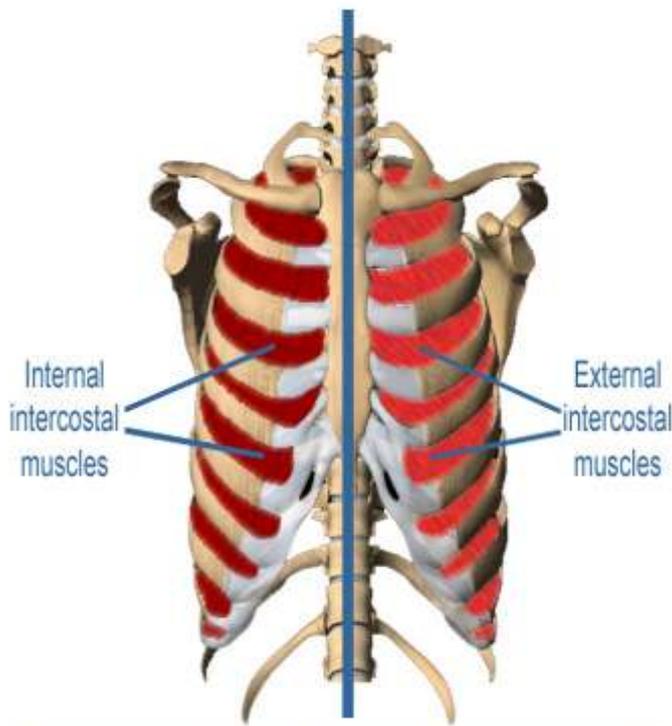
there is a space called intercostal space, and they are 11 in number, and it contains:

- 3 circular intercostal muscles which are:
 - External intercostal muscle.
 - Internal intercostal muscle.
 - Innermost intercostal muscle.
- Intercostal vein.
- Intercostal artery.
- Intercostal nerve.

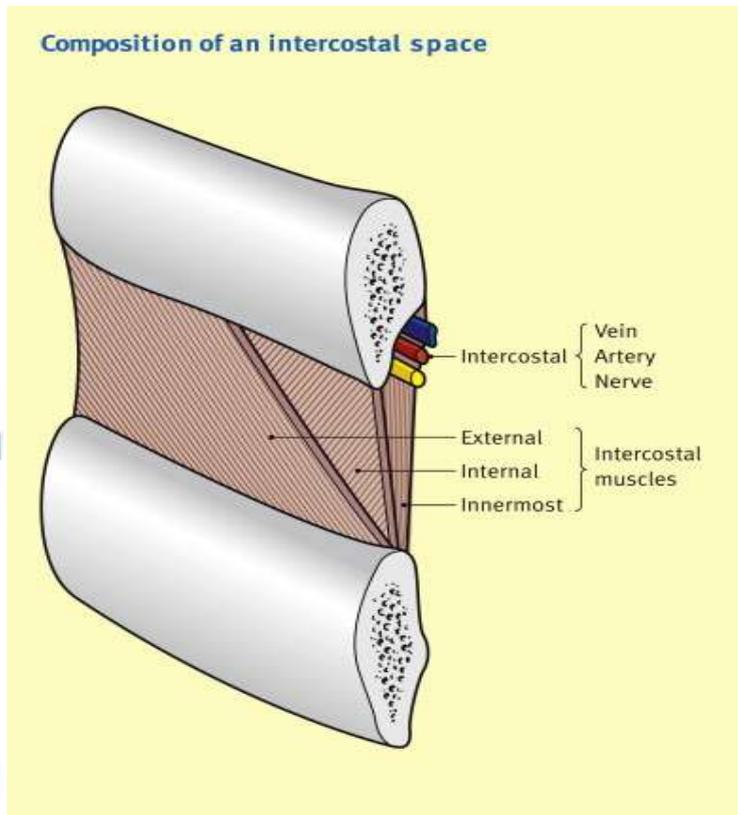
Remember → VAN

note: intercostal spaces should be rigid during inhale.

clinical case: flying breast. (broken ribs)



Note: the external muscles are a layer on top of the internal muscles, but for the purposes of illustration the diagram has been split to show the inner layer on the left and the outer layer on the right.



Thoracic cavity extending from thoracic inlet to thoracic outlet , in another word it is extending from the root of the neck to the abdomen , it is separated from the abdomen cavity by the diaphragm .

Thoracic inlet bounded anteriorly by manubrium, and posteriorly by first thoracic vertebrae and first rib from both sides . Thoracic outlet covered by diaphragm.

Thoracic cavity divided into 3 compartments:

Right and left pleural sacs , and central part which called mediastinum .

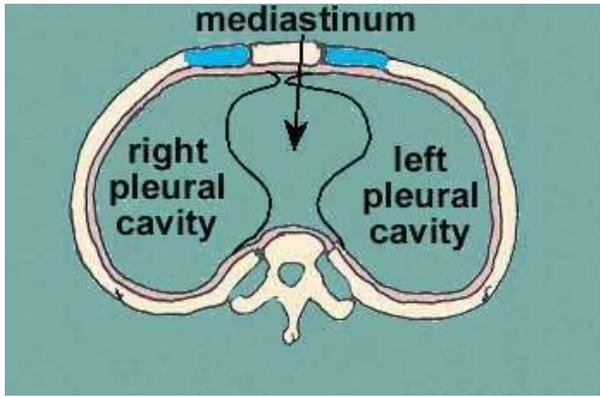
يغذي كل الأطراف

it contains heart , as well as lungs.

Pleura : then membrane that cover lungs and lines thoracic wall , it divided into 2 parts :

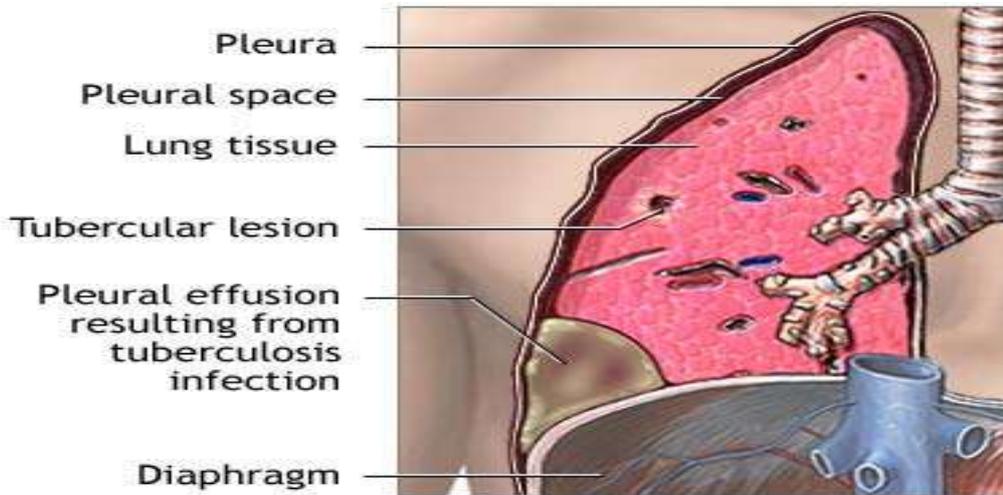
- **Parietal:** (outer part) line wall of thoracic cavity .
- **Visceral:** (inner part) covers the lungs .

*between them there is a potential space called pleural cavity , it contain no air and no pressure .

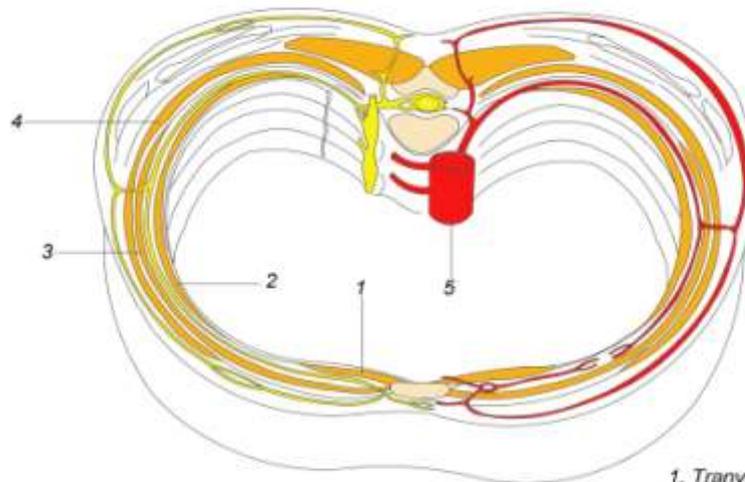


Trachea divides into right and left parts.

Normally, the heart beats 75 times per minute and we breath 15 times, after a strenuous activity heart beats may reach 120 (tachycardia)



ADAM.



Transverse section of the thorax showing the contents of an intercostal space.

1. *Tranversus Thoracis*
2. *Innermost intercostal*
3. *Internal intercostal*
4. *External intercostal*
5. *Aorta*

“الشيء الأساسي في هذا العالم ليس إلى أي مكان قد وصلت الآن و لكن في أي اتجاه تتقدم“