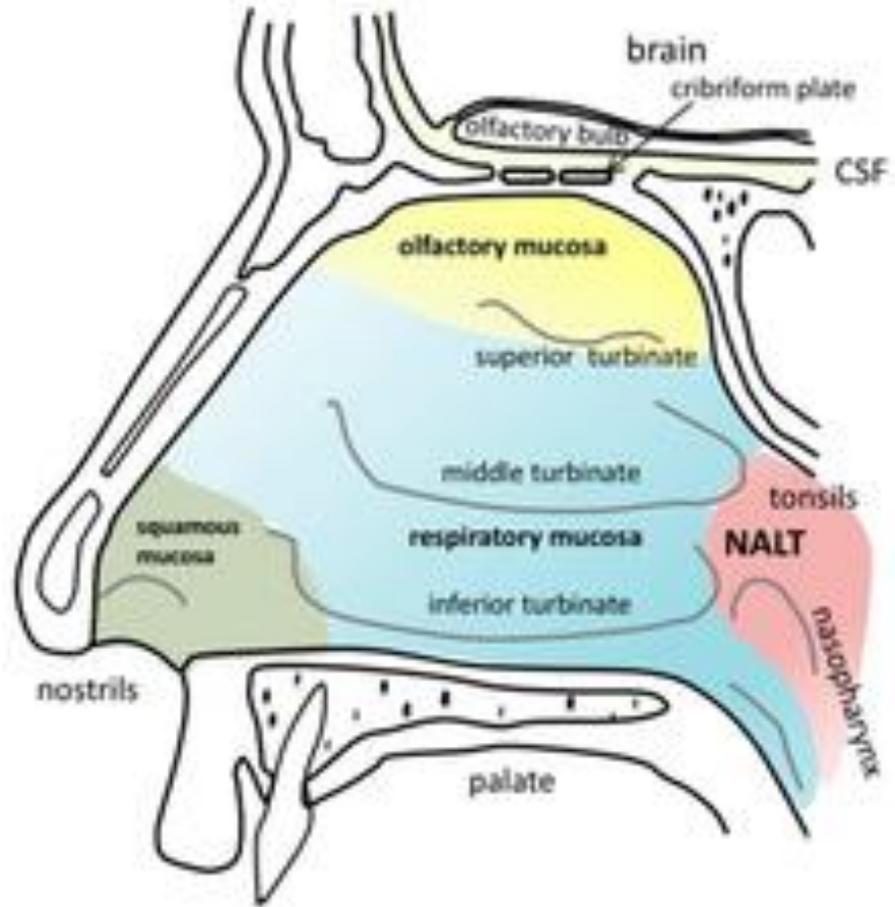


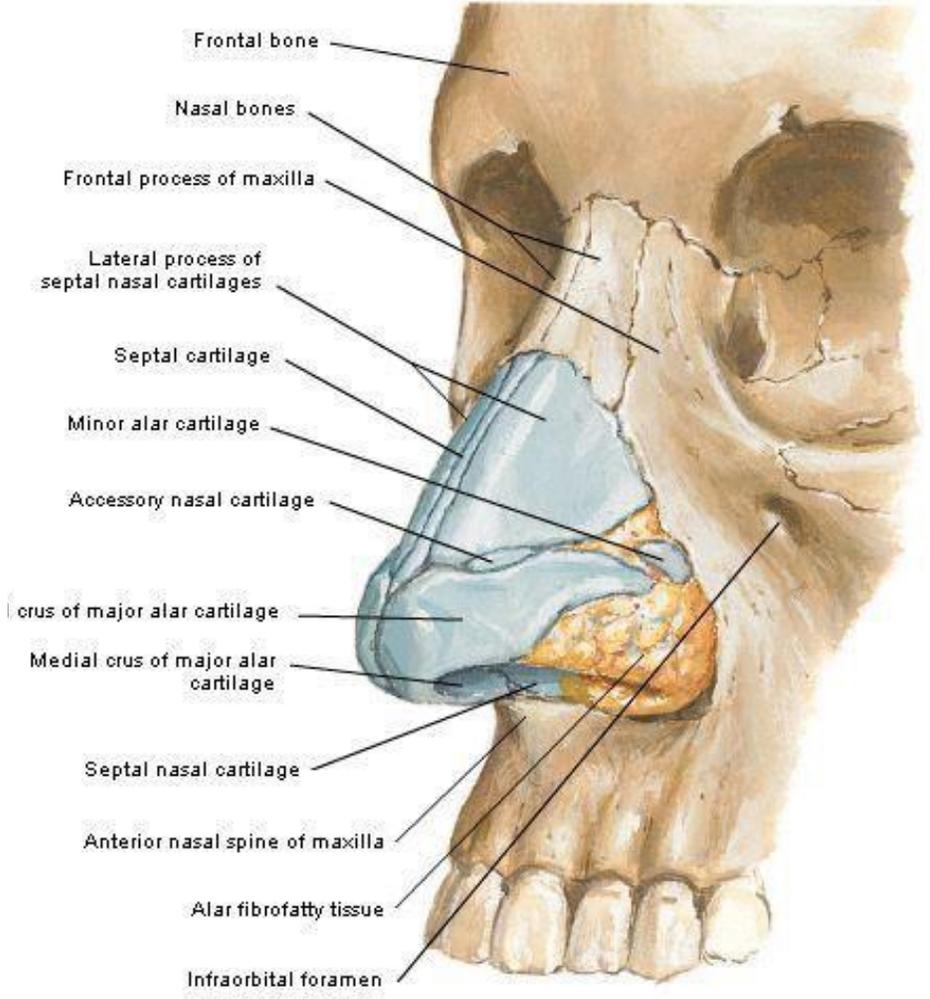
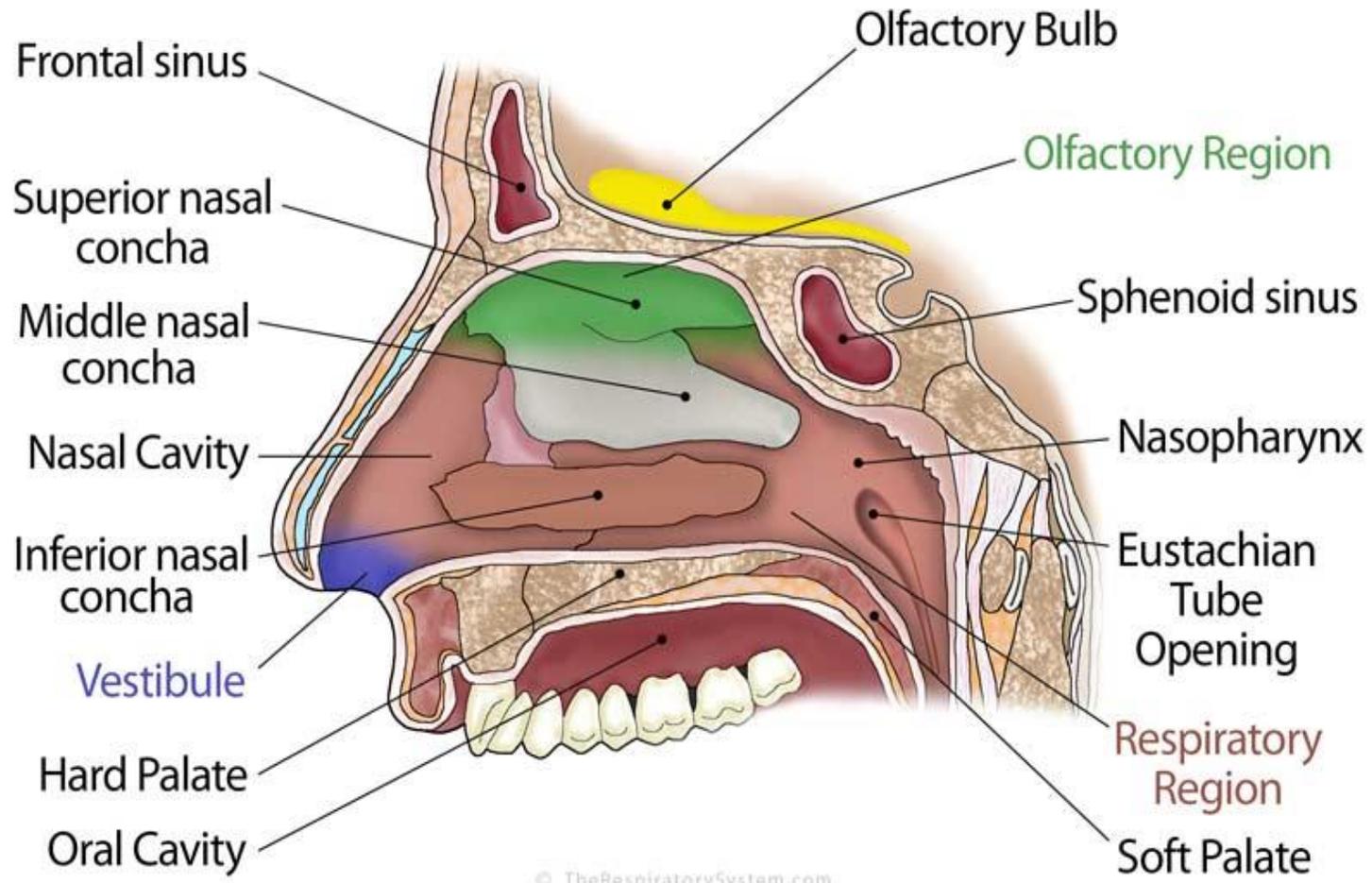
Respiratory System 2021
for Practical part
Dr Amal Albtoosh

Topics

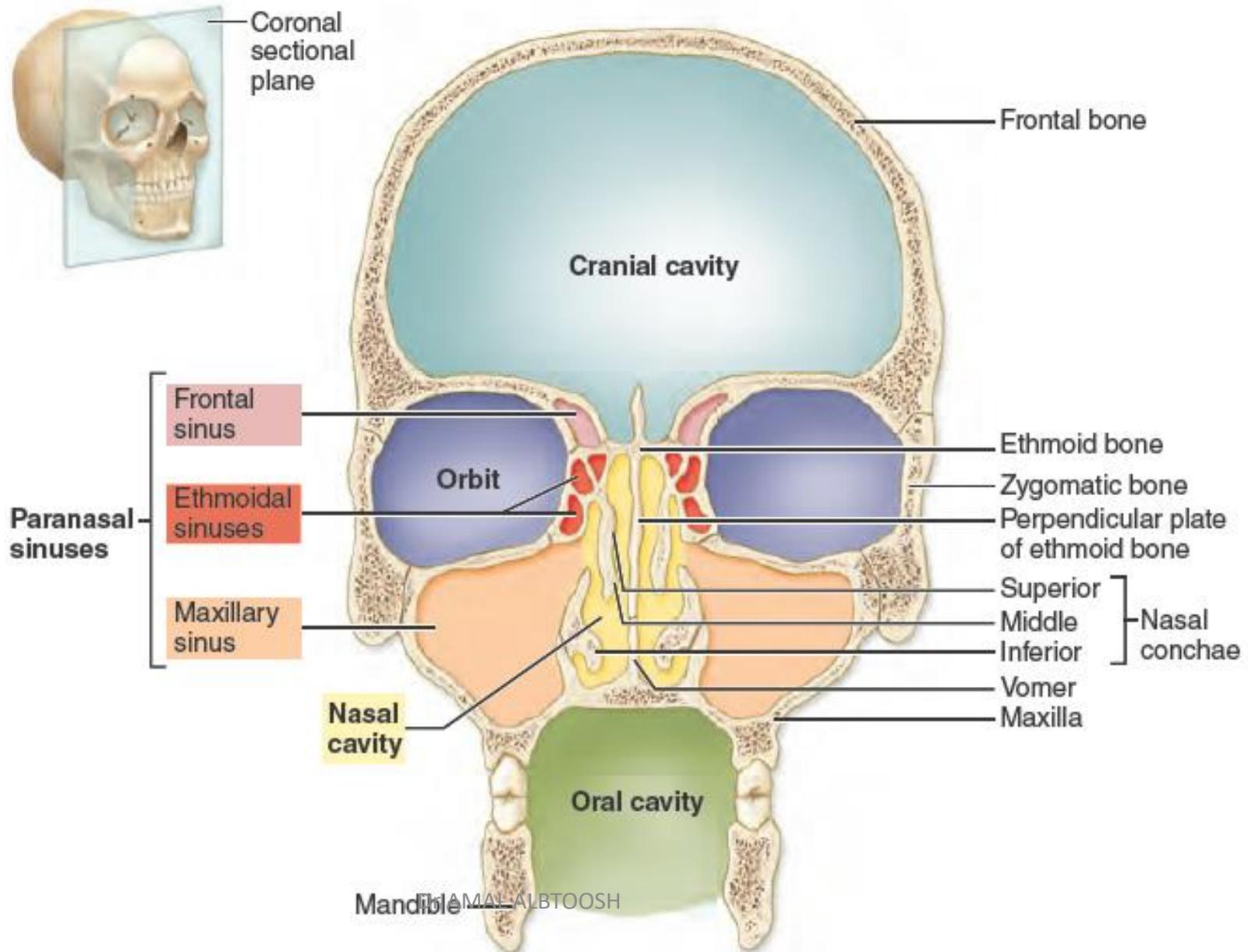
1. Nose, paranasal sinuses
2. Larynx, trachea and bronchi
3. Thoracic cage and diaphragm
4. Intercostal spaces and azygos system
5. Pleura and lung

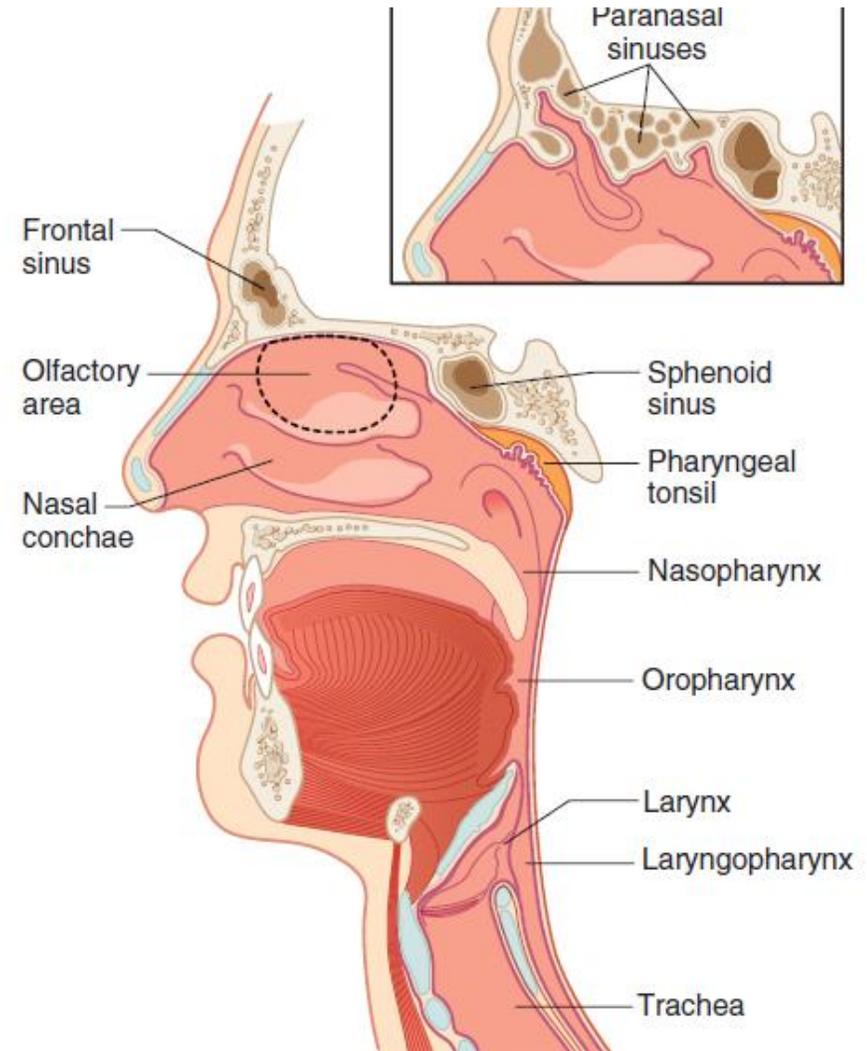
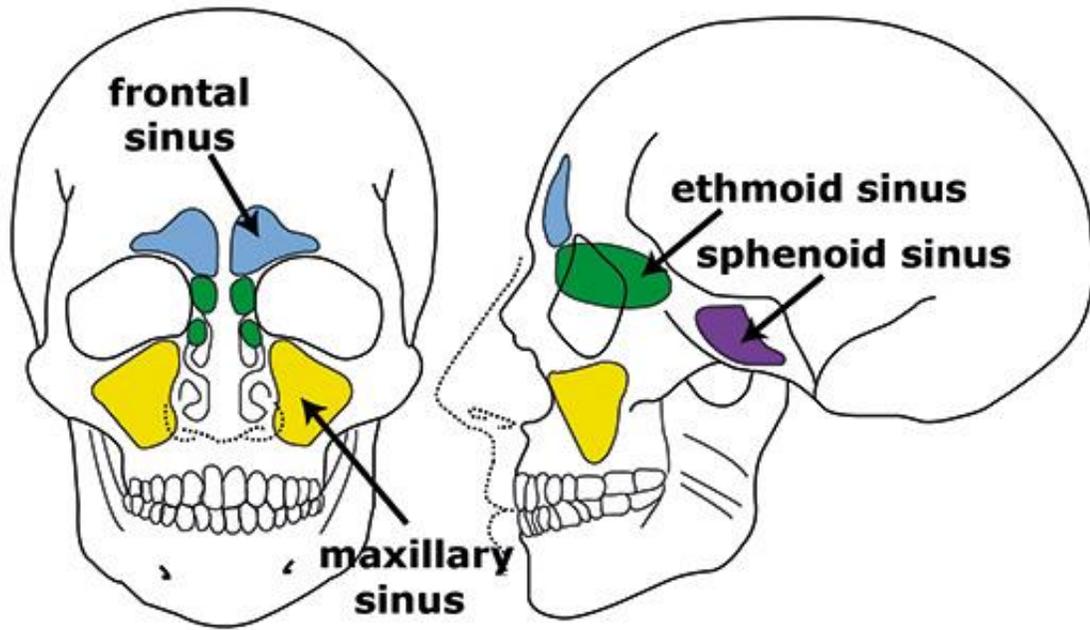


Nasal Cavity

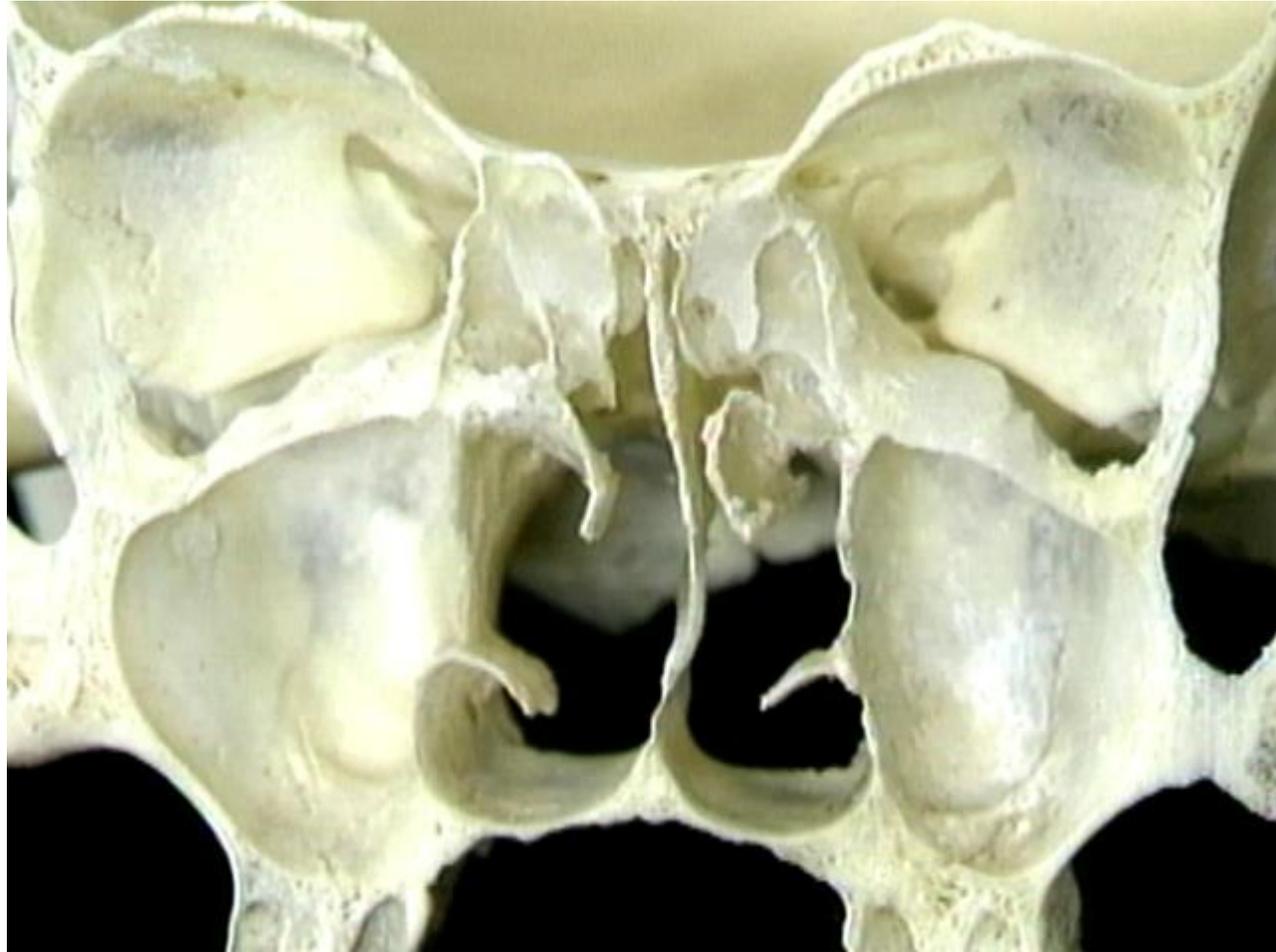


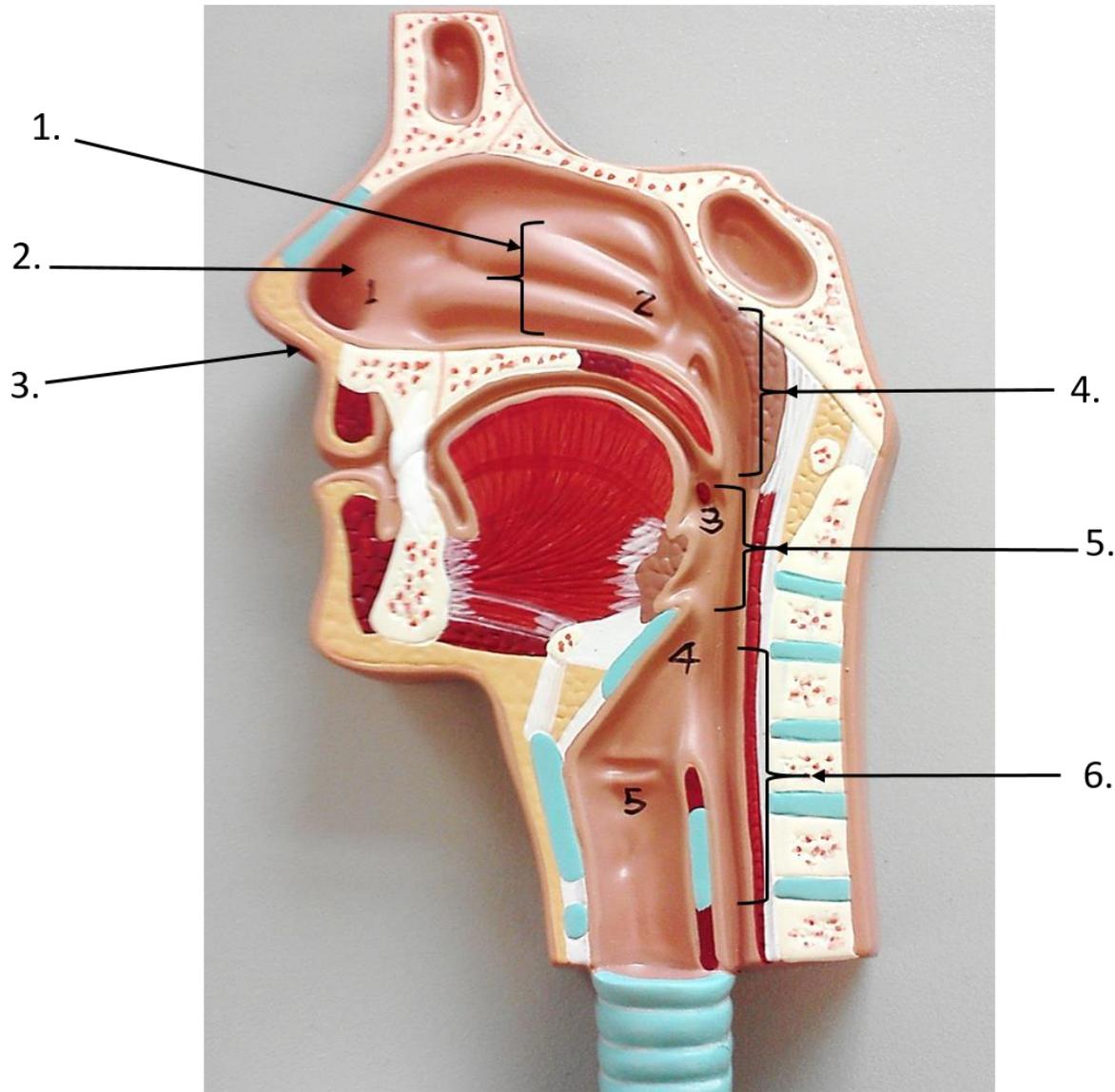
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Paranasal sinuses are located in the frontal, maxillary, ethmoid, and sphenoidal bones. They communicate with the nasal cavities.





Label the following structures:

Nasal conchae

Nasopharynx

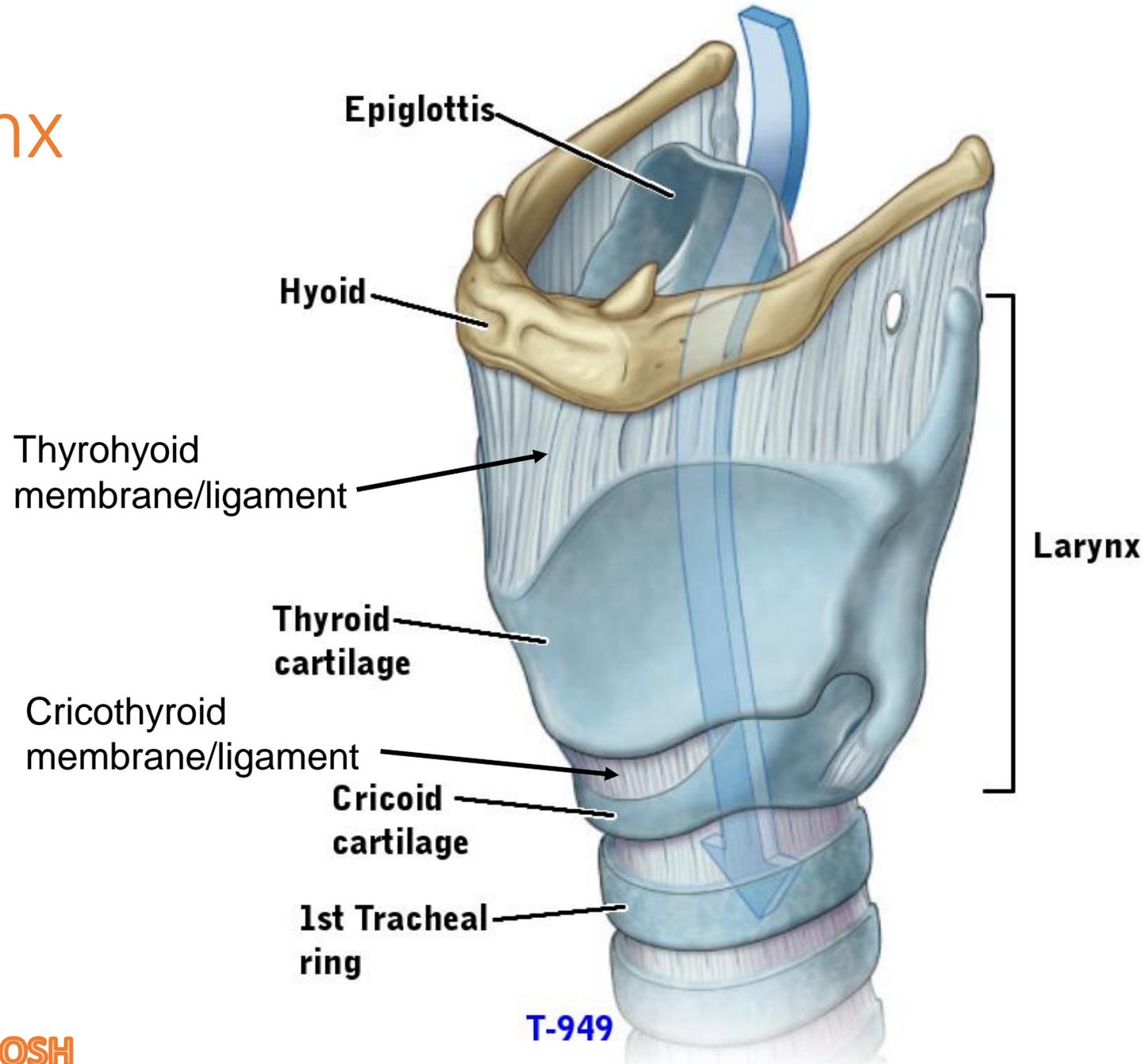
Nasal vestibule

External nares

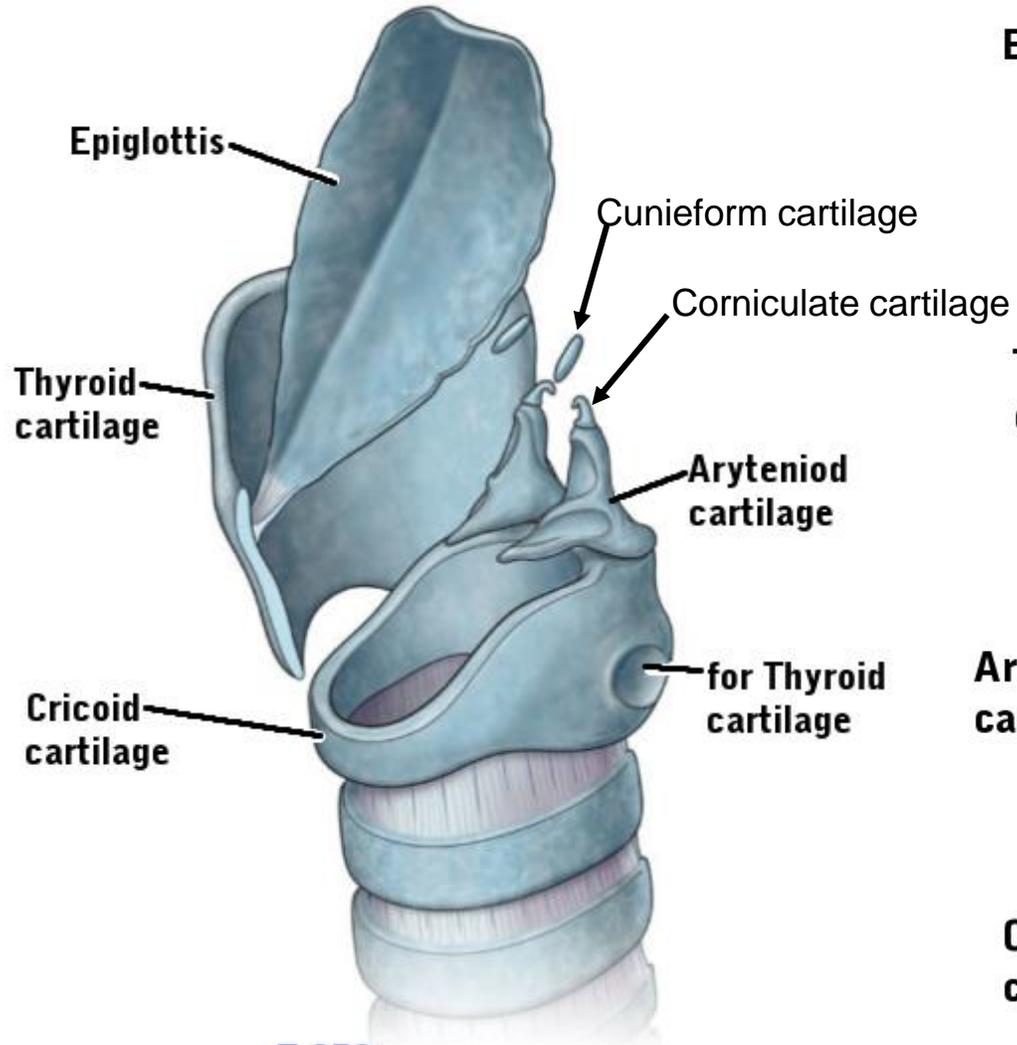
Oropharynx

Laryngopharynx

Larynx

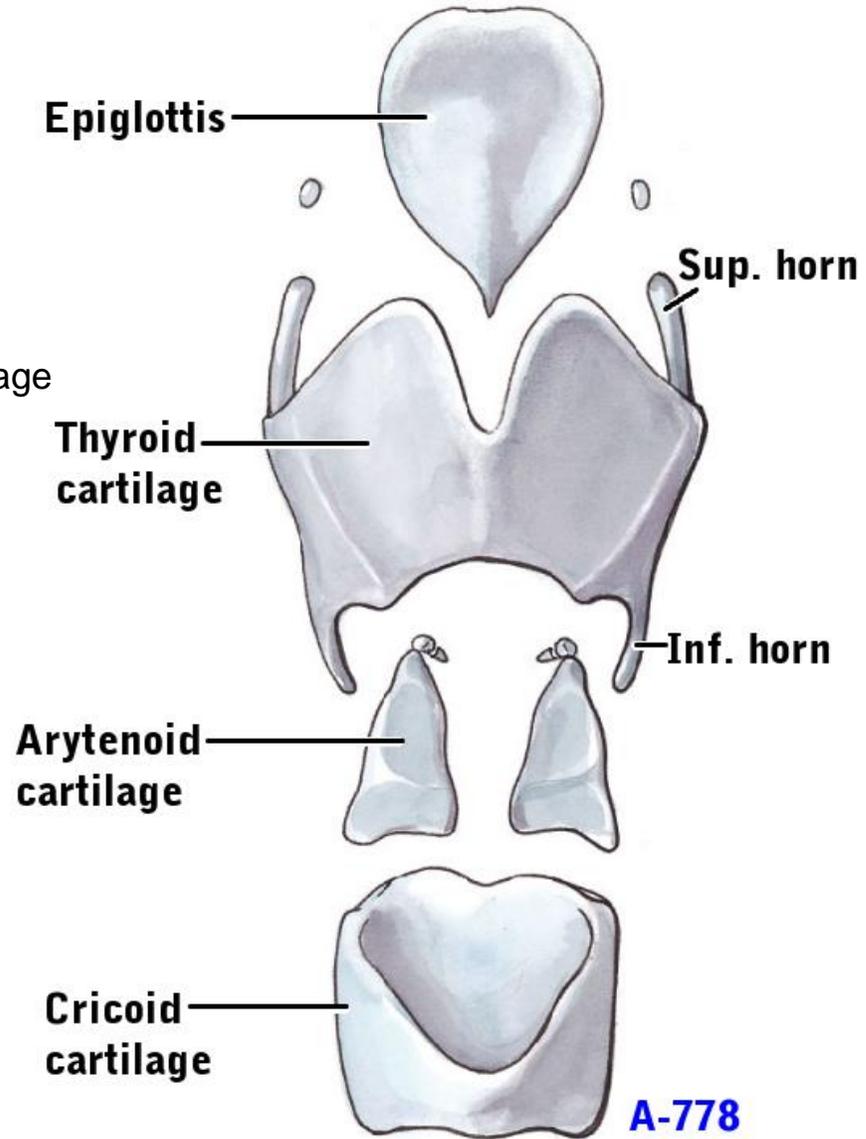


Cartilages



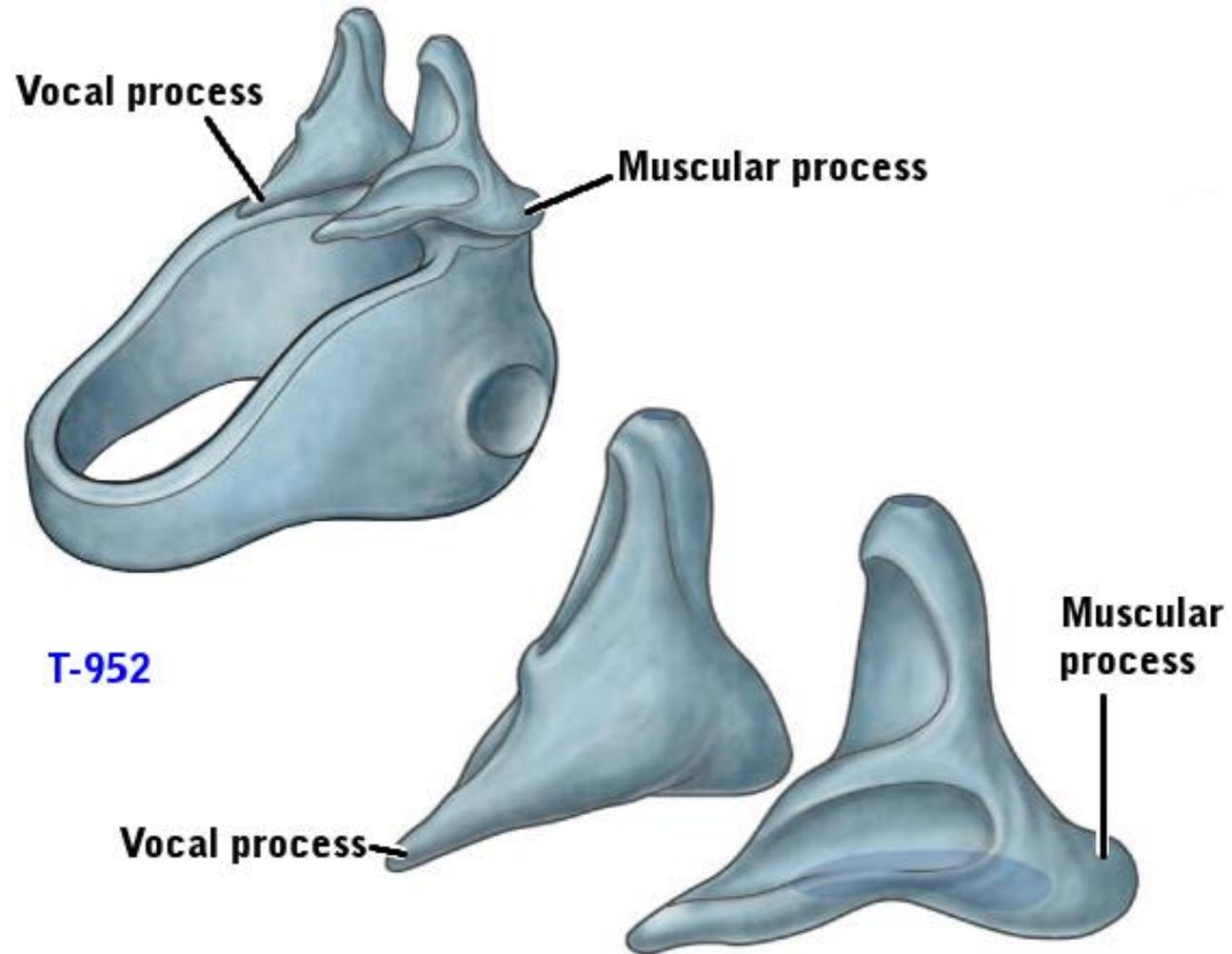
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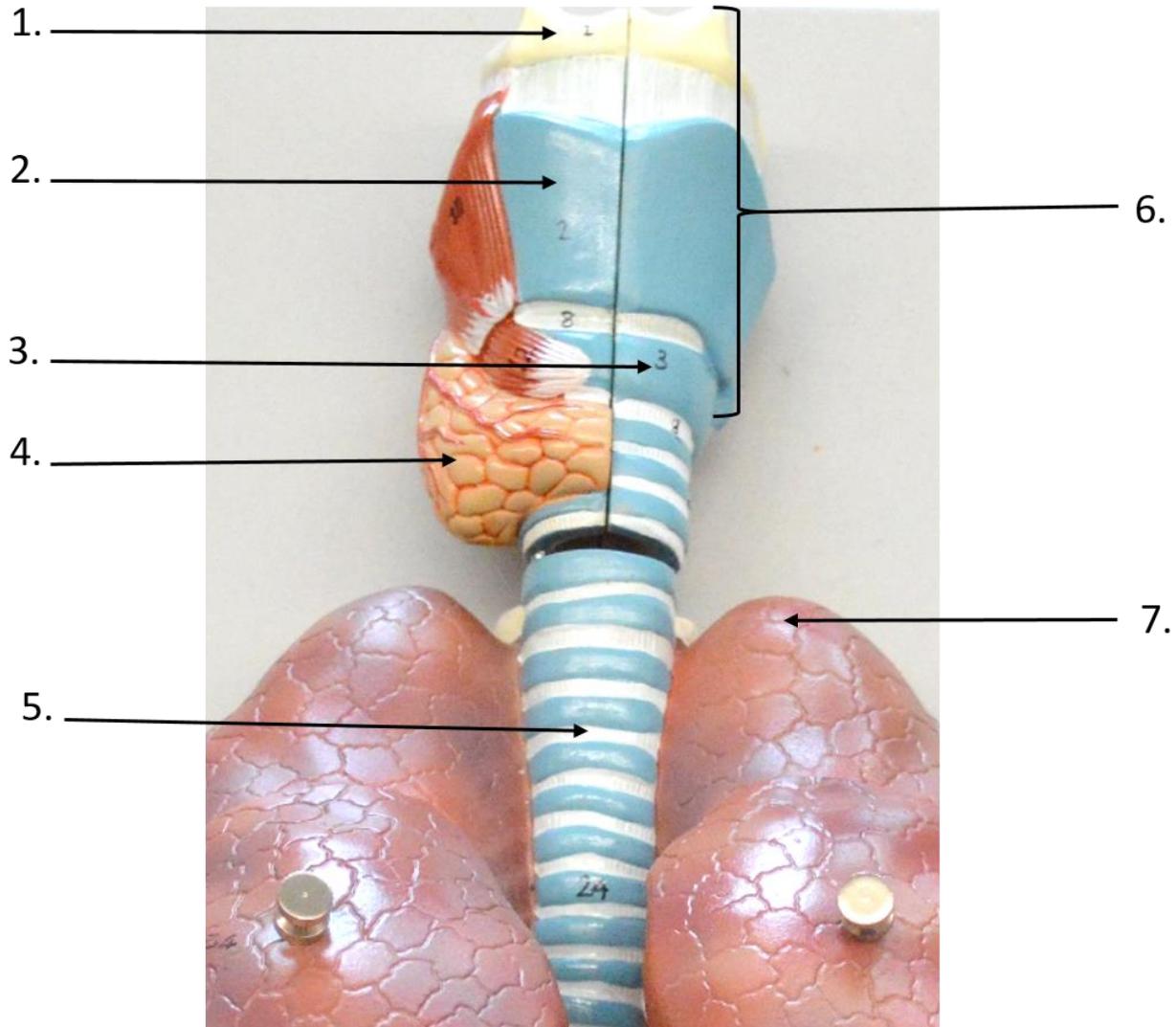


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Arytenoid cartilages



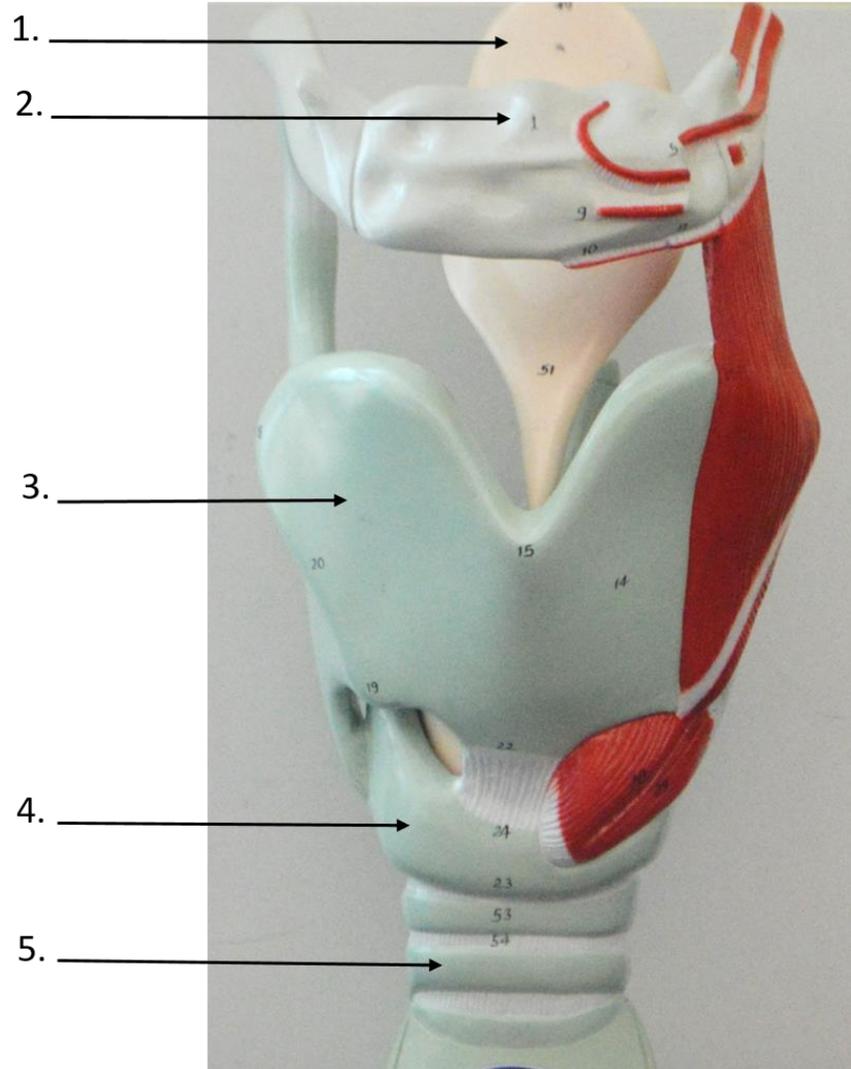
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Label the following structures:

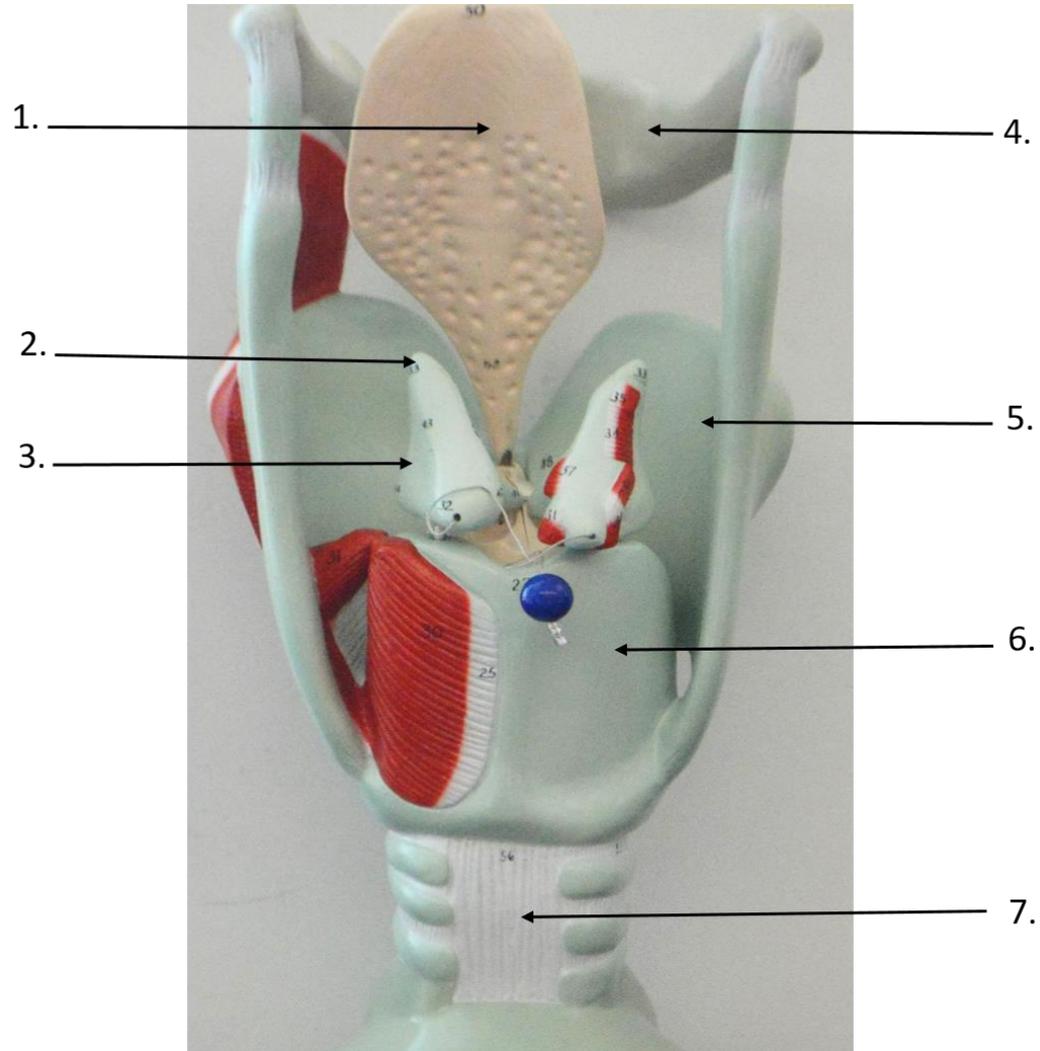
- Thyroid gland
- Thyroid cartilage
- Larynx
- Apex of lung
- Trachea
- Cricoid cartilage
- Hyoid bone

ANTERIOR VIEW



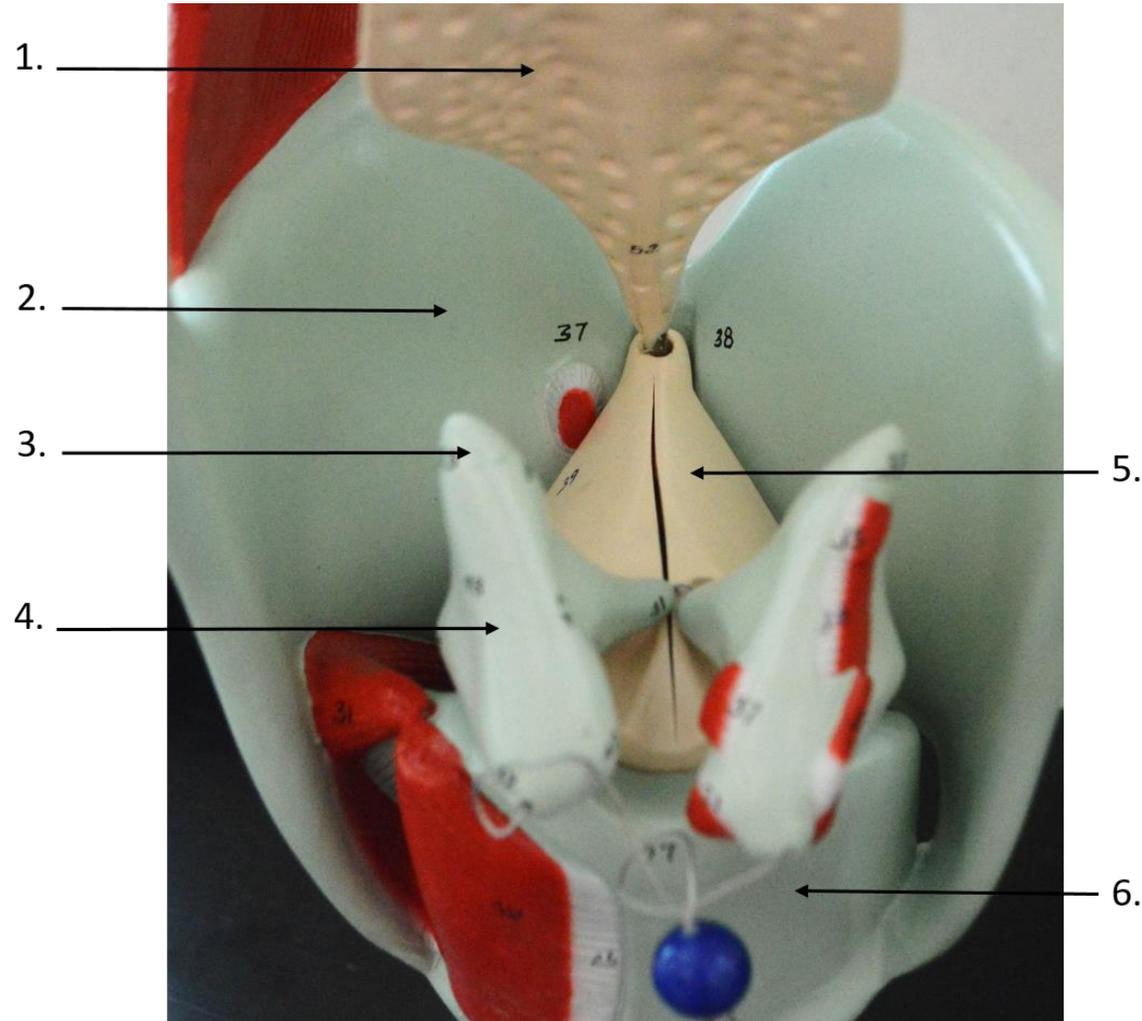
Label the following structures:
Hyaline cartilage rings
Cricoid cartilage
Thyroid cartilage
Hyoid bone
Epiglottis

POSTERIOR VIEW



Label the following structures:
Trachealis muscle
Cricoid cartilage
Arytenoid cartilage
Corniculate cartilage
Epiglottis
Hyoid bone
Thyroid cartilage

SUPERIOR VIEW



Label the following structures:
False vocal cords
Cricoid cartilage
Arytenoid cartilage
Corniculate cartilage
Epiglottis
Thyroid cartilage

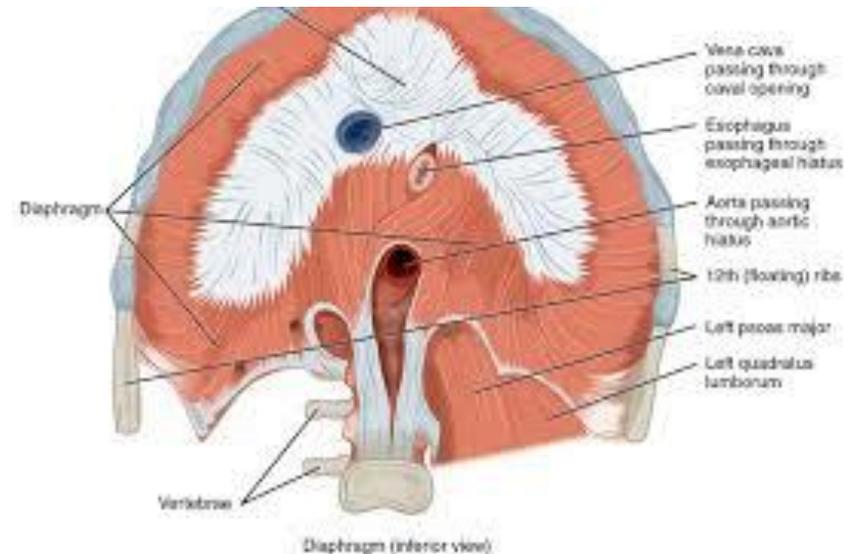
Diaphragm

Openings in the Diaphragm

❖ Aortic Opening

✓ lies anterior to the body of the twelfth thoracic vertebra

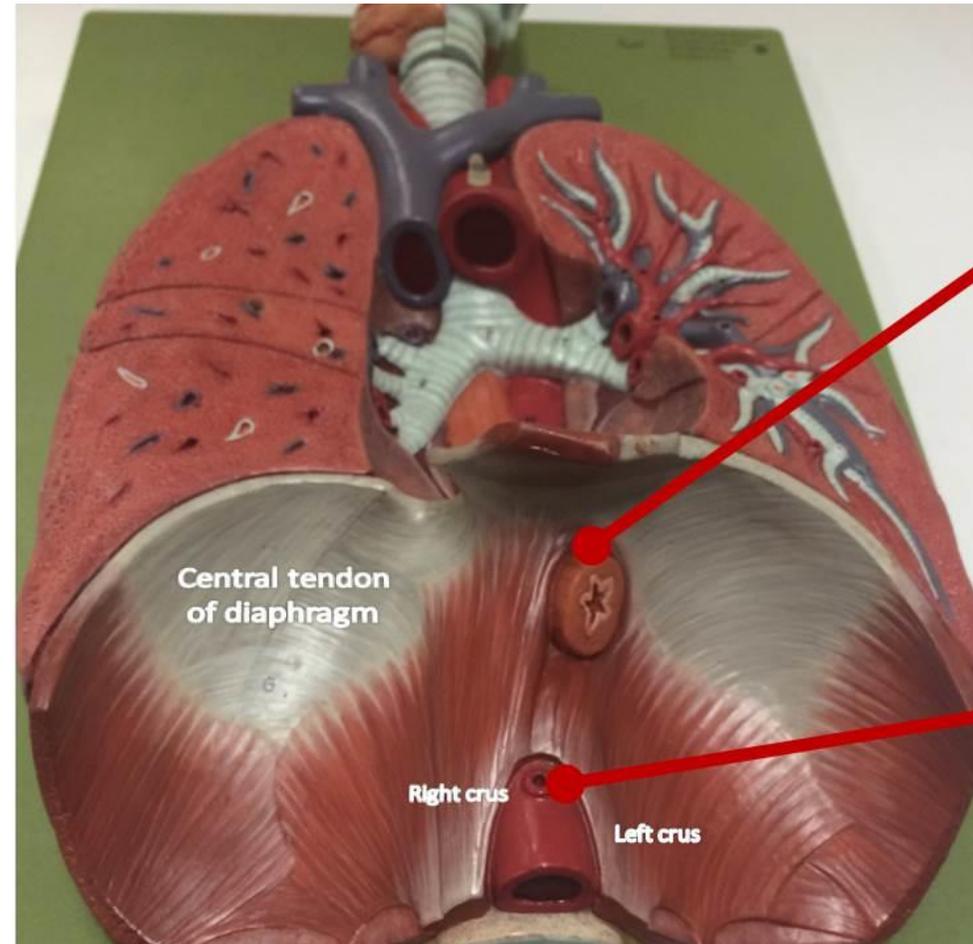
✓ transmits the aorta, the thoracic duct, and the azygos vein.



Diaphragm

Oesophageal Opening

- ❖ lies at the level of the tenth thoracic vertebra.
- ❖ It transmits:
 1. the esophagus,
 2. the right and left vagus nerves,
 3. the oesophageal branches of the left gastric vessels,
 4. the lymphatic vessels from the lower third of the oesophagus.



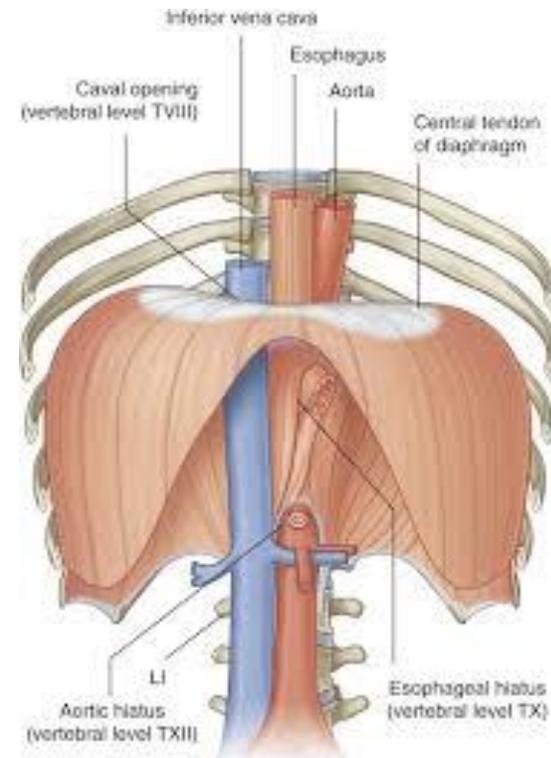
Diaphragm

❖ Caval Opening

✓ lies at the level of the eighth thoracic vertebra

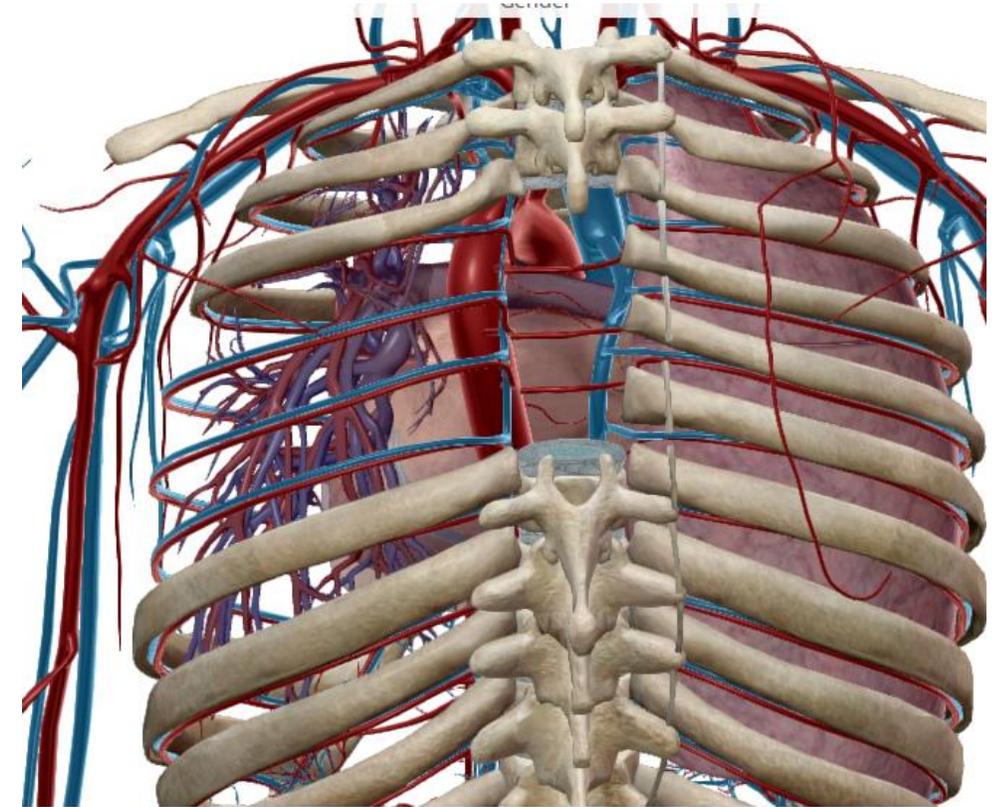
✓ It transmits the:

1. inferior vena cava
2. the terminal branches of the right phrenic nerve.



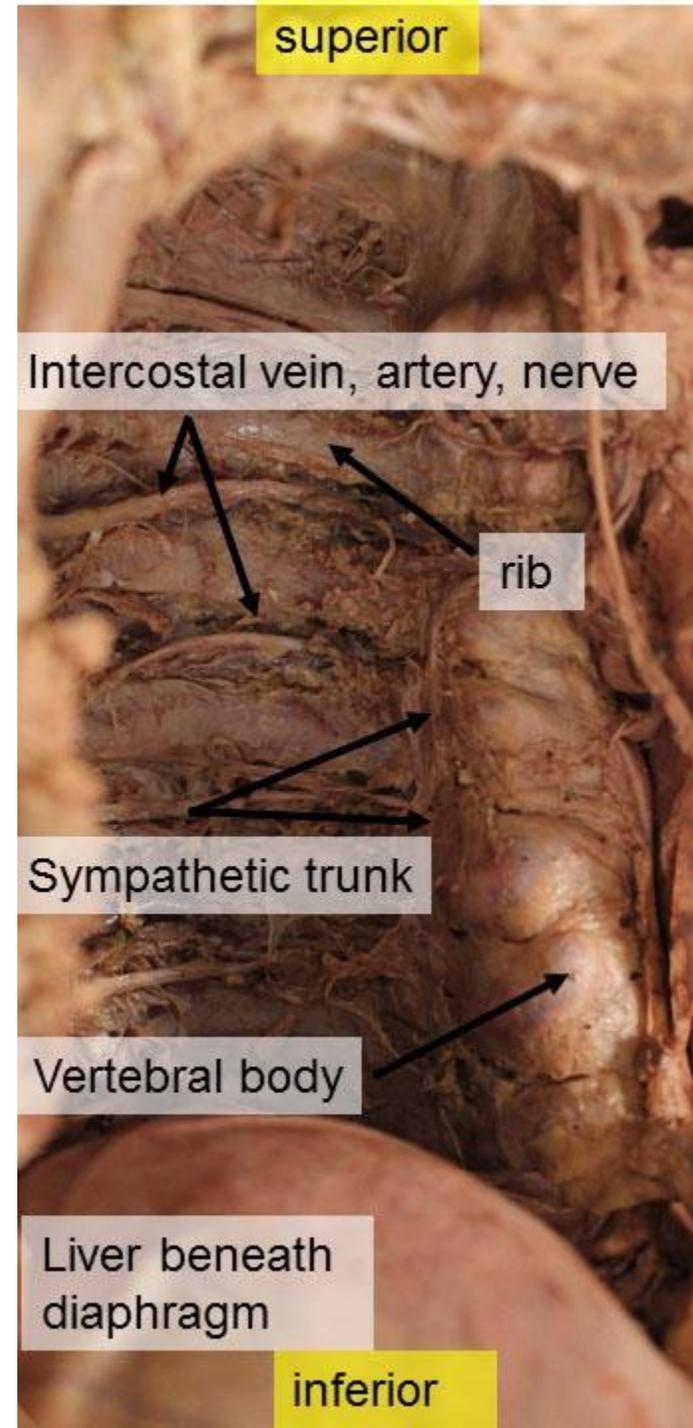
Intercostal Spaces

- There are 11 **intercostal spaces** within the thoracic wall
- The spaces are filled in by 3 layers of intercostal muscles and their related fasciae and are bounded superiorly and inferiorly by the adjacent ribs.
- The **costal groove** is located along the inferior border of each rib (upper aspect of the intercostal space) and provides protection for the intercostal nerve, artery, and vein which are located in the groove.
- The vein is most superior and the nerve is inferior in the groove (VAN).
- The **INTERCOSTAL ARTERIES** are contributed to anteriorly from branches of the internal thoracic artery (branch of the subclavian artery) and posteriorly from branches of the thoracic aorta.
- ✓ Thus, the intercostal arteries can provide a potential collateral circulation between the subclavian artery and the thoracic aorta.



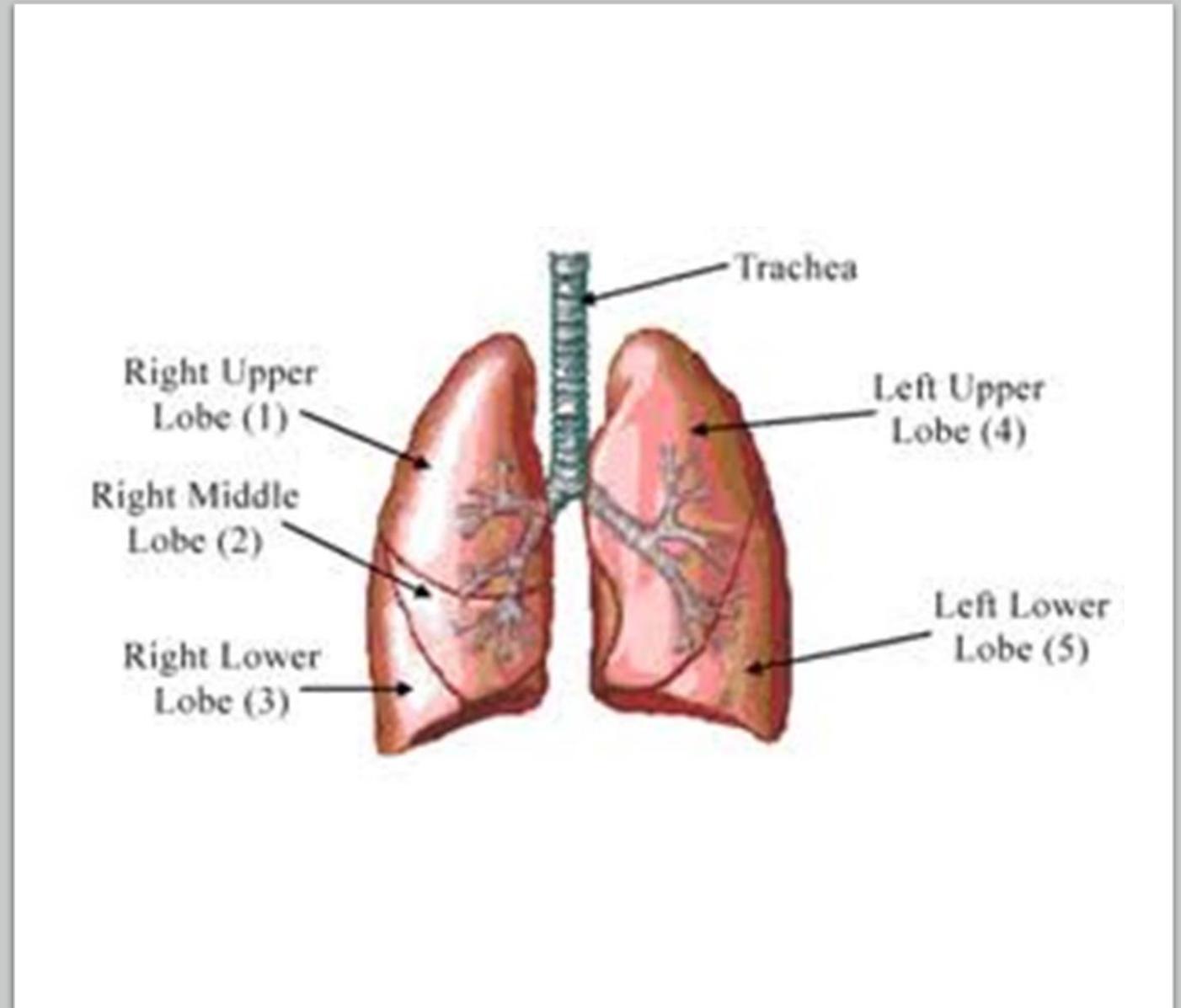


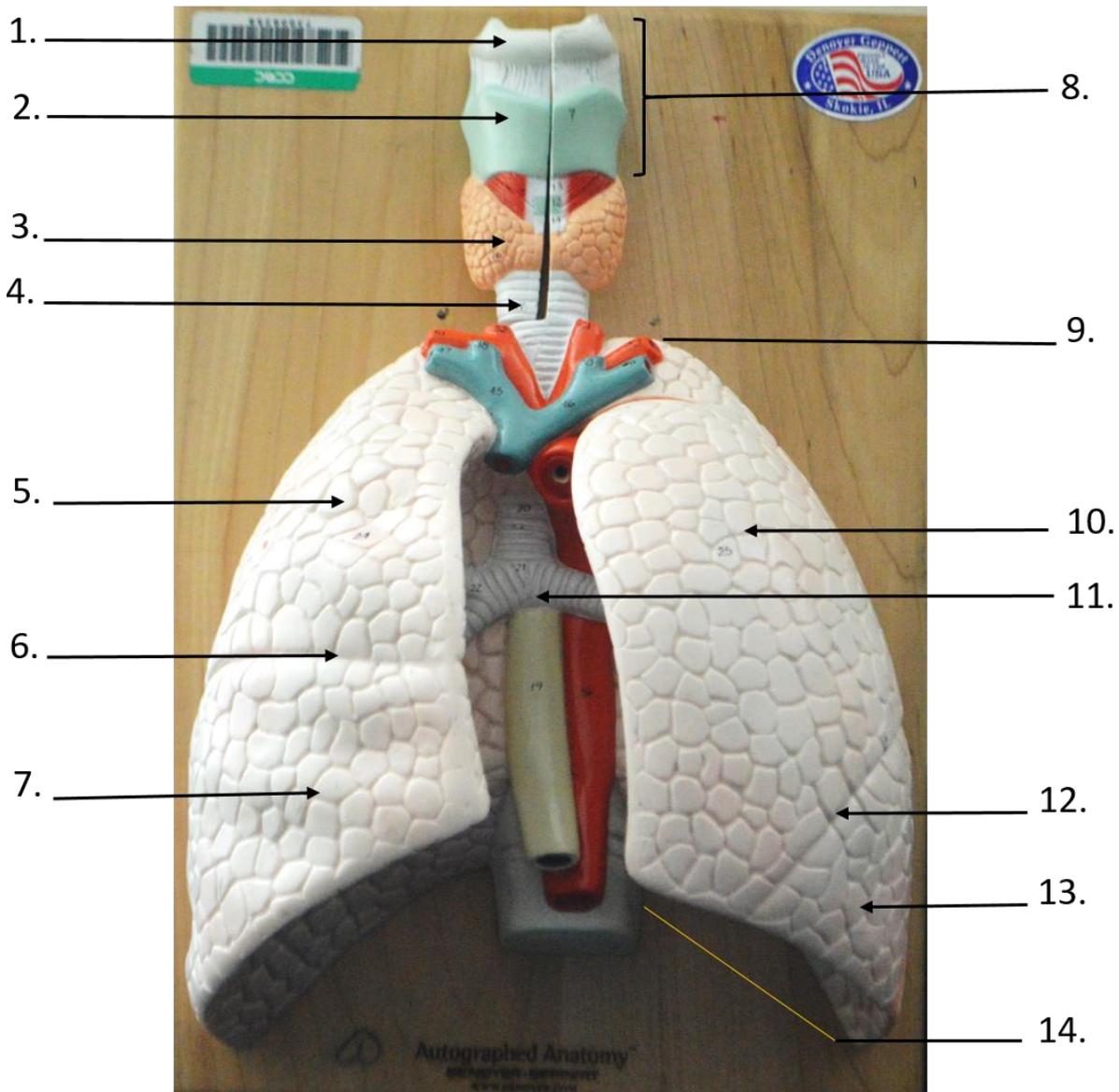
Dr AMAL ALBTOOSH



LUNGS

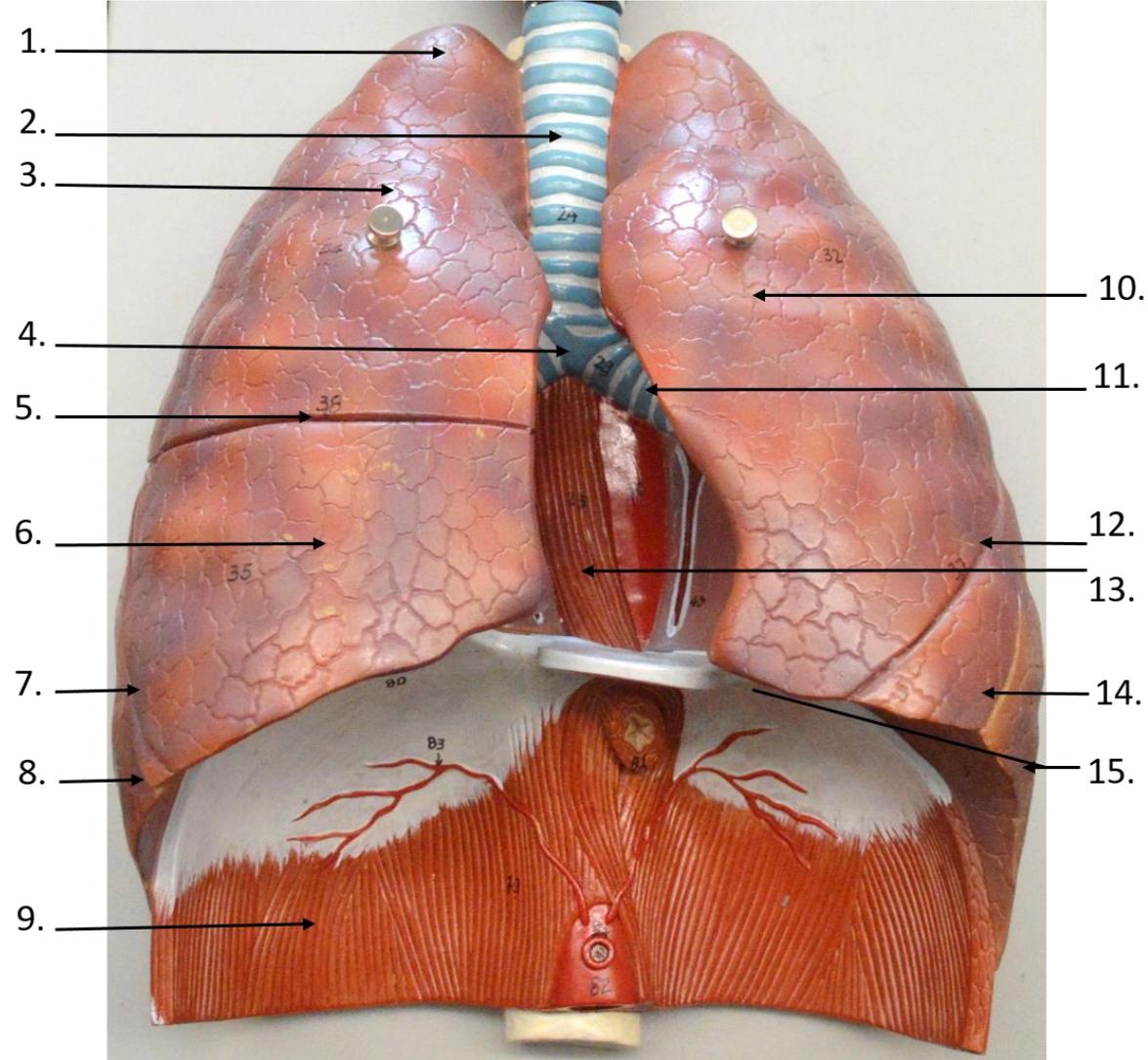
- The lungs and the pleural membranes are in the lateral compartment of the thoracic cavity.
- The lungs are separated from each other in the midline by the mediastinum





Label the following structures:

- Larynx, Trachea
- Thyroid gland, Thyroid cartilage
- Hyoid bone
- Apex, Base
- Superior lobe of right lung
- Superior lobe of left lung
- Middle lobe of right lung
- Inferior lobe of left lung
- Carina
- Horizontal fissure
- Oblique fissure

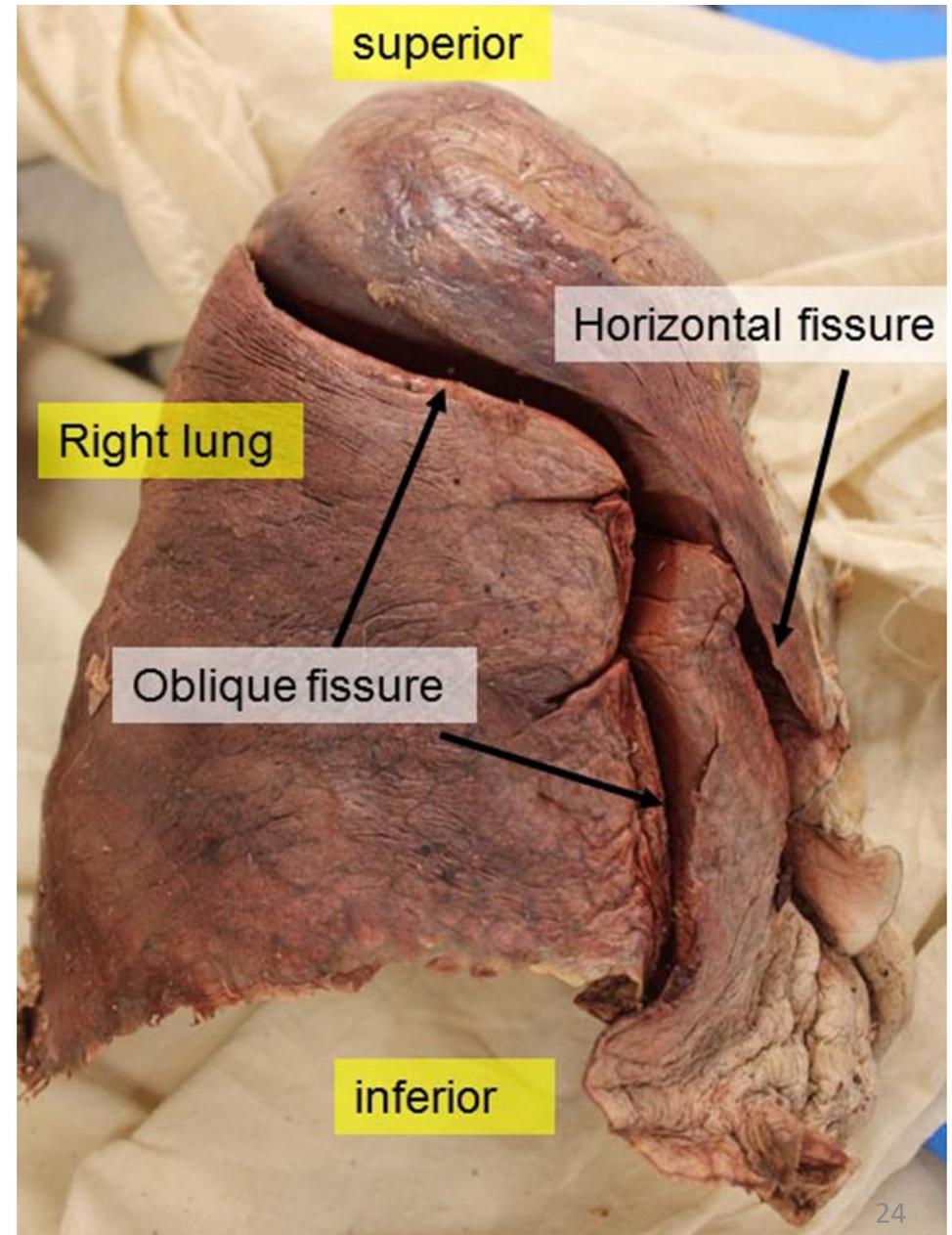


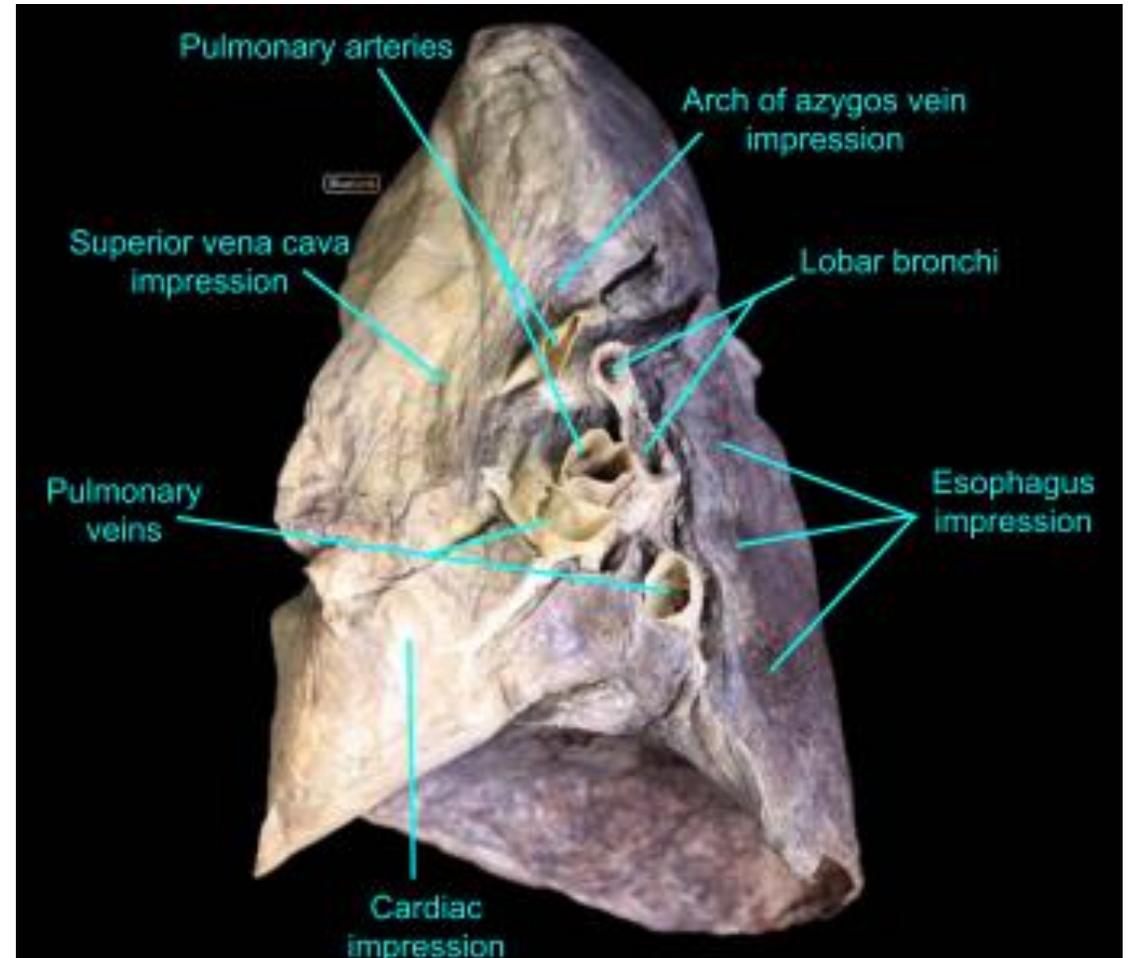
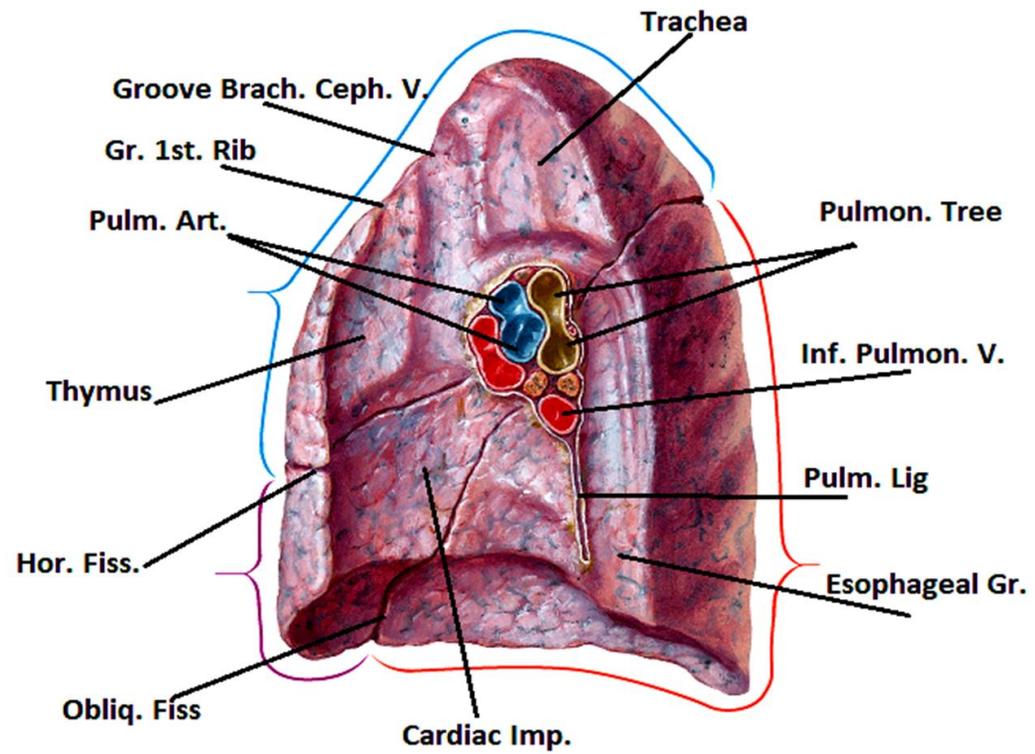
- Label the following structures:
- Superior lobe of right lung
 - Superior lobe of left lung
 - Middle lobe of right lung
 - Inferior lobe of right lung
 - Inferior lobe of left lung
 - Trachea
 - Apex
 - Base
 - Diaphragm
 - Carina
 - Horizontal fissure
 - Oblique fissure
 - Esophagus
 - Primary (main) bronchi

Lobes and Fissures

Right lung

- ❖ The right lung is divided into 3 lobes (superior, middle, inferior) separated by 2 fissures, the oblique and horizontal fissures
- ❖ The horizontal fissure separates the superior from the middle lobe and the oblique fissure separates the middle from the inferior lobe.
- ❖ The **horizontal fissure** of the **right lung** follows the curvature of the **4th** rib, ending medially at the 4th costal cartilage.
- ❖ The **oblique fissure** of **both lungs** projects anteriorly at approximately the **5th intercostal** space in the midclavicular line, ending medially deep to the **6th costal cartilage**.

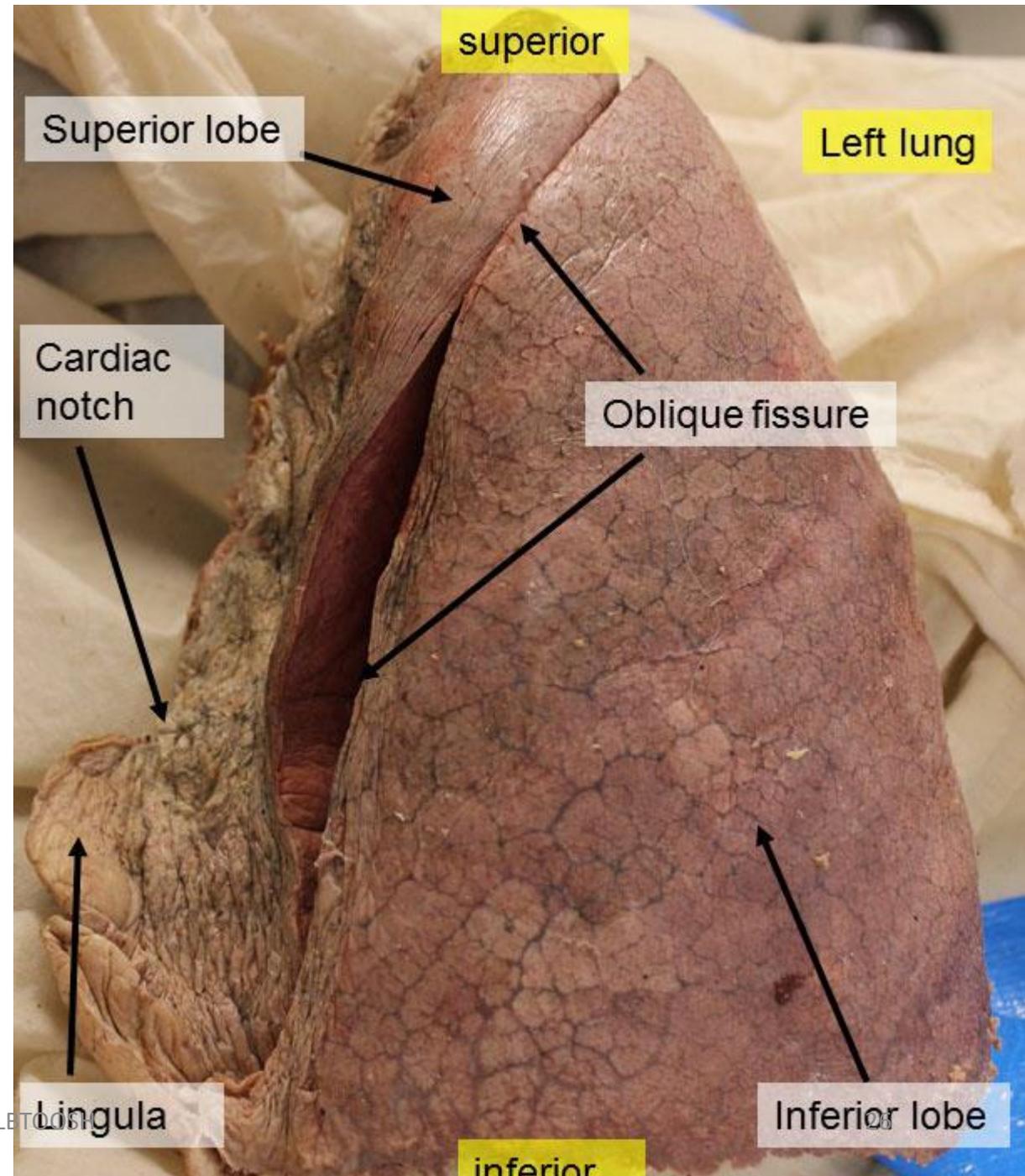


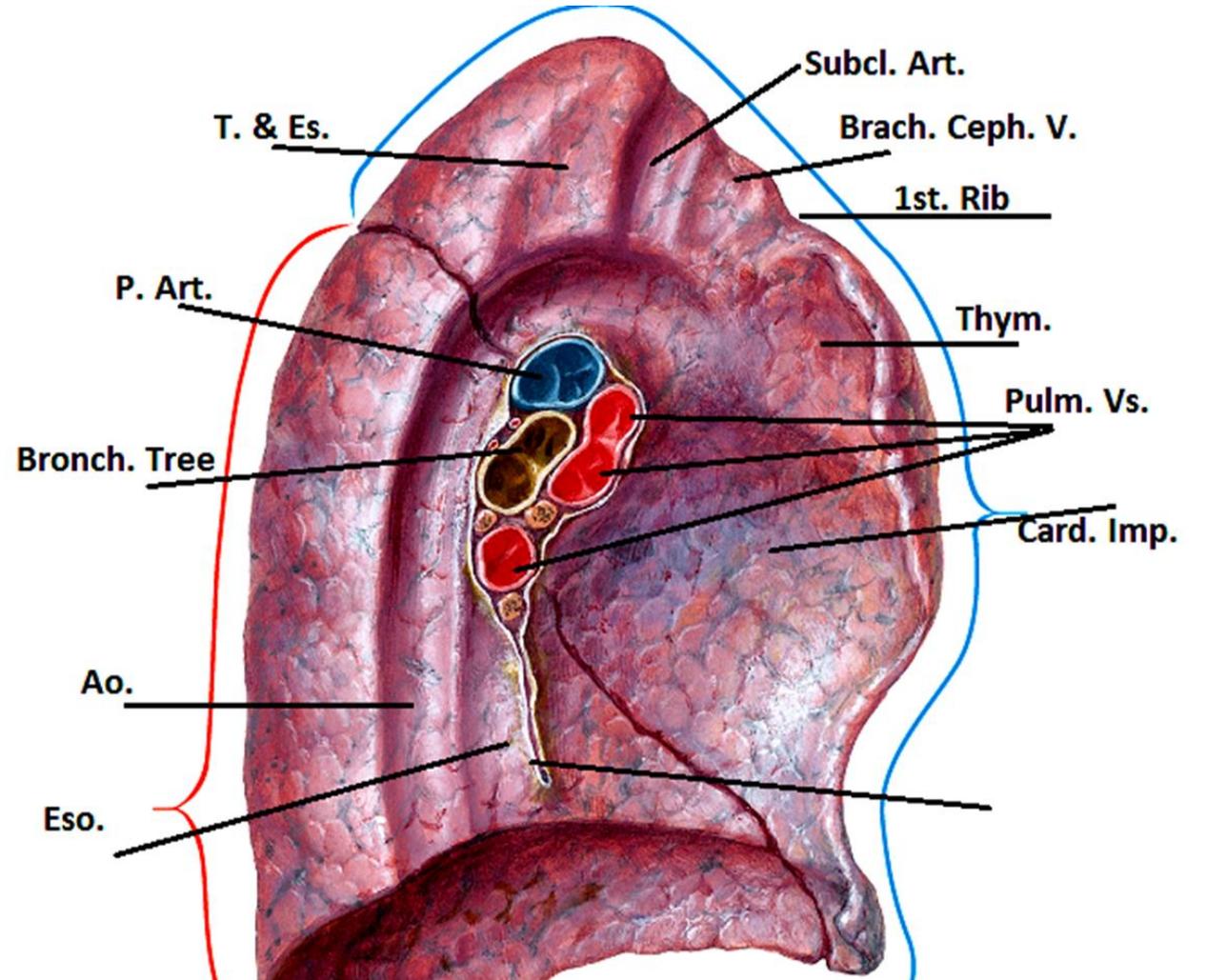
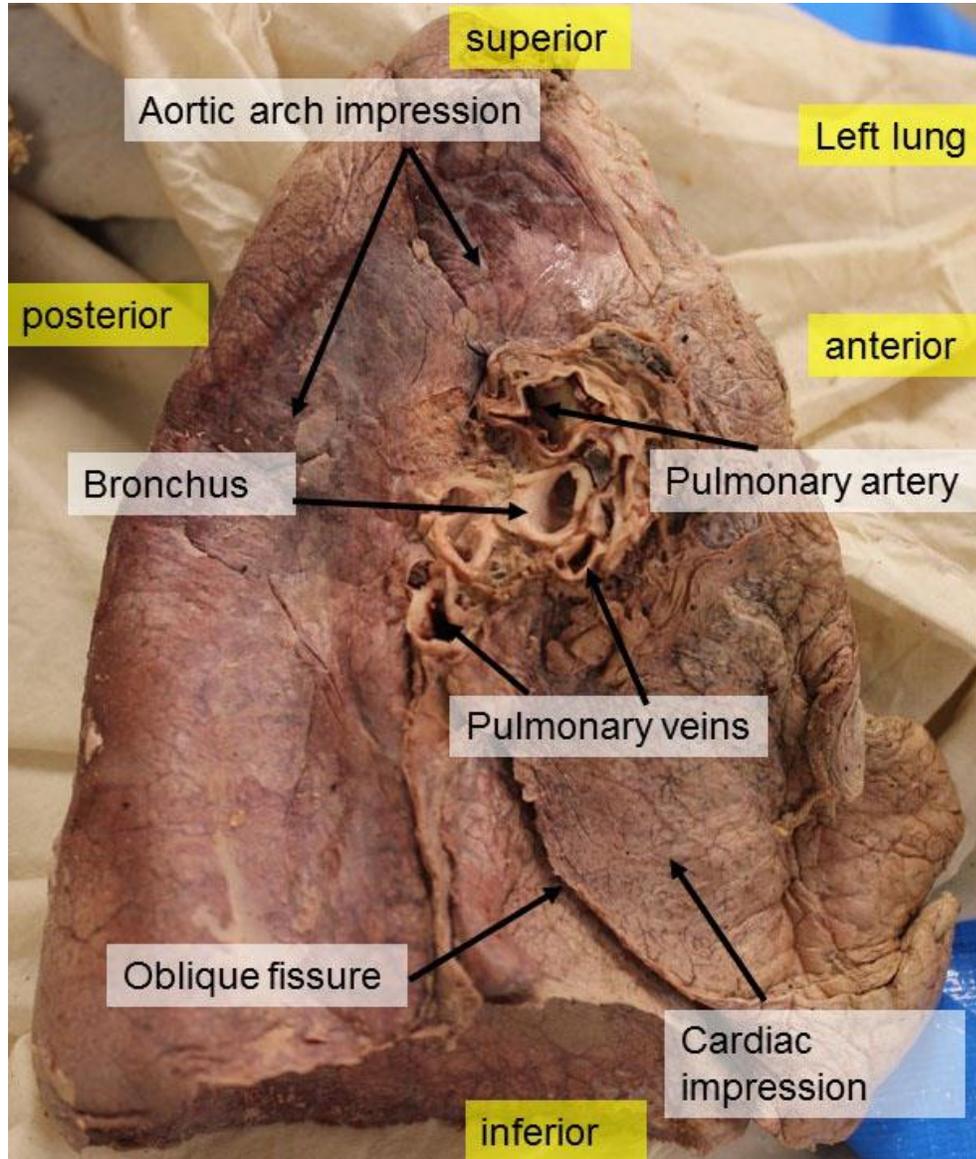


Lobes and Fissures

Left lung

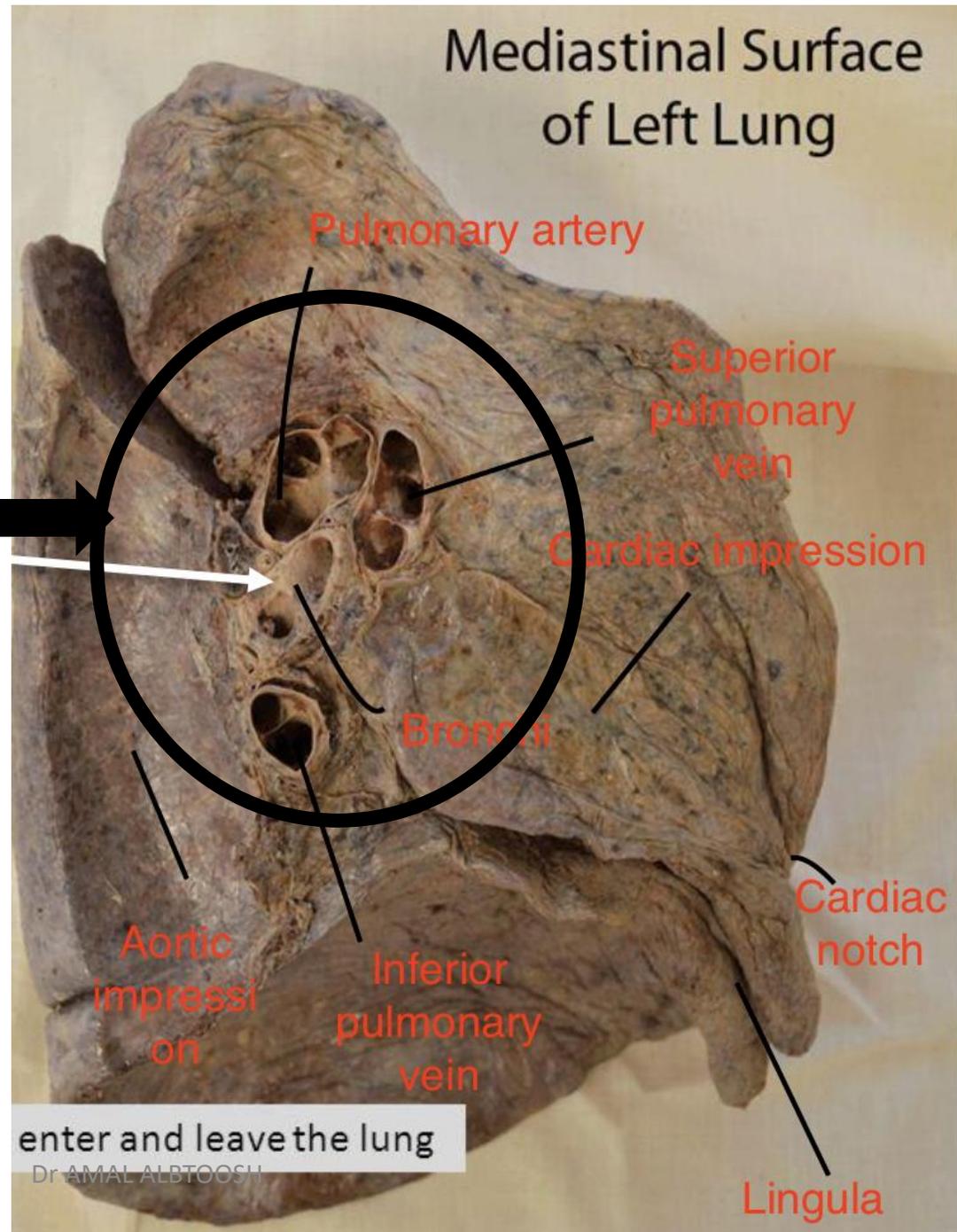
- ❖ The left lung is divided into 2 lobes (superior, inferior) separated by an oblique fissure .
- ❖ **The lingula** of the upper lobe of the left lung **corresponds** to the **middle lobe** of the right lung.
- ❖ The **oblique fissure** of **both** lungs projects anteriorly at approximately the **5th intercostal space** in the midclavicular line, ending medially deep to **the 6th costal cartilage**.

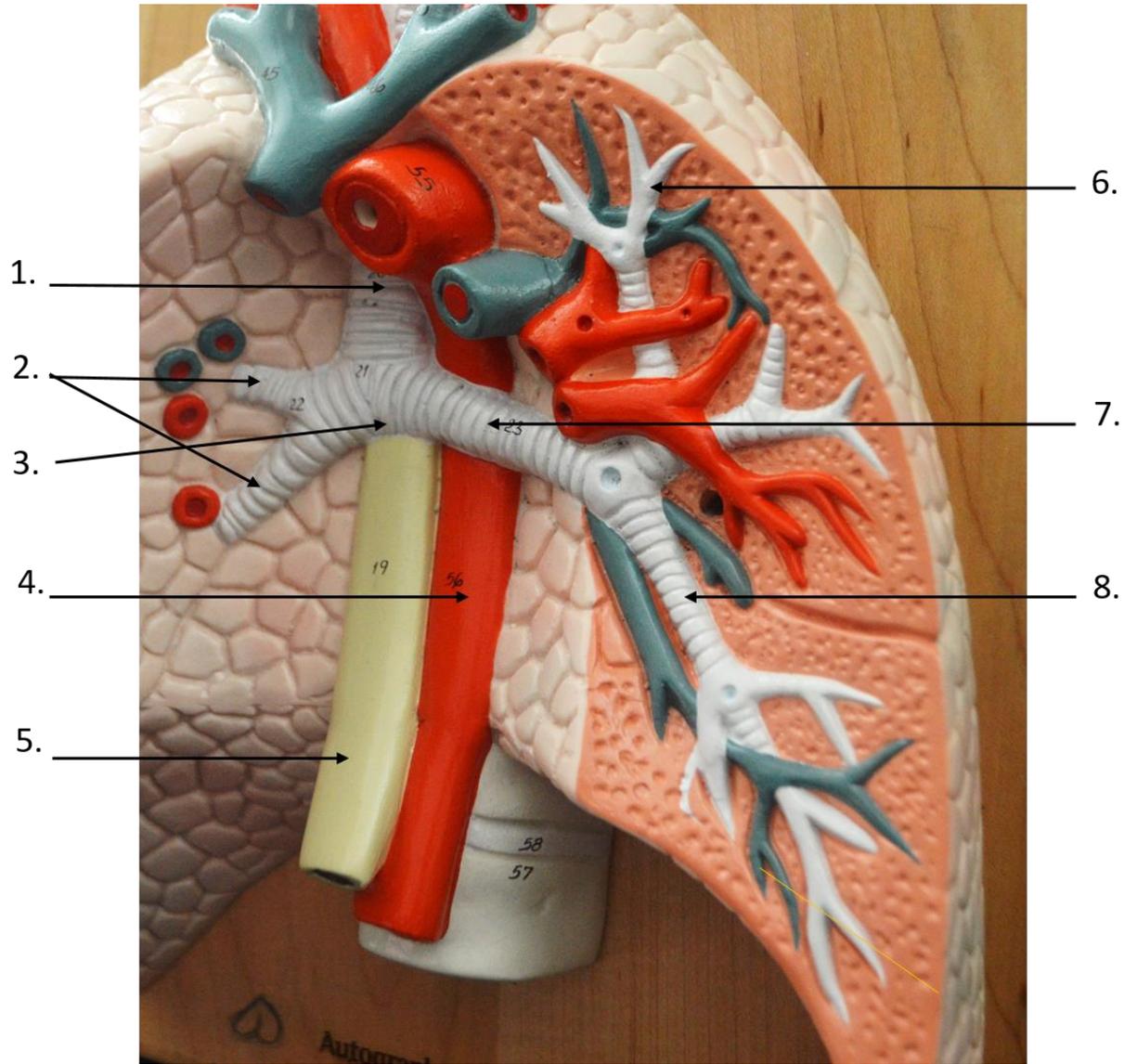




- ❑ The **hilum** of the lung is on the medial surface.
- ❑ It serves for passage of structures in the root of the lung:
 - ✓ the pulmonary vessels
 - ✓ primary bronchi
 - ✓ nerves, and lymphatics.

HILUM





Label the following structures:

Trachea

Primary (main) bronchi

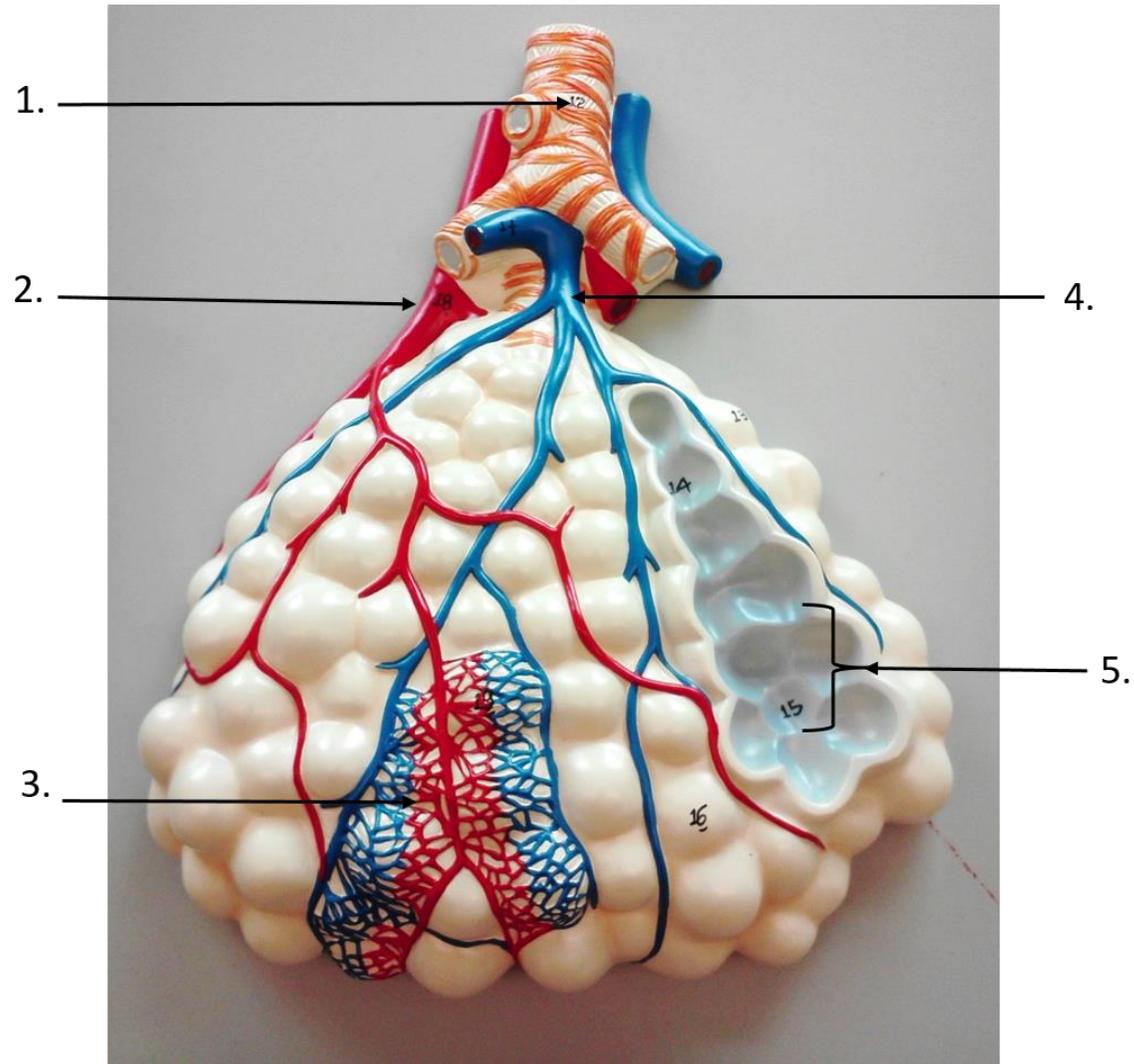
Secondary (lobar) bronchi

Tertiary bronchi

Esophagus

Thoracic aorta

Carina



Label the following structures:
Terminal bronchioles
Arteriole
Venule
Alveolar sacs
Capillary bed