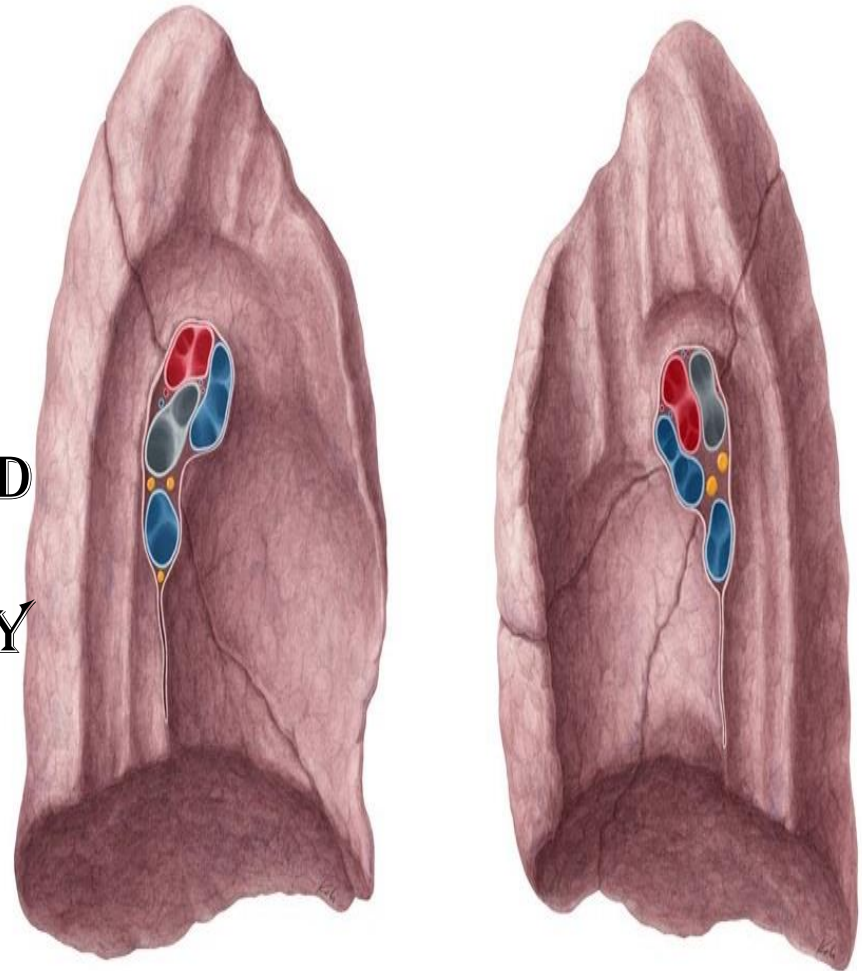


LUNG & SURFACE ANATOMY

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SHAPE

1/2 cone has

1-Apex: -

pointed, directed upwards

2-Base=

inferior (diaphragmatic) surface:

Concave (more on the right)

3-Lateral (sternocostal) surface: -

convex

4-Medial surface: - concave

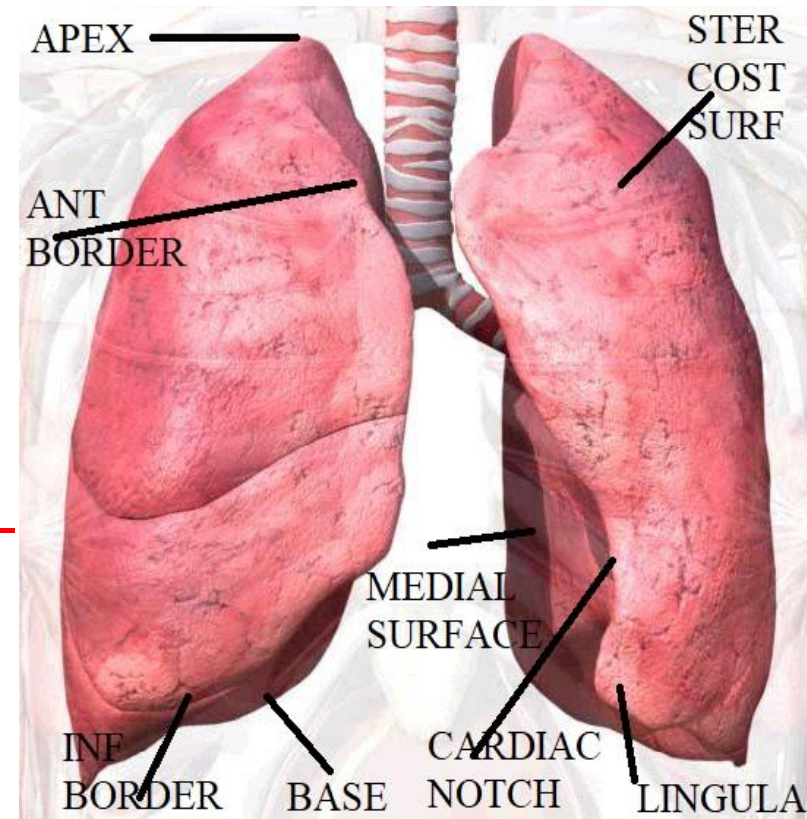
5-Ant. border:

Sharp

Has cardiac notch with lingula below it in the left lung

6-Post. Border: blunt

7-inferior border



RELATIONS

1-Apex:-

Projects in root of the neck
for 1 inch above medial 1/3 of the clavicle

Above: - 1-cervical pleura &suprapleural membrane

Posteriorly

Separated from neck of 1st rib by

Cervicothoracic ganglion

Superior intercostal art.

T1 nerve.

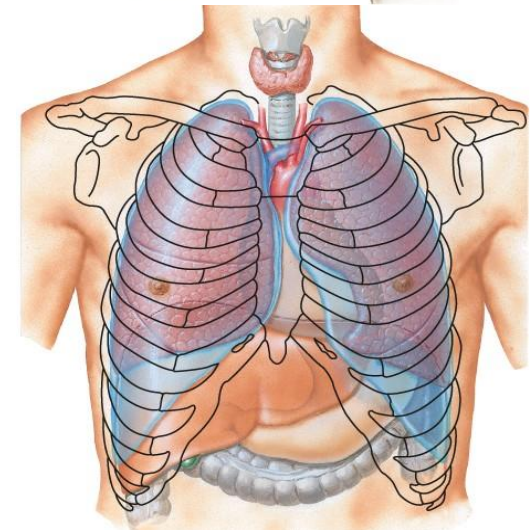
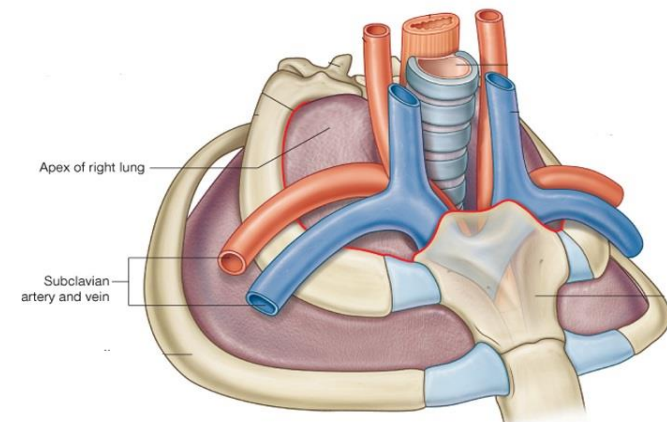
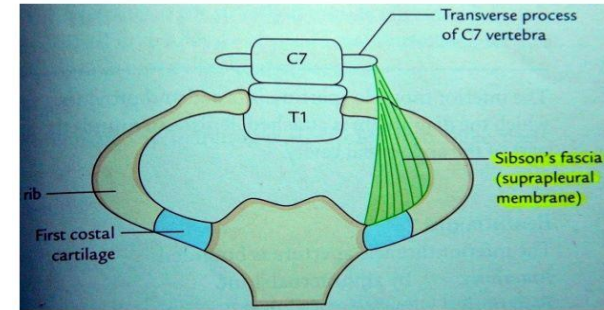
Anteriorly:- 1-subclavian artery

2-Base: -

rests on diaphragm that
separates it from (liver, stomach, spleen)

3-lateral surface:- costal pleura
&ribs, intercostal spaces

Suprapleural membrane/ Sibson's fascia



RELATIONS

4-Medial surface: Shows the hilum of the lung
HILUM

def. = site of entrance for root of the lung

Contents of hilum

1-Main bronchus:-

2-bronchial vessels:- Behind the bronchus

Two arteries From descending thoracic aorta

one vein end in superior hemi azygous

3-pulmonary art.:- Above & ant. To the bronchus

4-pulmonary veins :

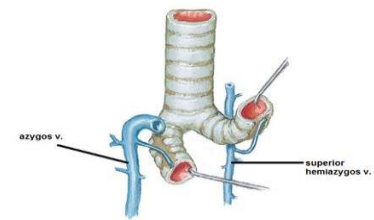
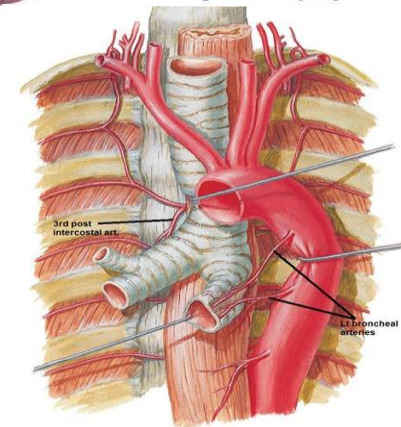
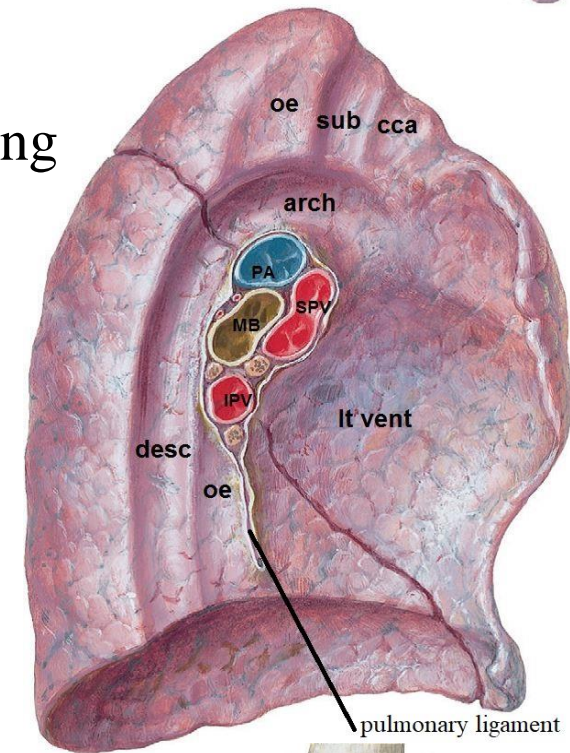
superior (most ant. structure) &

inferior (most inferior structure)

5-bronchopulmonary l.n.

6-Pulmonary autonomic plexuses: ant. & post.

7-Pulmonary ligament



RELATIONS

4-Medial surface:

HILUM

Contents Rt hilum

1- Bronchi

superior lobar(eparterial) bronchus

inferior lobar (hyparterial) bronchus

2-bronchial vessels Behind the bronchi

One artery From 3rd rt post intercostal art. Or upper lt bronchial art.

one vein end in azygos

3-pulmonary art.:- Ant & () 2 bronchi

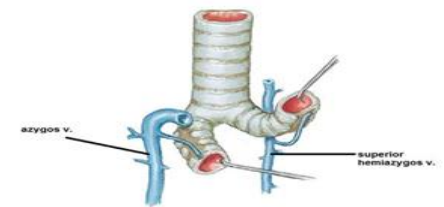
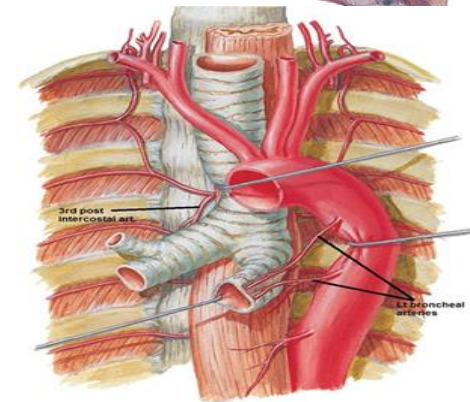
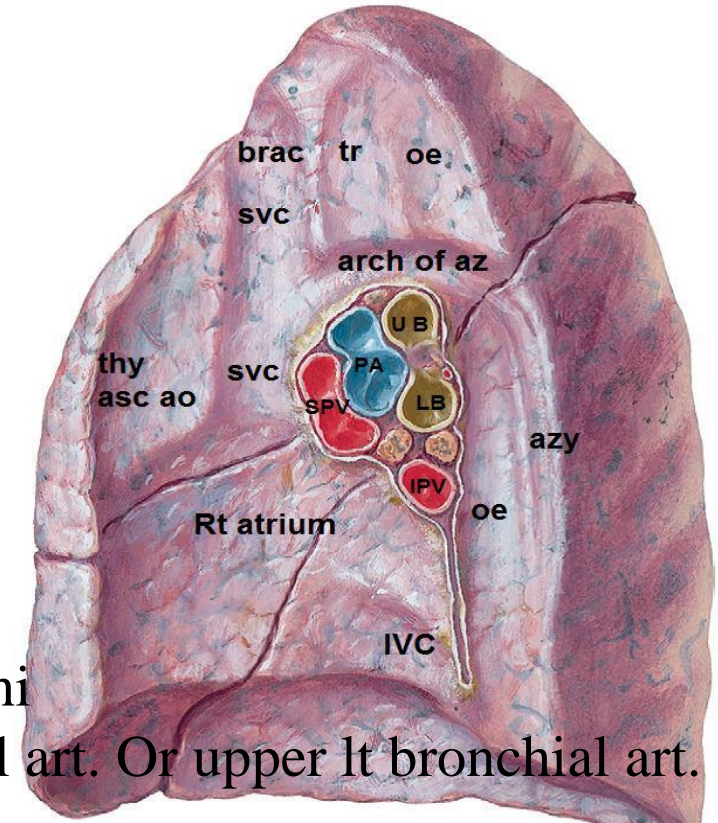
4-pulmonary veins :

superior (most ant. structure) &
inferior(most inferior structure)

5-bronchopulmonary l.n.

6-Pulmonary autonomic plexuses: ant. & post.

7-Pulmonary ligament



RELATIONS

4-Medial surface:

Mediastinal surface: -

RT. LUNG

1-In front of hilum

a-pericardial impression

formed by rt. atrium receiving IVC & lower part of SVC

b-ascending aorta & thymus (ant to SVC)

2-above the hilum

a-Arch of azygos

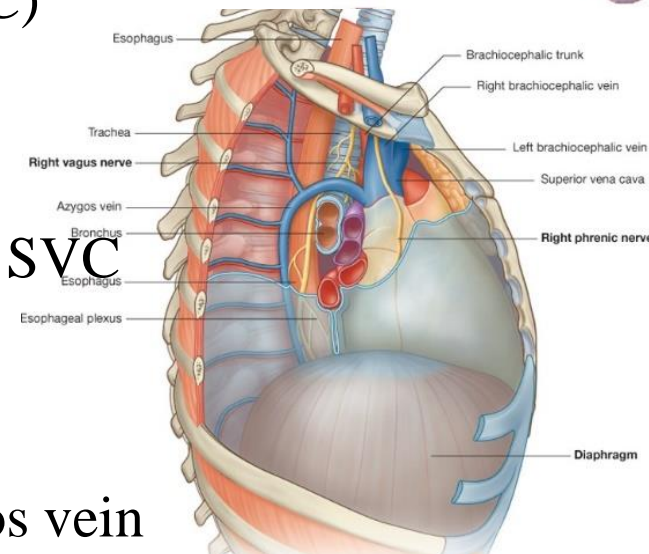
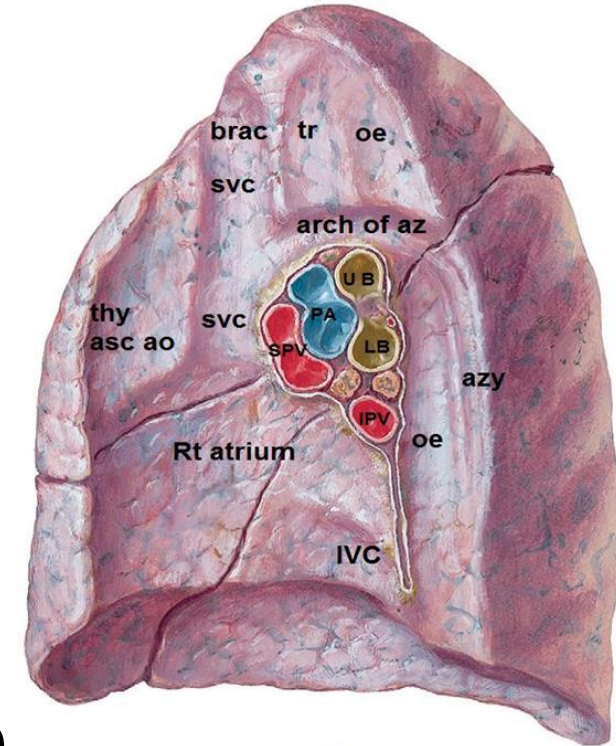
b-rt. brachiocephalic vein & upper part of SVC

c-Trachea & rt. Vagus d-Esophagus

3-behind the hilum

a-Azygos vein b-esophagus ant to azygos vein

N.B. rt. phrenic nerve runs along rt. brachiocephalic vein, SVC, rt. atrium. IVC



RELATIONS

4-Medial surface:

Mediastinal surface: -

LT. LUNG

1-In front of hilum

a-pericardial impression formed by lt. vent.

2-above the hilum

a-Arch of aorta

b-Lt common carotid artery

c-lt. subclavian artery

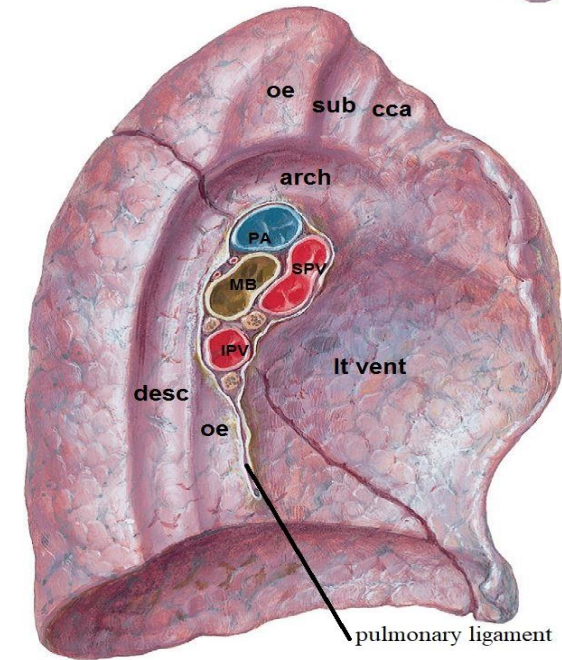
d-Esophagus

3-behind the hilum

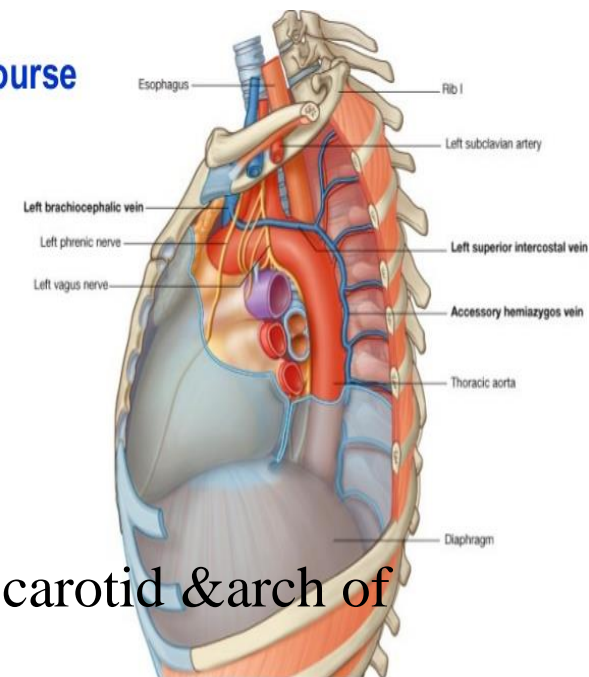
e-Descending aorta

f-esophagus ant to descending aorta

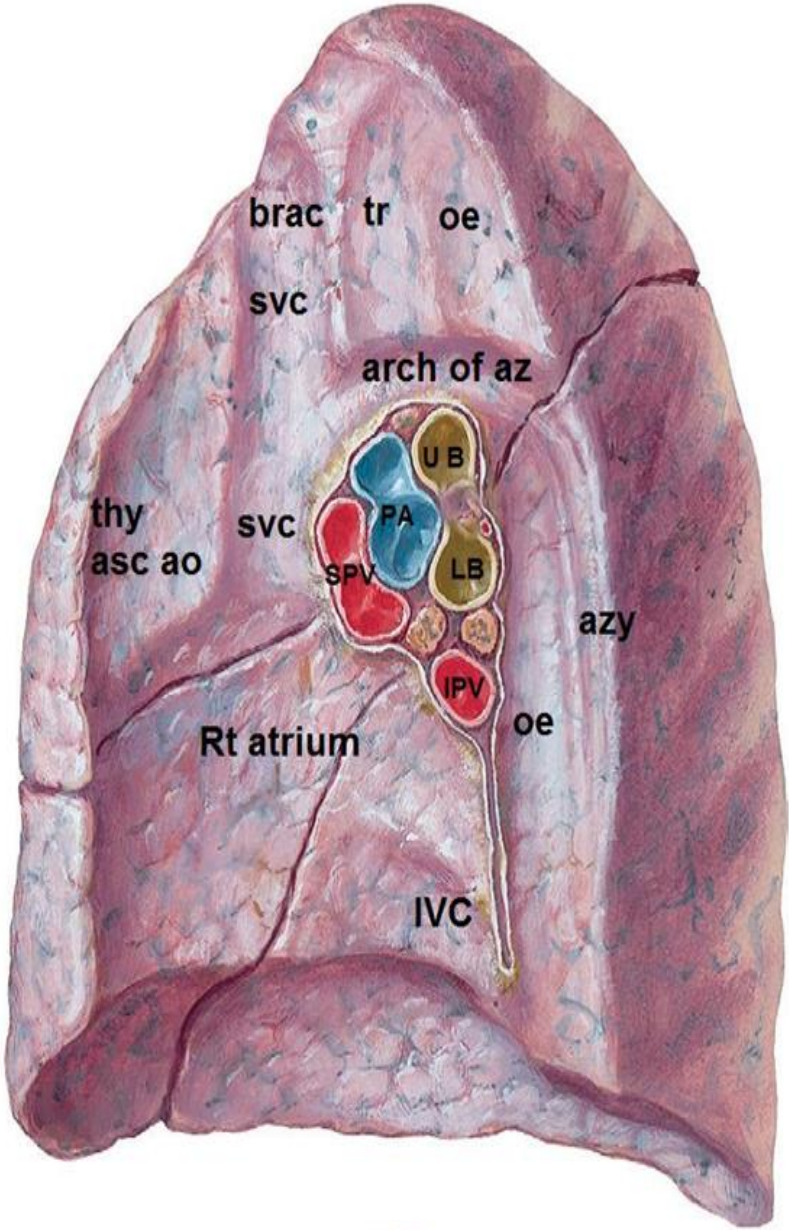
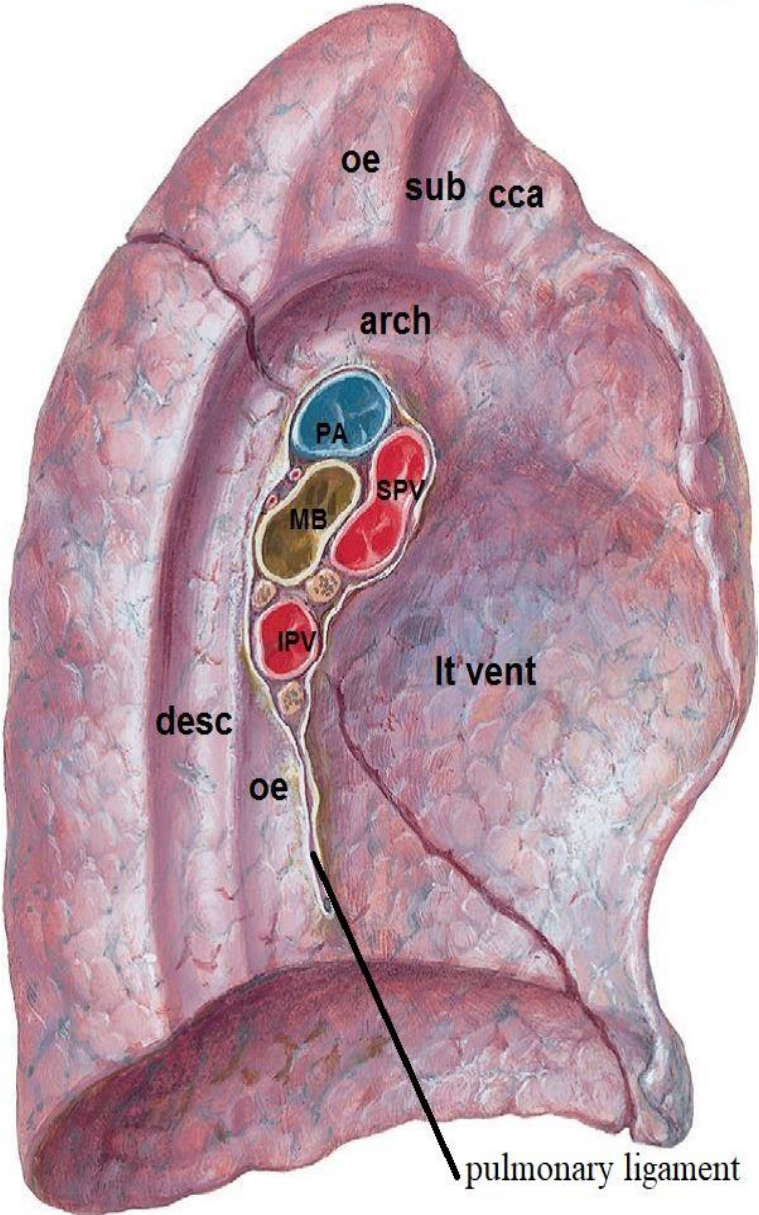
N.B. lt. phrenic nerve runs along lt common carotid & arch of aorta & lt. ventricle



Course



RELATIONS



FISSURES OF THE LUNG

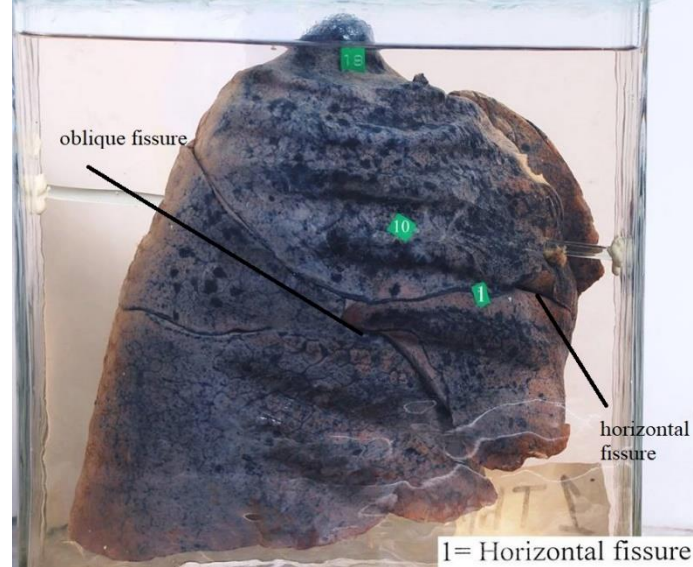
(lined by visceral pleura)

Oblique fissure

- present (in both lungs)
- Begins at post. border opposite T4 spine
- runs along 5th intercostal space
- Ends at inferior border opposite 6th. Costochondral junction
- Parallel to medial border of the scapula in raising arm above the head
- In lt. lung it Separates lower lobe from upper lobe
- In rt. lung it Separates lower lobe from upper & middle lobe

Horizontal present

- present (only in rt. lung)
- Begins at ant border opposite 4th. c.c.
- runs horizontally
- Ends at oblique fissure in midaxillary line
- it Separates middle lobe from upper lobe



LOBES OF THE LUNG

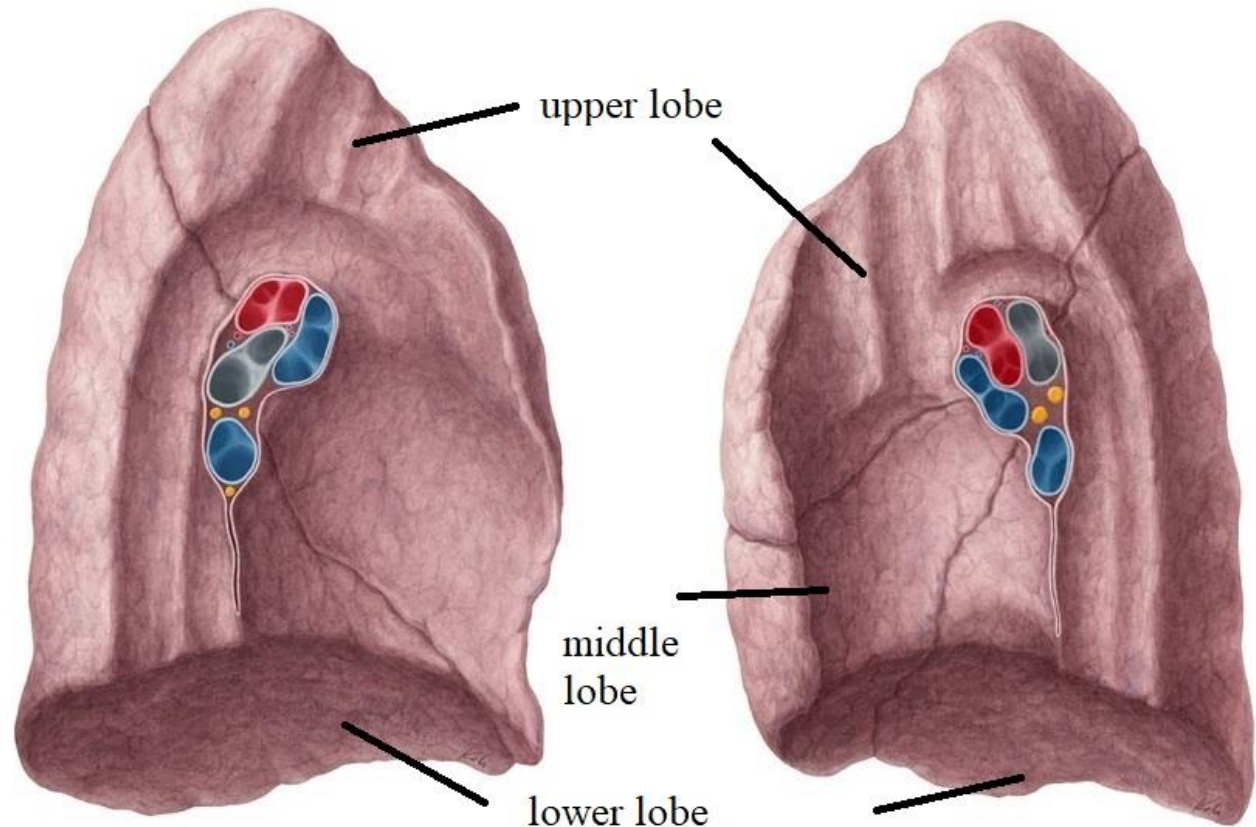
Lt Lung:

has 2 lobes

upper (contain the apex & ant border)

lower (contain the base & most of post border).

RT lung: has 3 lobes upper, middle (wedge of upper lobe), lower



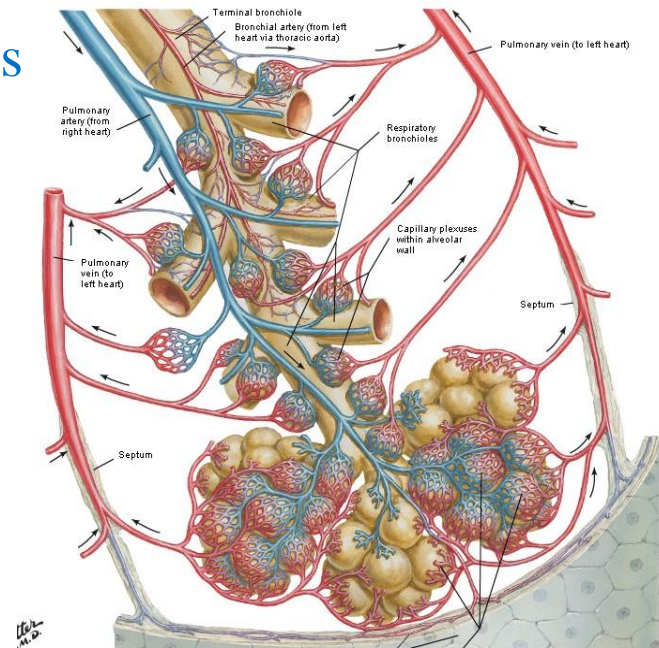
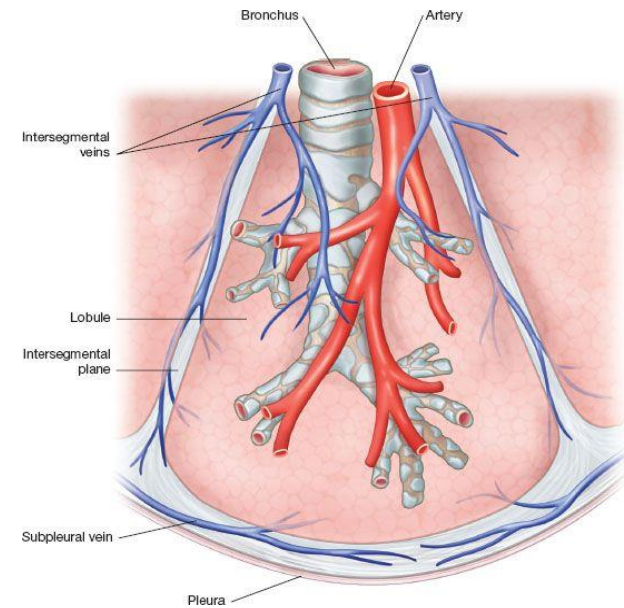
BRONCHOPULMONARY SEGMENTS

Def.:- well defined sector of lung

Shape: - pyramidal, its apex towards hilum
& its base towards surface

Each is composed of:

- 1-Intersegmental septum :-
connective tissue surround the contents
- 2-Segmental bronchus &
its divisions till alveolus
- 3-Segmental branch of bronchial vessels
- 4-Segmental branch of pulmonary art
- 5-Tributary of pulmonary v.
run in intersegmental septum



BRONCHOPULMONARY SEGMENTS

NO.:- 10 in each lung

Distribution of the Segments:

In Rt. lung

A-upper lobe: apical, post. , ant.

B-middle lobe: lateral, medial

C-lower lobe: apical basal, medial basal,
ant basal, lateral basal,
post basal

In Lt. lung :

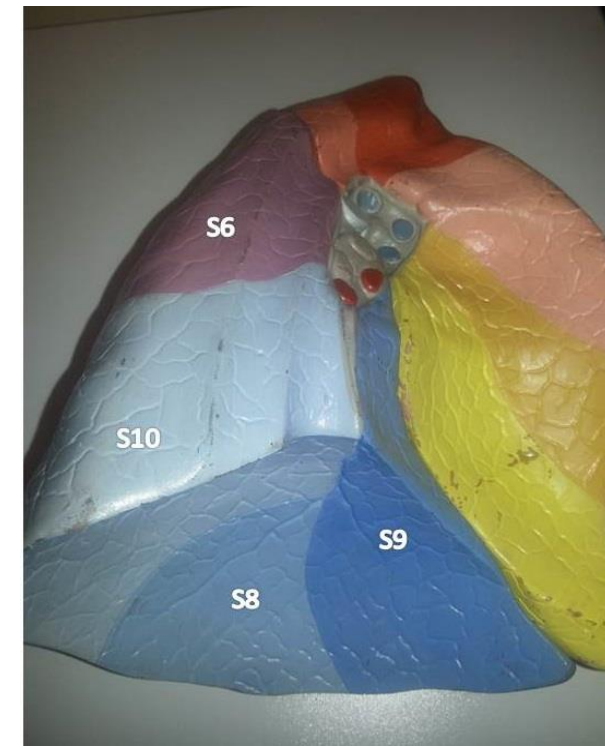
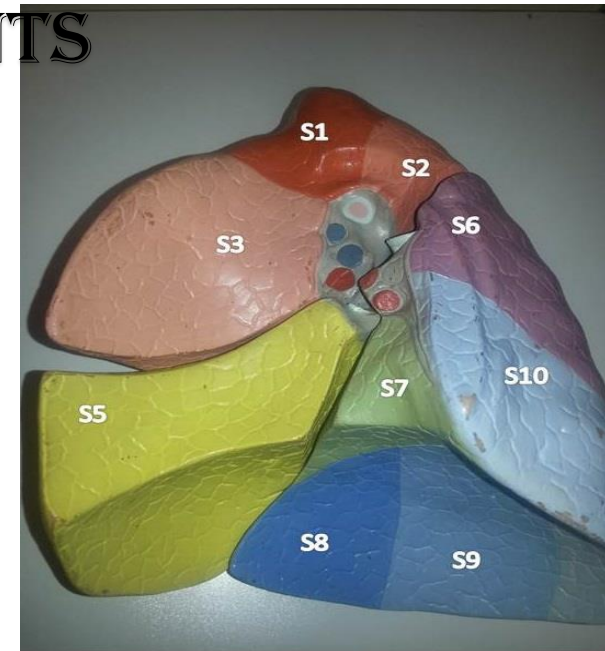
A-upper lobe: apical, post. , ant. ,
superior lingual,
inferior lingual.

B-Lower lobe: as the right lung

Significance of lung segmentation:-

Restrict spread of infection so

Diseased segment can be only removed



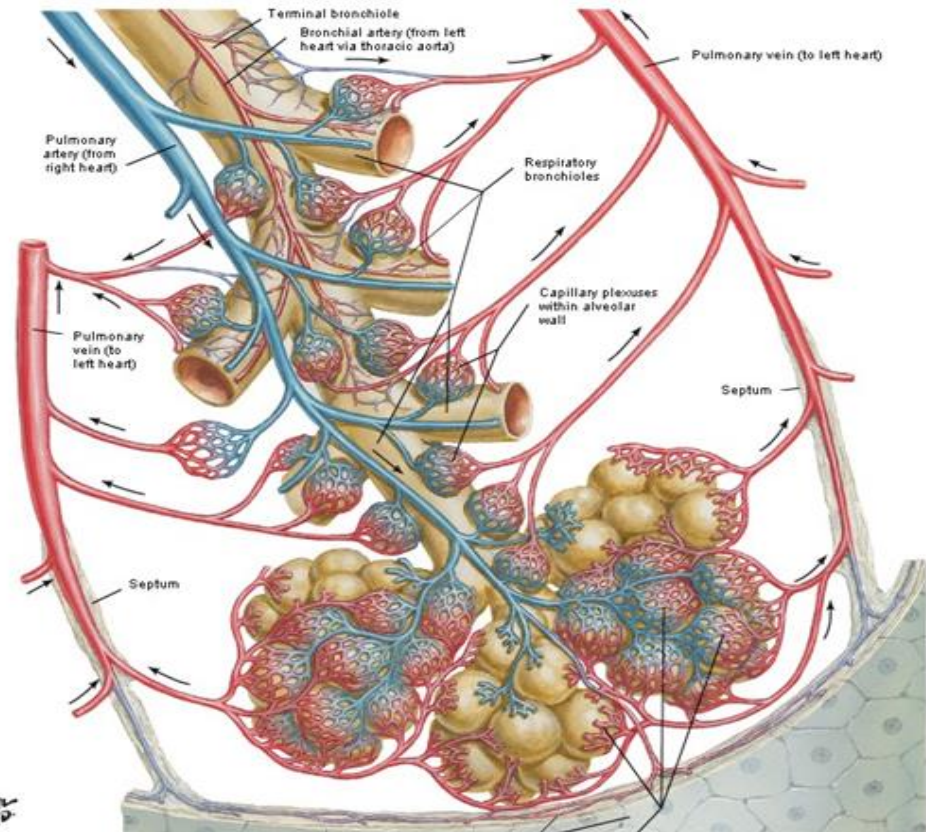
BLOOD SUPPLY OF LUNG

1-Bronchial vessels

The bronchial arteries run behind the bronchial tree till the respiratory bronchioles

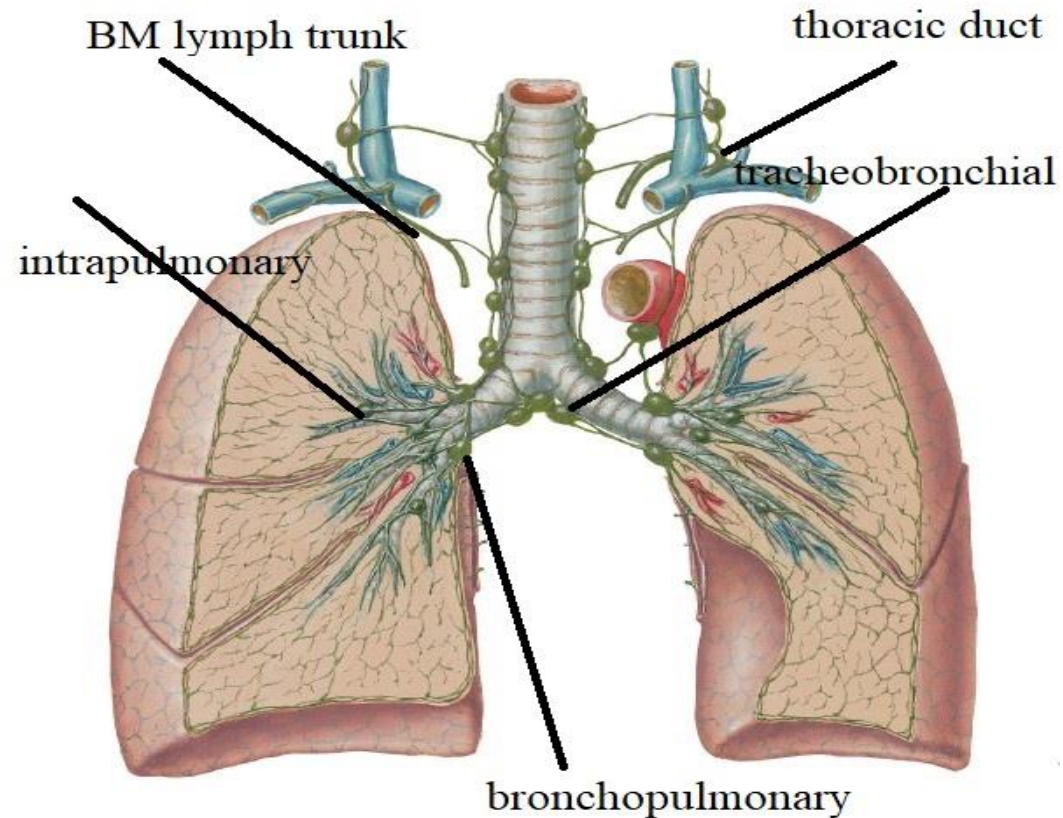
They supply the bronchial tree, c.t. of the lung & visceral pleura except the alveoli that are supplied by capillary plexus of the pulmonary artery & take O₂ directly from the air

2-Pulmonary vessels:-



LYMPH DRAINAGE OF LUNG

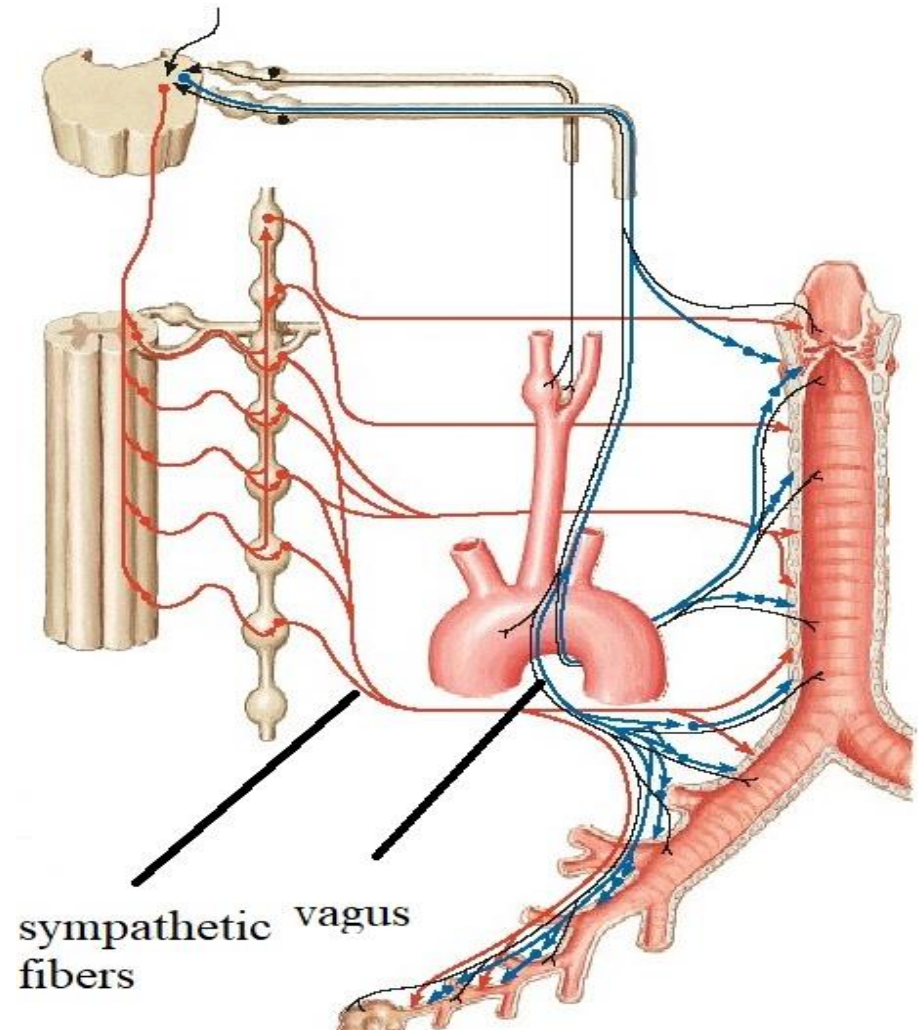
lymph vessels start in bronchioles drain to
intrapulmonary nodes to
broncho pulmonary nodes to
tracheobronchial nodes to
Broncho mediastinal lymph trunk to
thoracic duct or rt lymphatic duct



NERVE SUPPLY OF LUNG

ant. & post pulmonary plexuses (non-sensitive to pain)

its sympathetic fibers arise from 2, 3, 4 thoracic sympathetic ganglia
& its parasympathetic fibers from vagus



SURFACE ANATOMY OF LUNG & PLEURA

Surface anatomy of pleura 0-2-s4-6-8-10-12

1-apex:-

1" above medial 1/3 of the clavicle (Not exceeding neck of 1st rib)

2-Anterior border:-

Begins from the apex,
passes downwards & medially through sternoclavicular joint to reach sternal angle (close to midline) then

On rt side: - descends vertically till 6th cc close to midline

On lt side: - descends vertically till 4th cc close to midline

then passes laterally for 3-5 cm

then descends vertically till 6th cc

3-Inferior border:- Line begins from end of ant border then passes downwards & backwards crossing 8th rib in midclavicular line then 10th rib in midaxillary line then 12th rib at scapular line

4-Posterior border:- Vertical line from apex till end of inferior border

SURFACE ANATOMY OF LUNG & PLEURA

Surface anatomy of lung 0-2- 4- 6 – 6 – 8 - 10

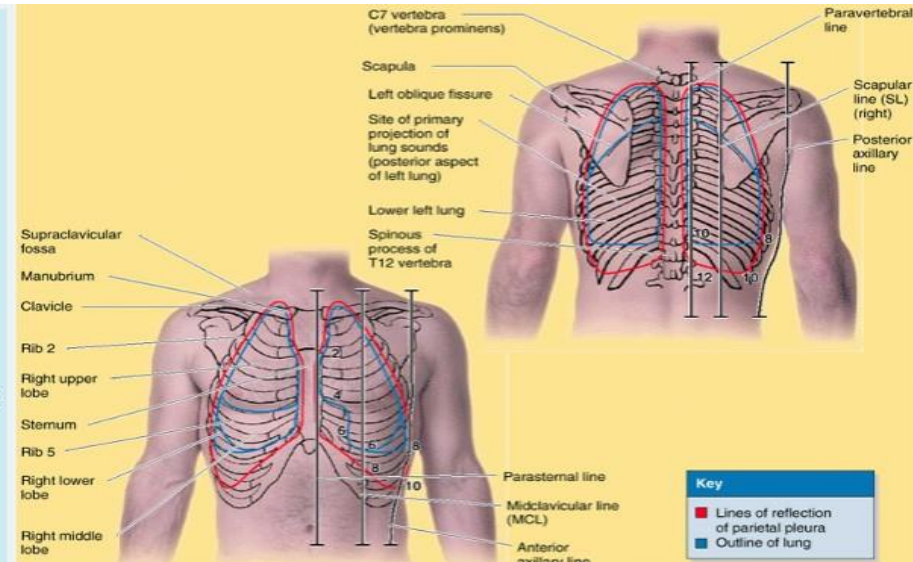
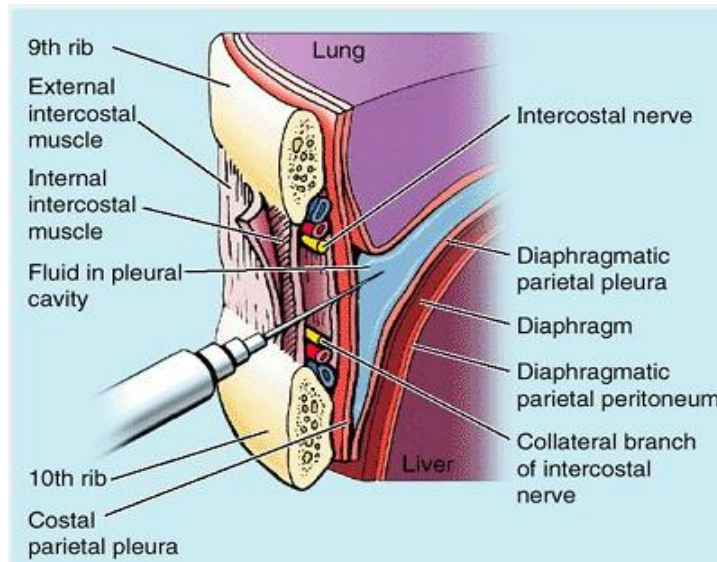
1-Apex:- as pleura

2-Anterior border:- as pleura

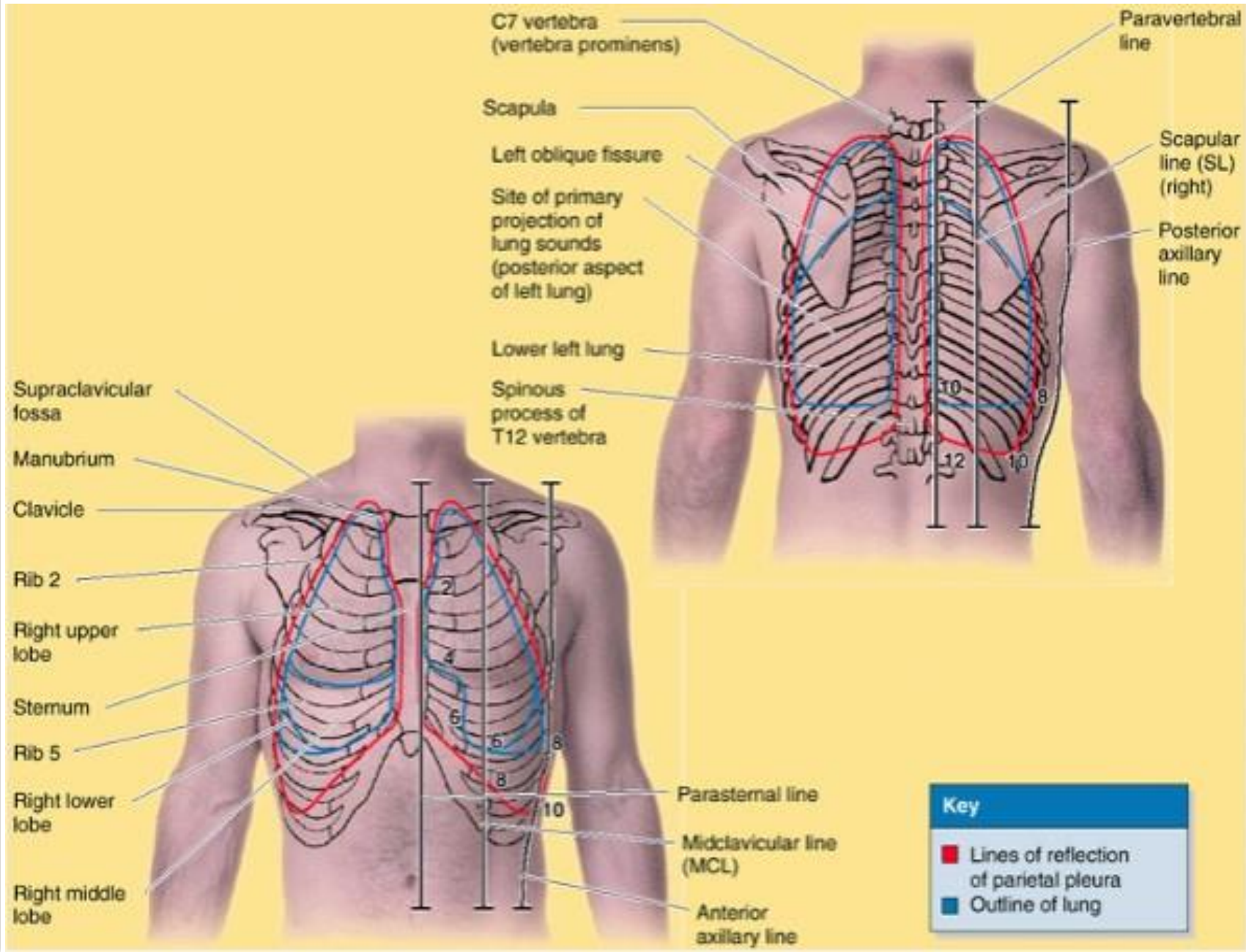
3-Inferior border:-

Line begins from end of ant border passes downwards & backwards crossing 6th rib in midclavicular line then 8th rib in midaxillary line then 10th rib at scapular line

4-Posterior border:- Vertical line from apex till end of inferior border



SURFACE ANATOMY OF LUNG & PLEURA





THANQ