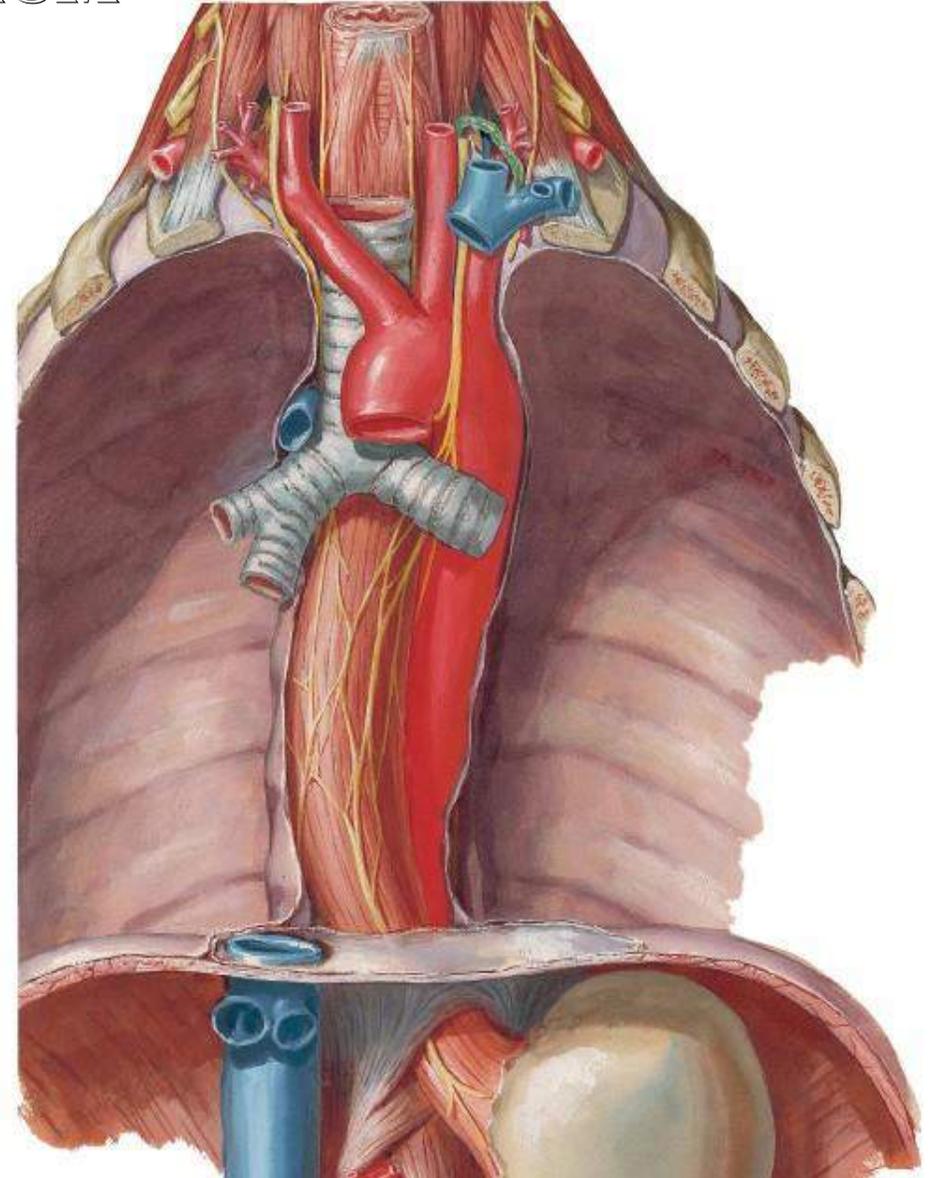


MEDIASTINUM & PERICARDIUM

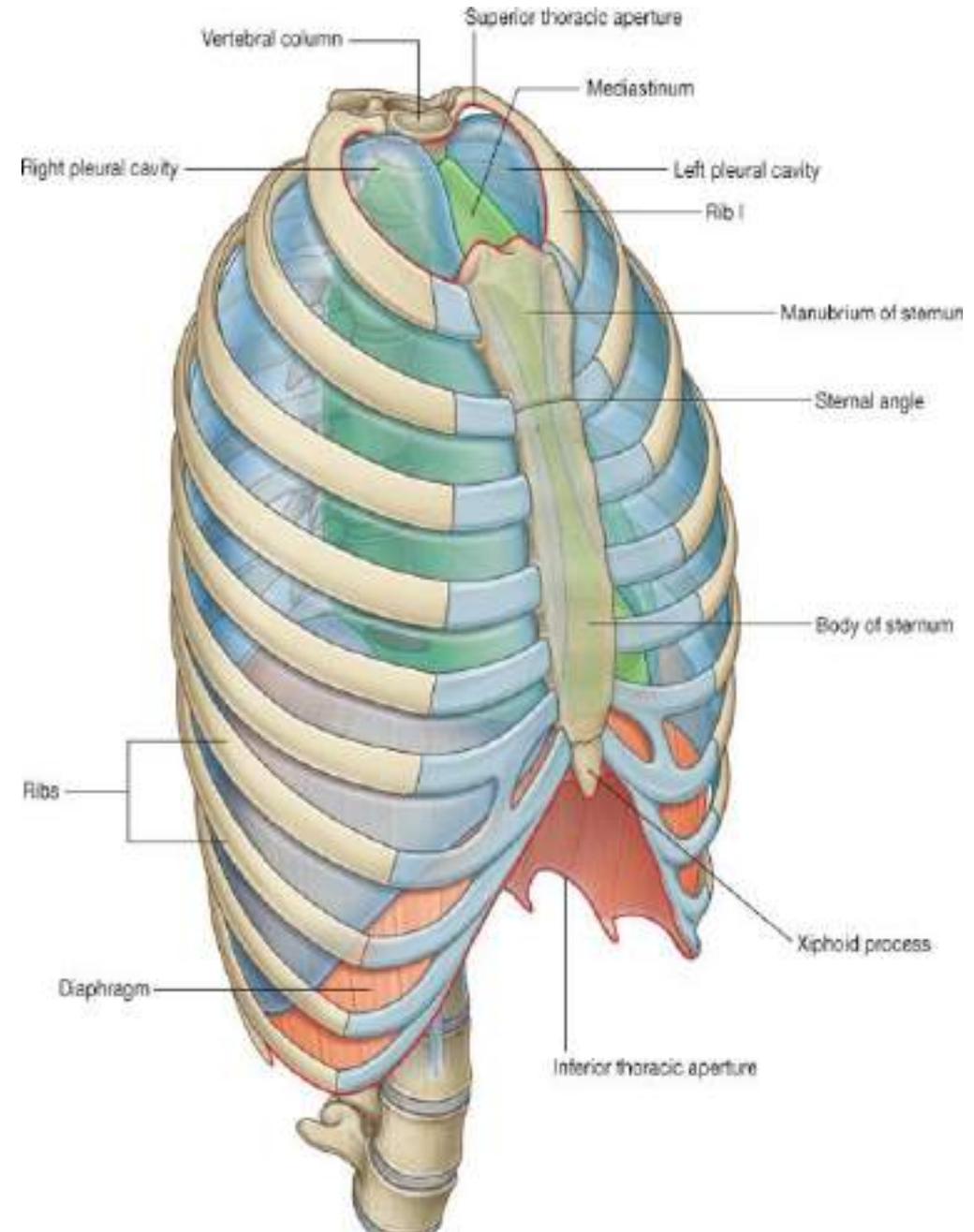
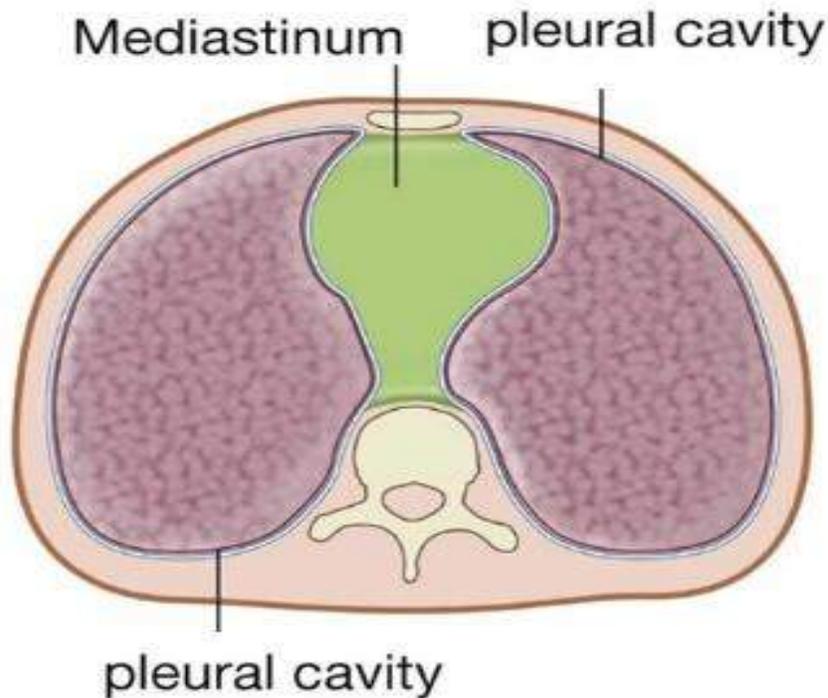
BY
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MUTAH UNIVERSITY



MEDIASTINUM

Def.

Central septum () the 2 lungs
extend from sternum to vertebral column
& from thoracic inlet to diaphragm



MEDIASTINUM

Divisions

divided by plane of sternal angle
(from lower border of manubrium to T4 /T5) into

1- superior mediastinum : above this plane

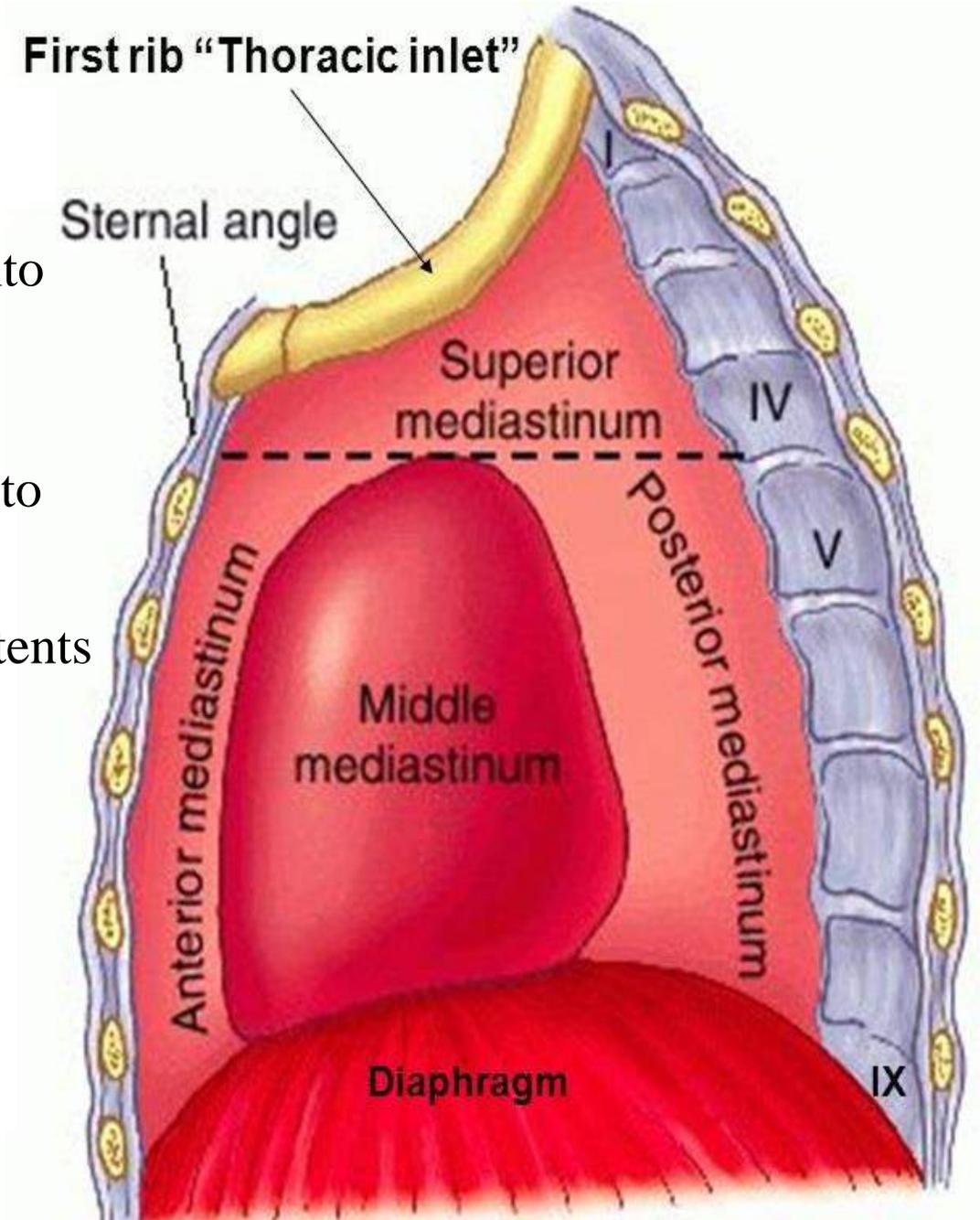
2- inferior mediastinum : below this plane.

it is further divided into

a- ant. mediastinum : ant. to pericardium

b- middle mediastinum : pericardium & its contents

c- post. mediastinum : post. to pericardium



SUPERIOR MEDIASTINUM

Boundaries

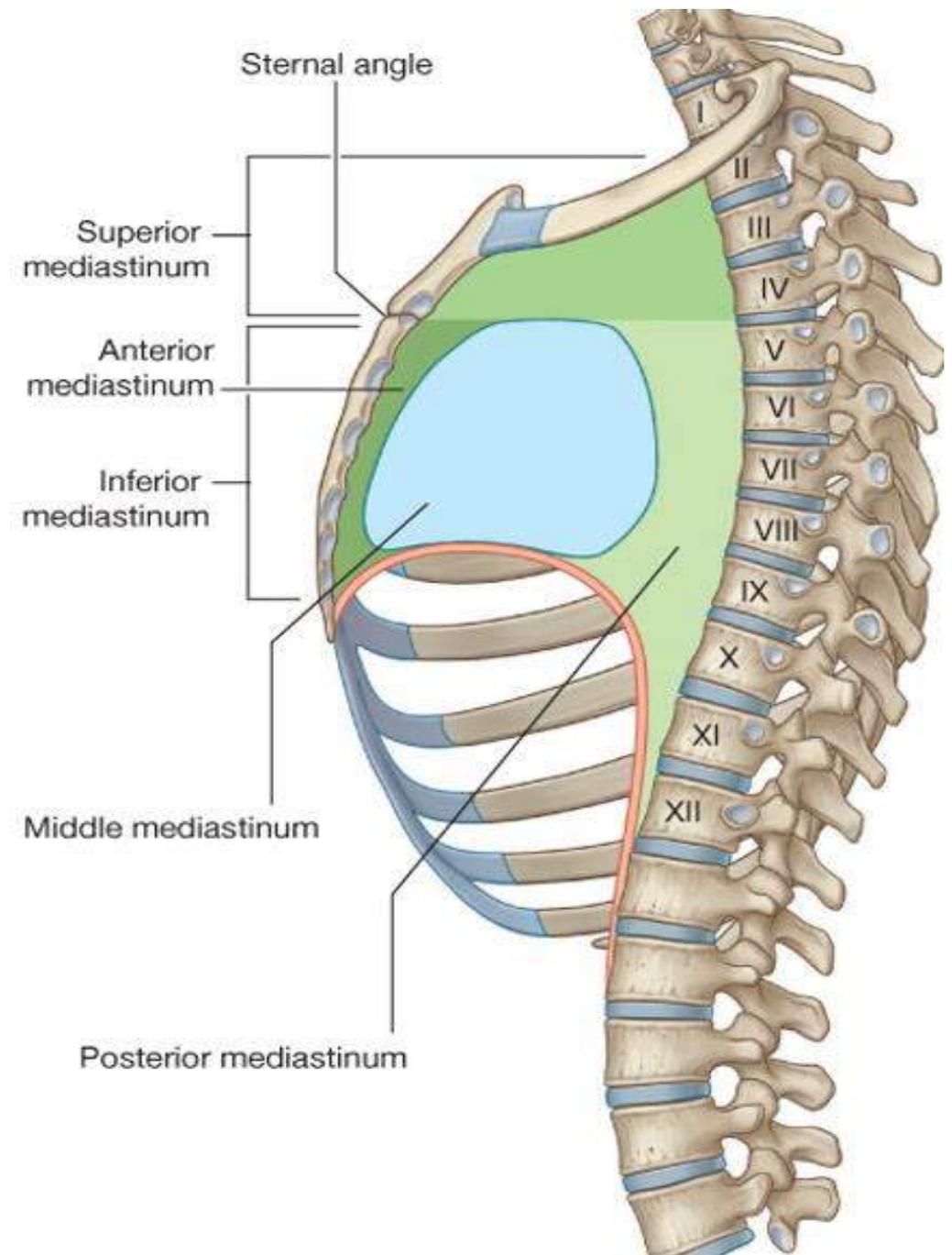
Ant. : manubrium sterni

Post. : upper 4 thoracic vertebrae & IVDs

above : thoracic inlet

below : plane of sternal angle

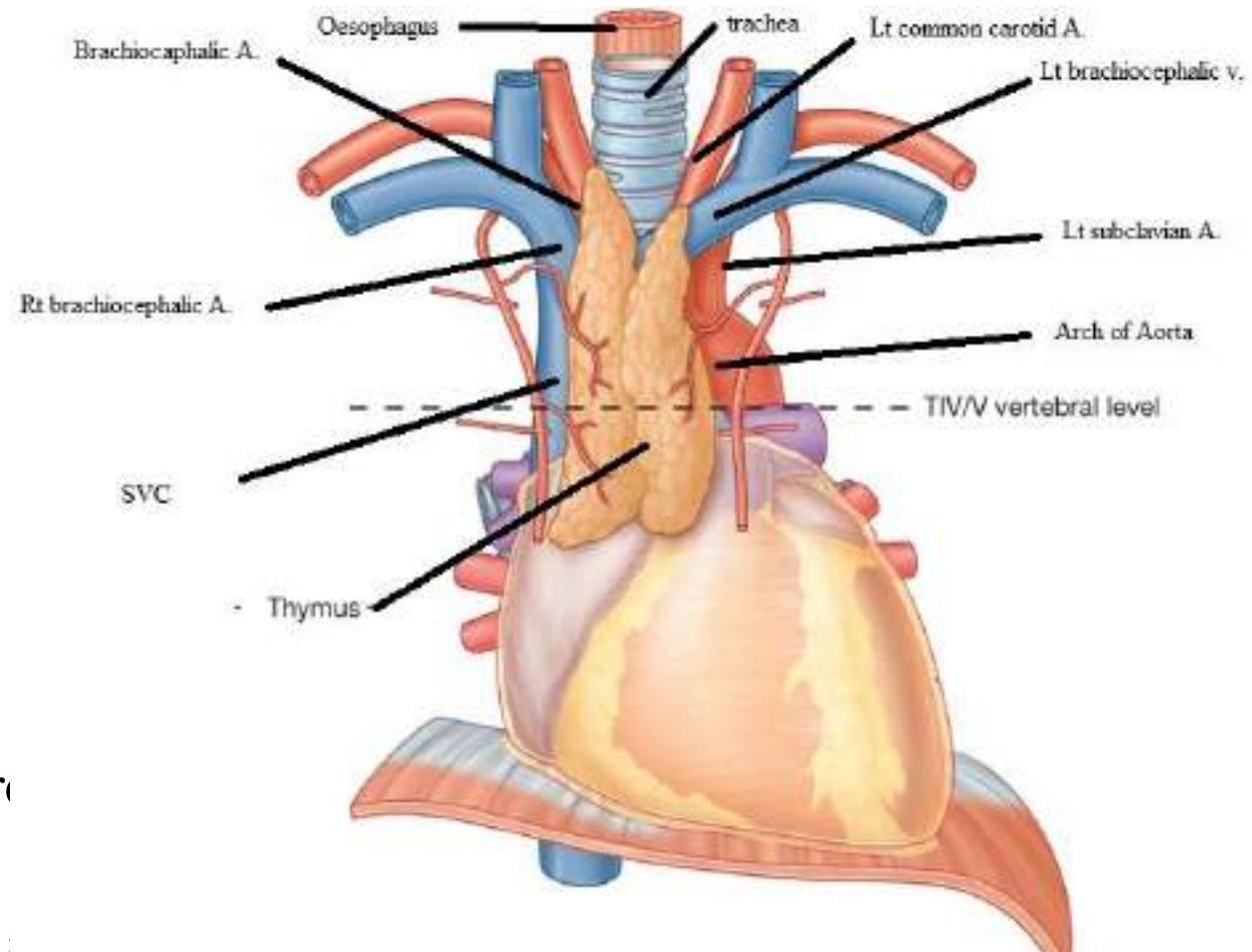
on sides: 2 lungs & pleurae



SUPERIOR MEDIASTINUM

Contents

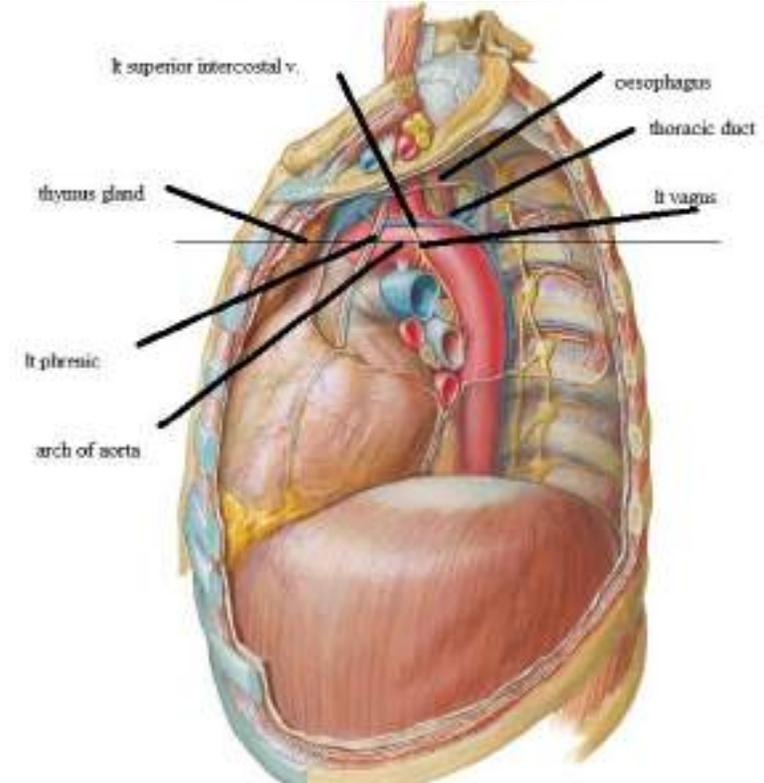
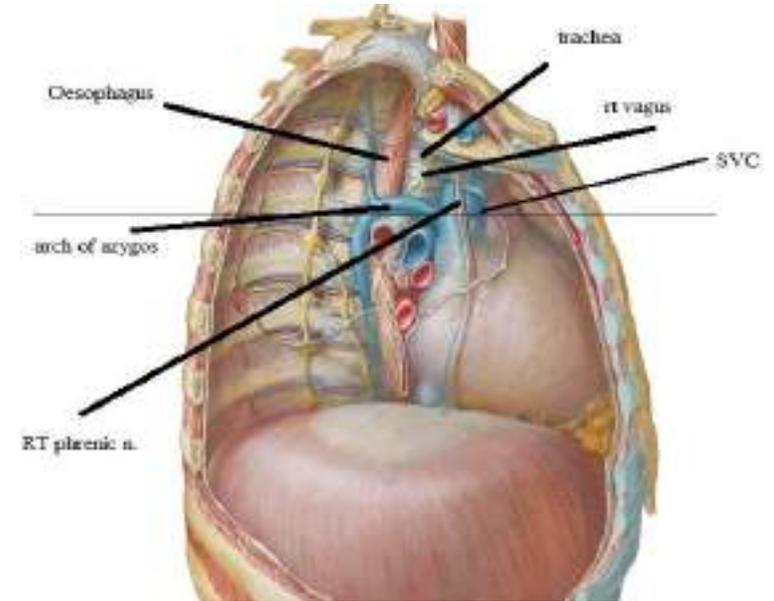
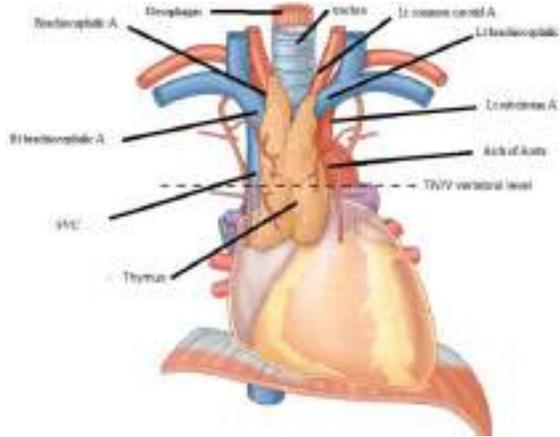
- Thymus gland
- Lt brachiocephalic v.
- Rt brachiocephalic v.
- upper 1/2 of SVC.
- end of arch of azygos
- Rt phrenic n.
- arch of aorta & its 3 branches
- Lt. vagus & Lt phrenic n. & Lt sup. intercostal a.
- Trachea & Rt. vagus on its right side
- Oesophagus & thoracic duct on its left side
- Lt recurrent laryngeal n. () esophagus & trachea



SUPERIOR MEDIASTINUM

Contents

- Thymus gland
- Lt brachiocephalic v.
- Rt brachiocephalic v.
- upper 1/2 of SVC.
- end of arch of azygos
- Rt phrenic n.
- arch of aorta & its 3 branches
- Lt. vagus & Lt phrenic n. & Lt sup. intercostal V.
- Trachea & Rt. vagus on its rt side
- Oesophagus & thoracic duct on its left side
- Lt recurrent laryngeal n.() esophagus & trachea



POSTERIOR MEDIASTINUM

Boundaries :

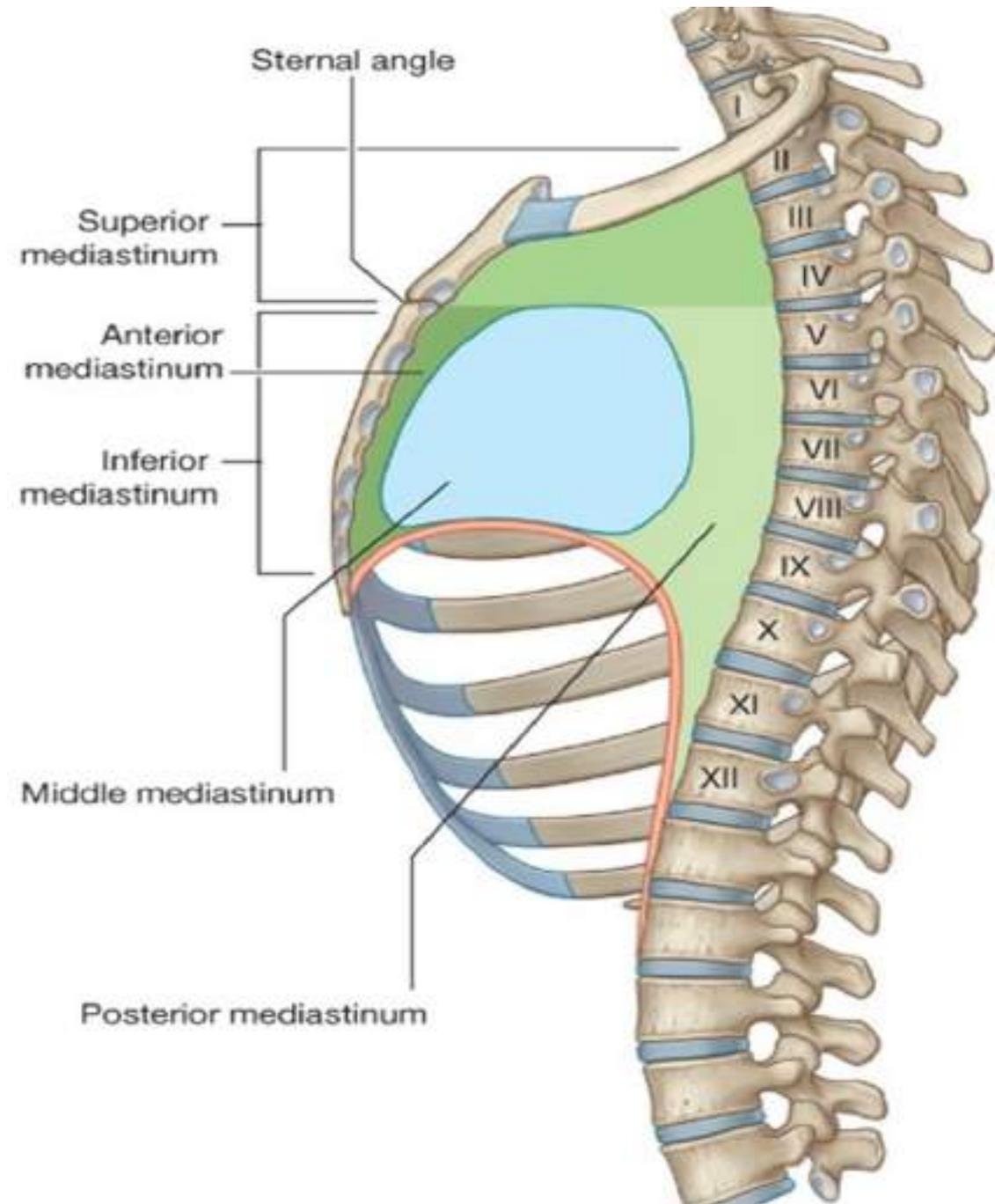
Ant. : pericardium & diaphragm

Post. : lower 8 thoracic vertebrae & IVDs

Above : plane of sternal angle

Below : diaphragm.

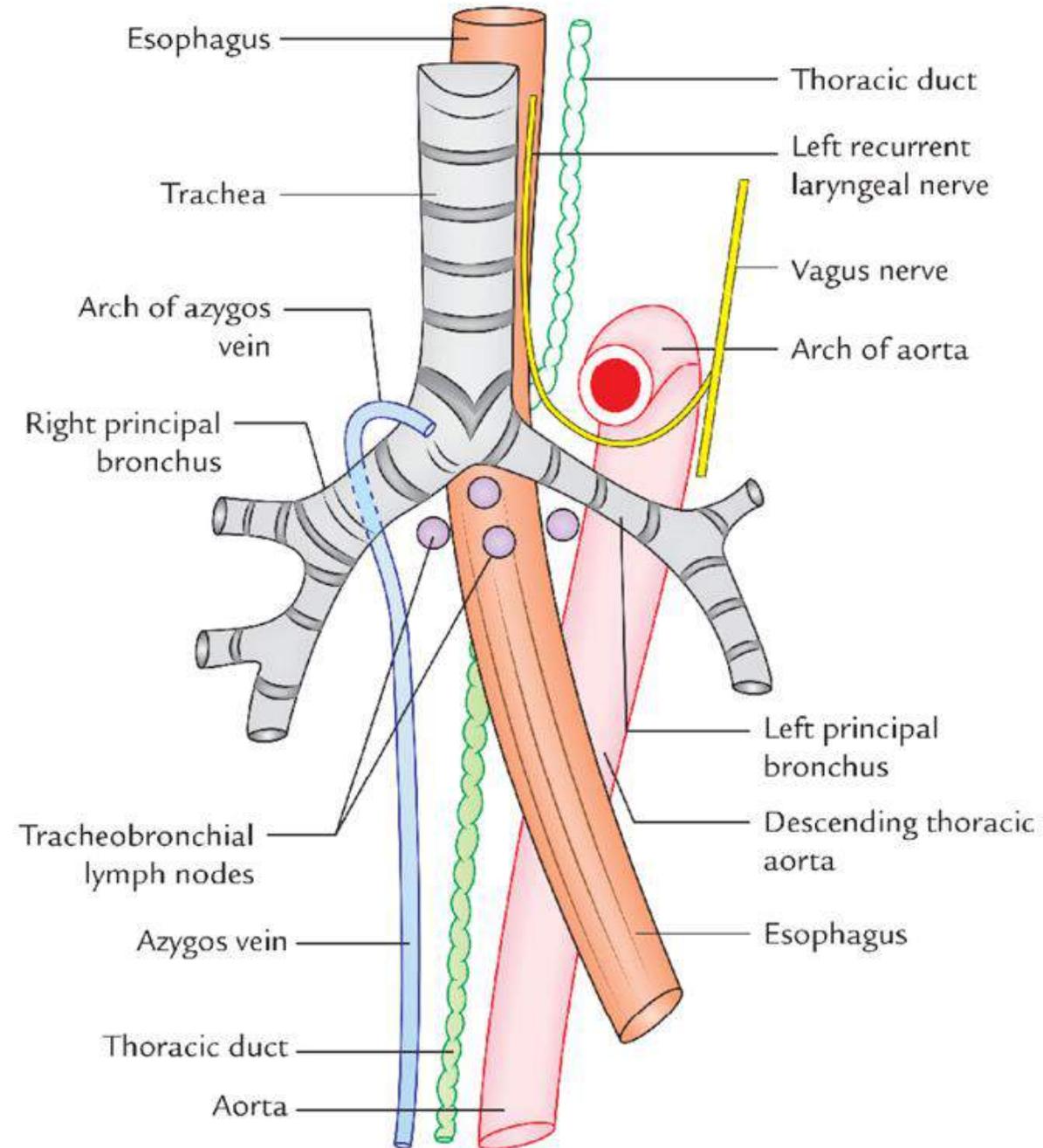
on sides: 2 lungs & pleurae



POSTERIOR MEDIASTINUM

Contents : (no date)

- 1- descending thoracic aorta
- 2- esophagus & 2 vagi forming the oesophageal plexuses
- 3- thoracic duct
- 4- azygos vein
- 5- inferior & superior hemiazygos veins
- 6- posterior mediastinal l.n.



MIDDLE MEDIASTINUM

Boundaries

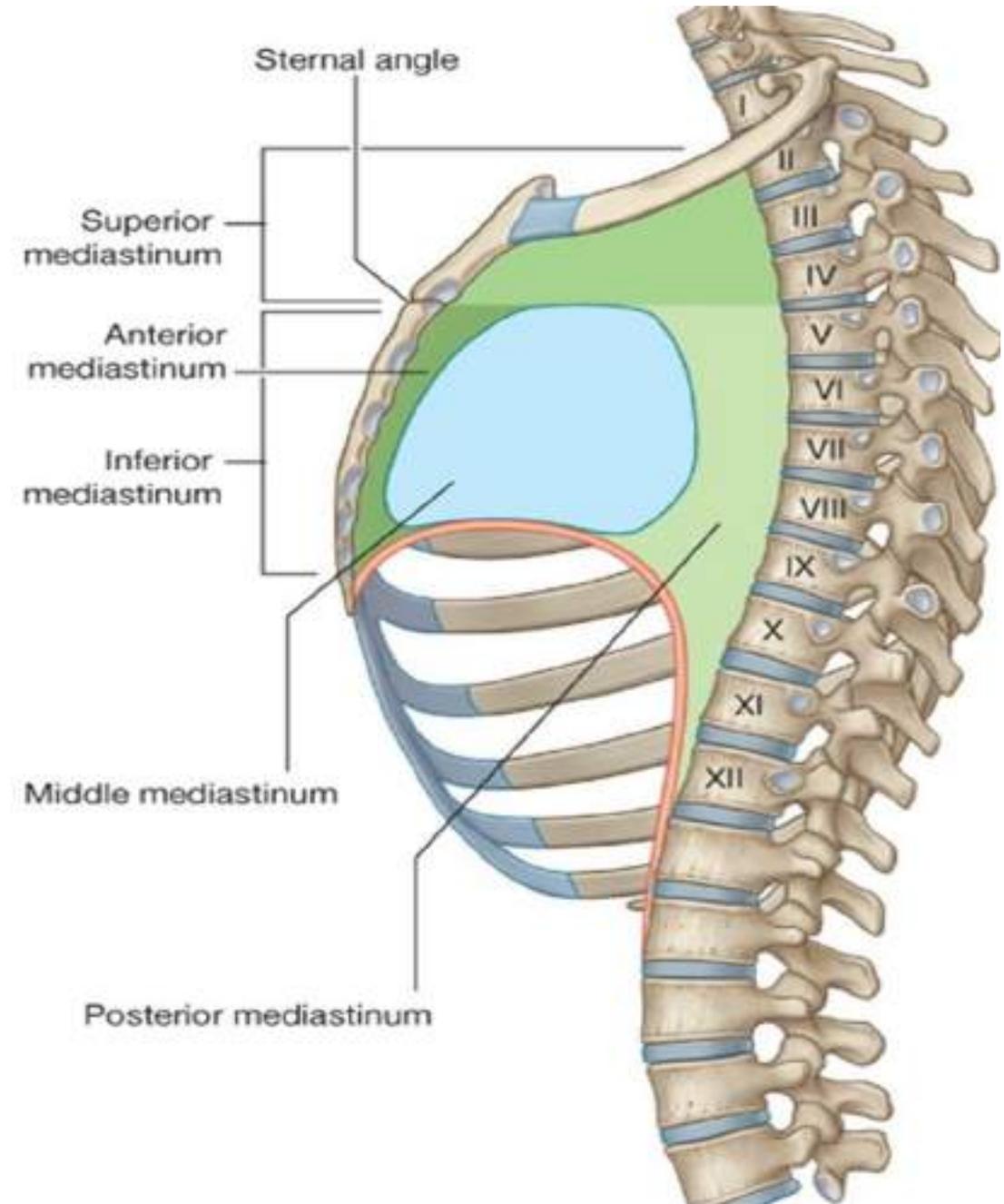
Ant. : ant. mediastinum

Post. : post. mediastinum

above : plane of sternal angle

below : diaphragm

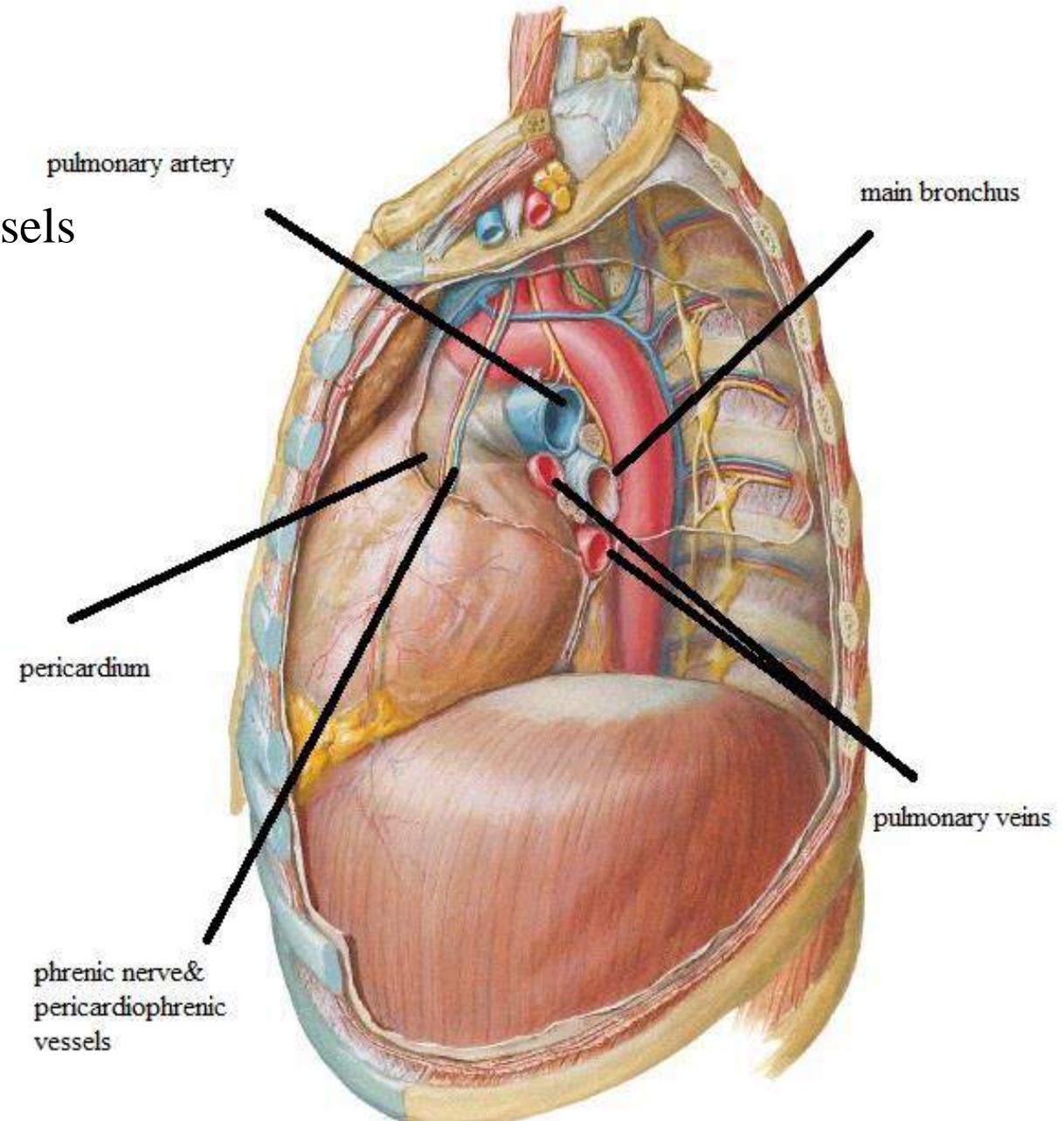
on sides: 2 lungs & pleurae



MIDDLE MEDIASTINUM

Contents:-

- 1- Pericardium & its contents???
- 2- Phrenic nerves & pericardiophrenic vessels
- 3- Main bronchi & pulmonary arteries & pulmonary veins



ANTERIOR MEDIASTINUM

Boundaries

Ant. : body of sternum

Post. : pericardium

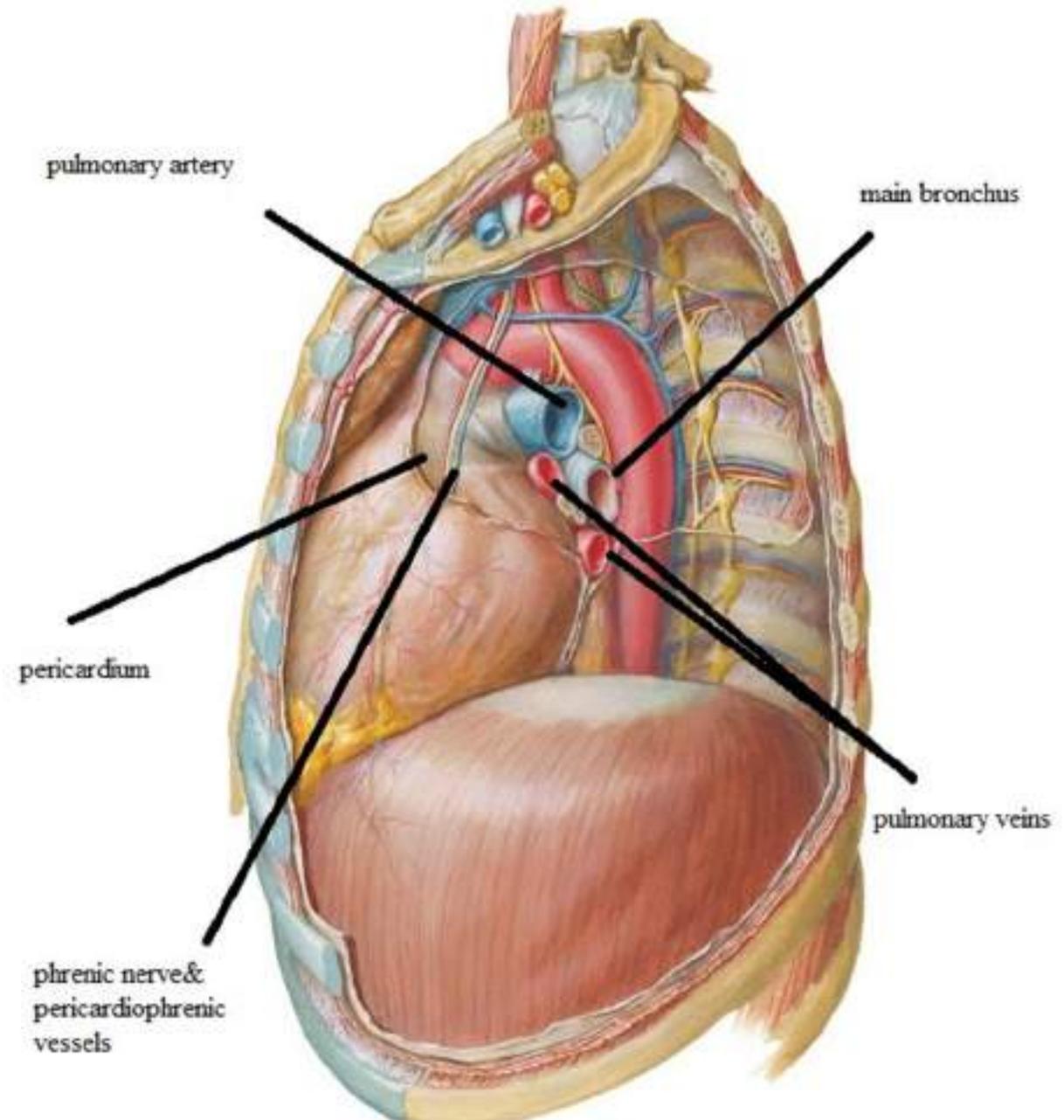
above : plane of sternal angle

below : diaphragm

on sides: 2 lungs & pleurae

Contents:-

- 1- Sternopericardial ligaments :-
connect pericardium to
body of the sternum
- 2- Thymus
- 3- Fat & 2-3 mediastinal l.n.



IMPORTANT LANDMARKS

Events at level of sternal angle

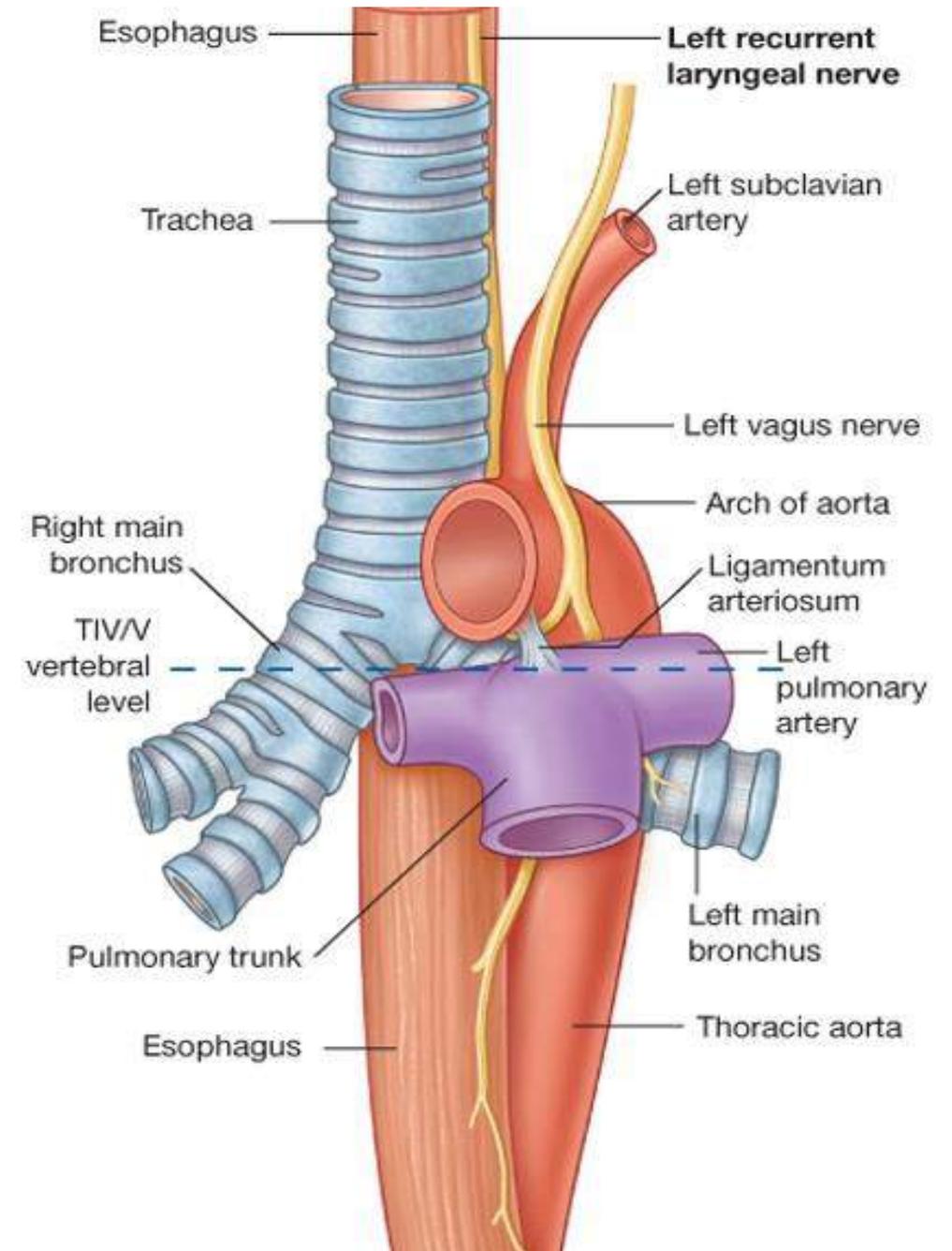
- 1-Termination of trachea
- 2-beginning & Termination of aortic arch
- 3-Termination of pulmonary trunk
- 4- Termination of azygos arch in SVC

Structures below bifurcation of trachea

- a-deep cardiac plexus
- b-tracheobronchial L.Ns

Structures below the arch of aorta

- a-ligamentum arteriosum
- b-Lt recurrent laryngeal n.
hooks around ligamentum arteriosum
- c-superficial cardiac plexus



PERICARDIUM

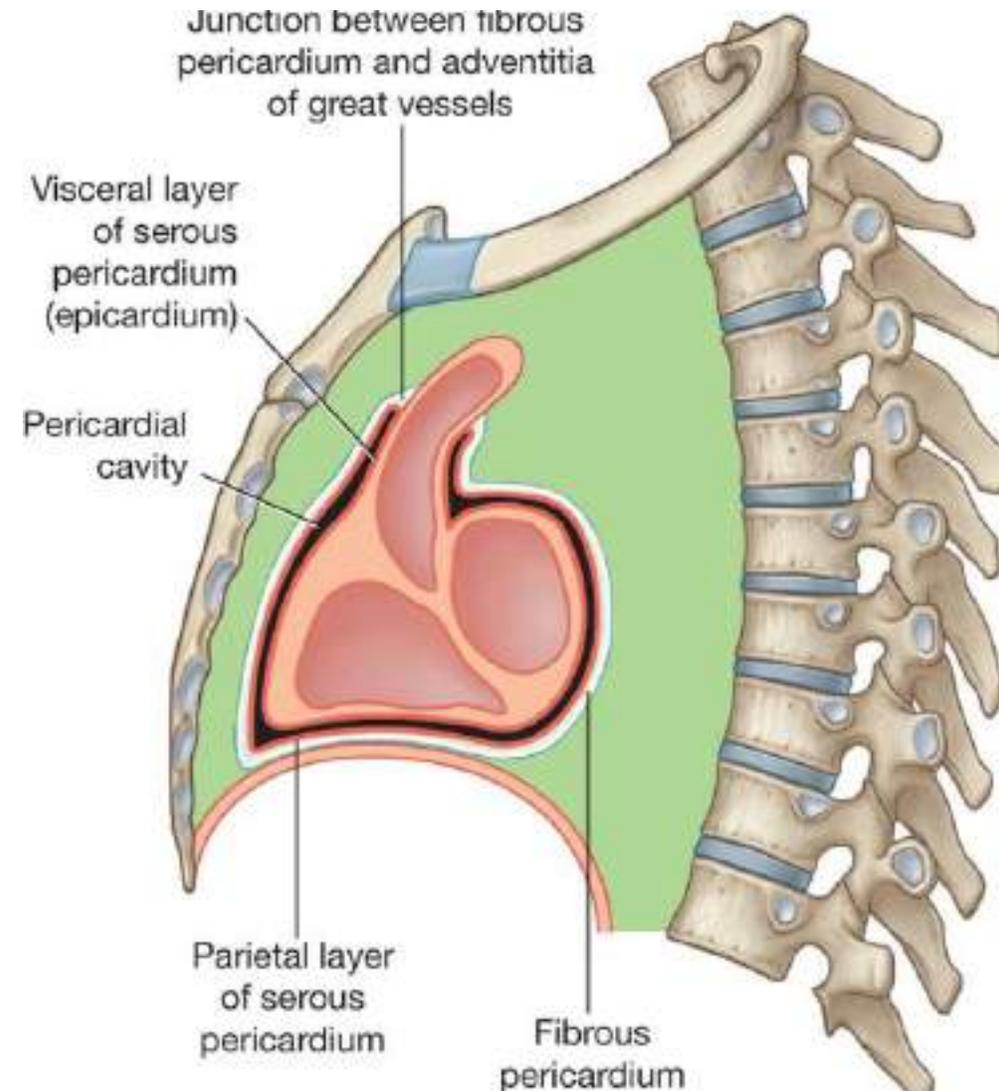
Def.:- fibro serous sac envelope the heart & proximal part of great vessels

Site: - middle mediastinum behind the sternum & costal cartilage 2-6

Structure:

1-Fibrous pericardium

2-serous pericardium



FIBROUS PERICARDIUM

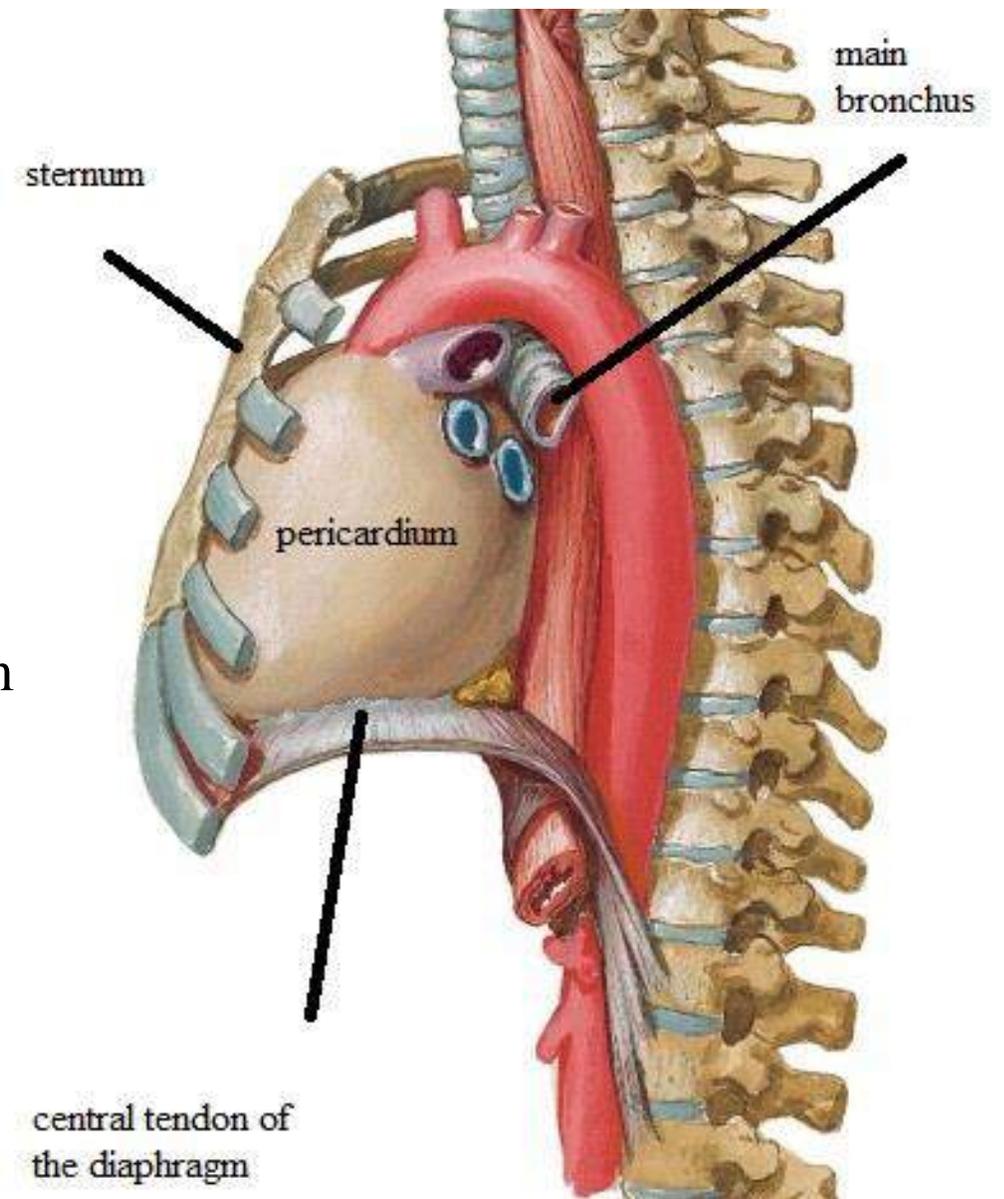
shape: conical with its base rests on diaphragm
& apex(reach sternal angle)

Functions

- 1- Keep central position of heart
- 2- Prevent overdistention of the heart

fixation:

- fuse below with the central tendon of diaphragm
- fuse above with adventitia of great vessels
- Attach anteriorly to body of sternum
by the sternopericardial ligaments



SEROUS PERICARDIUM

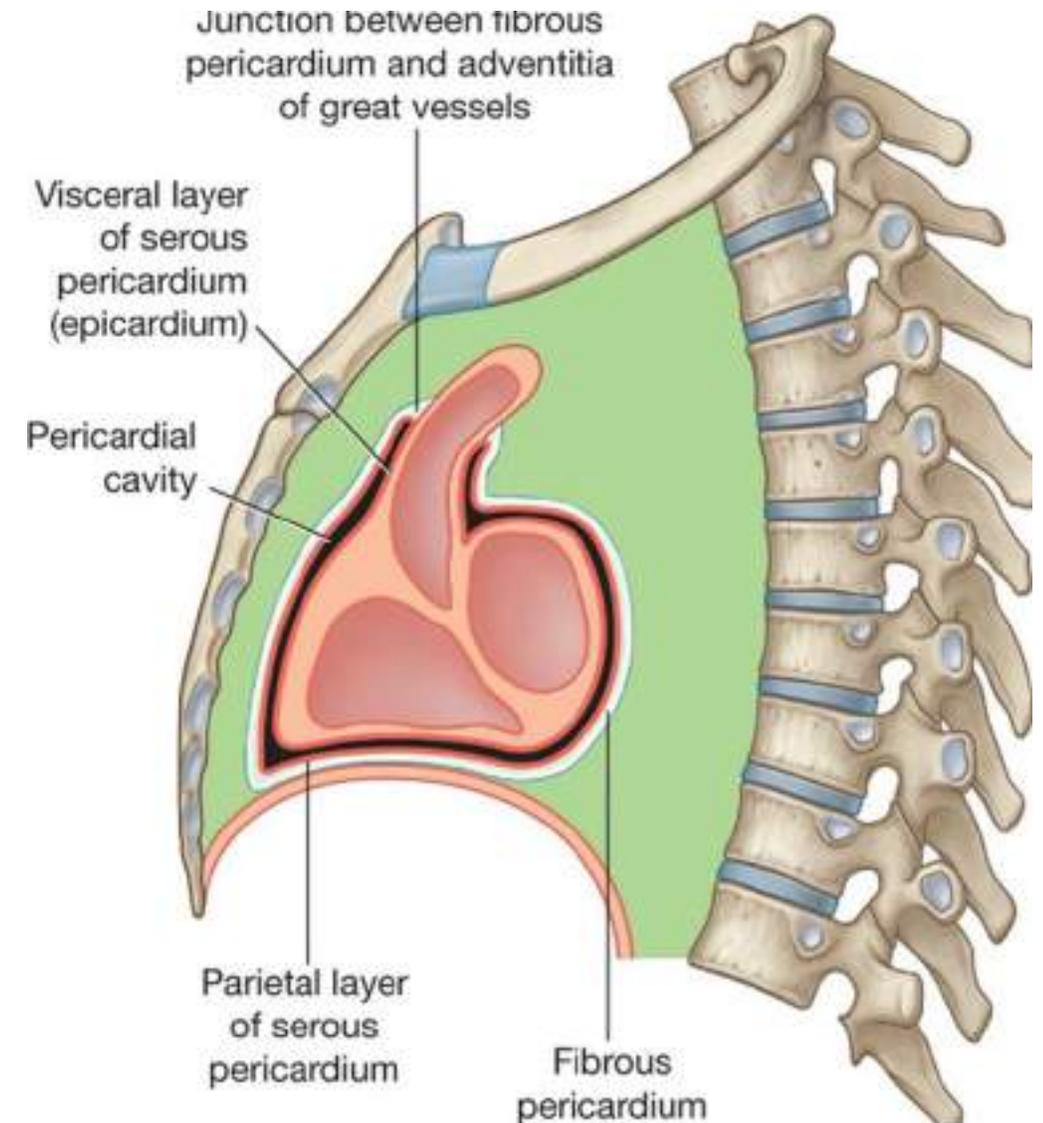
Def.: closed serous sac invaginated by heart & great vessels so divide into

1-Visceral layer (epicardium):-
covers heart & root of big vessels

2-parietal layer:-
lines fibrous pericardium

3-Pericardial cavity:-
in () contains thin film of serous fluid

Functions: - lubrication of heart



SEROUS PERICARDIUM

Pericardial Sinuses:

1-Transverse sinus:

Boundaries:

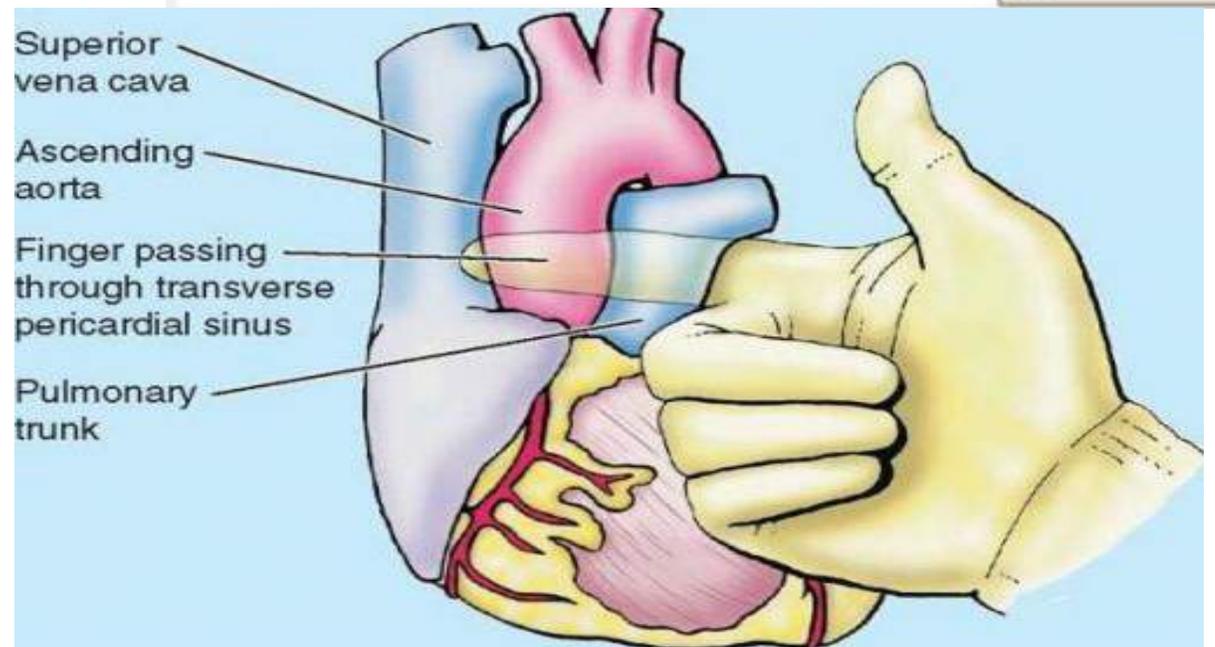
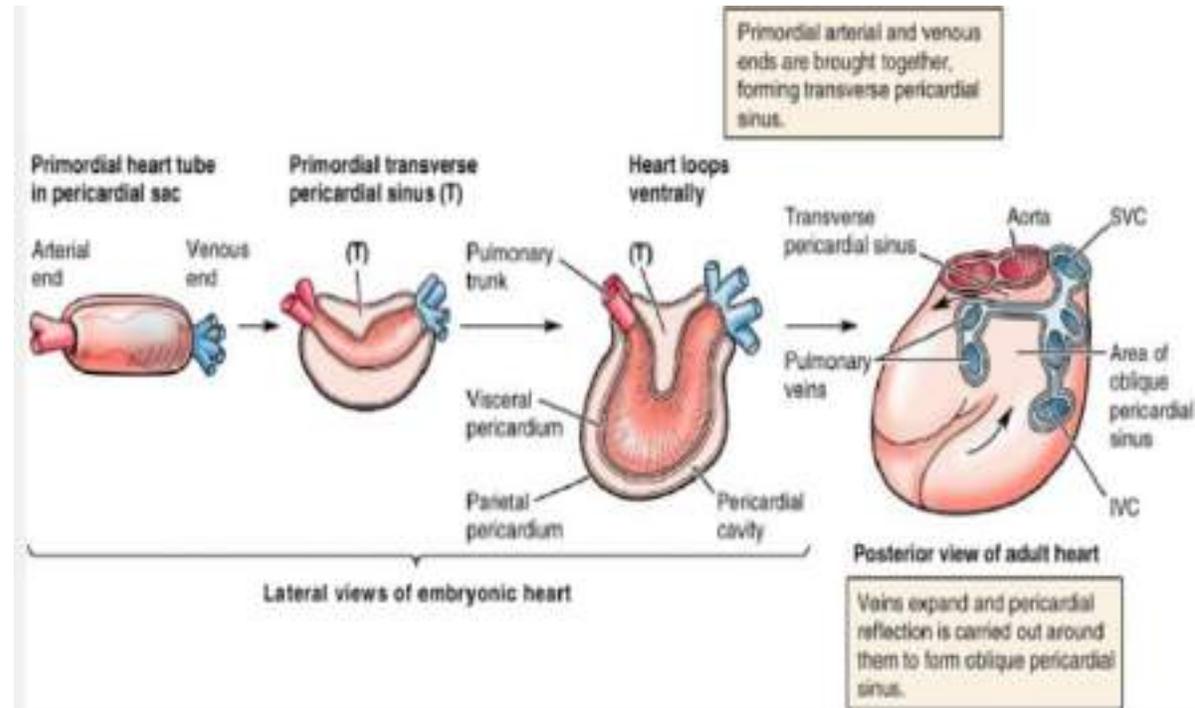
Ant.: ascending aorta & pulmonary trunk

post. : S.V.C

Below: - 2 atria specially the It

to demonstrate the sinus pass your finger

() ascending aorta & SVC



SEROUS PERICARDIUM

Pericardial Sinuses:

2-Oblique sinus

Boundaries:

Ant.:

visceral layer of serous pericardium on back of Lt atrium

Post. :

Parietal layer of serous pericardium & Fibrous pericardium

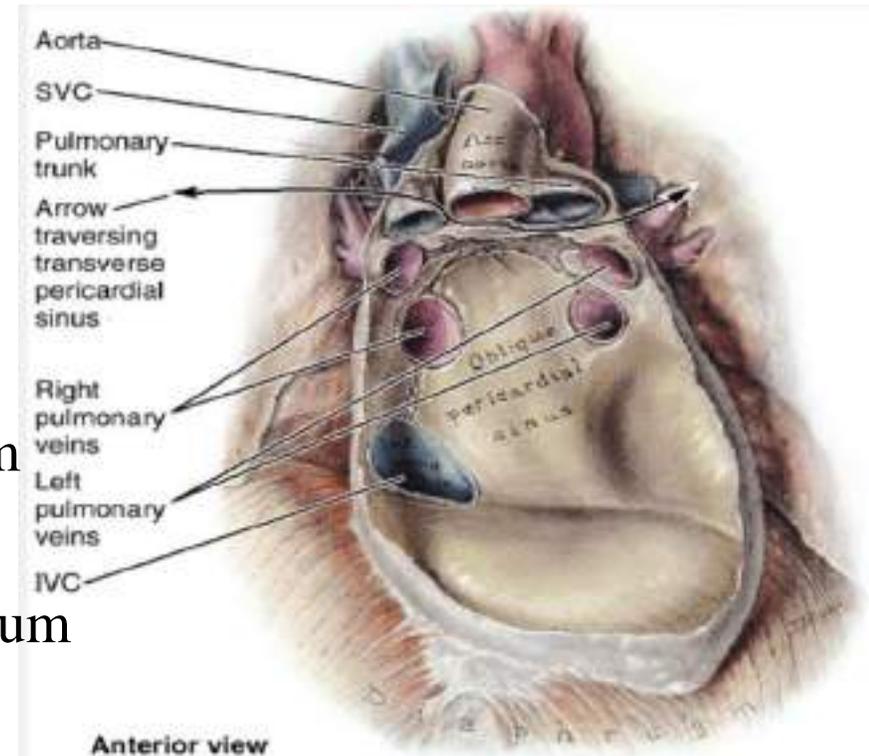
Above: reflection of visceral layer of pericardium
from back of Lt atrium onto parietal layer of serous pericardium

Below: continuous e' pericardial cavity

Lt Side: 2 Lt pulmonary veins

RT side: 2 Rt pulmonary veins & IVC

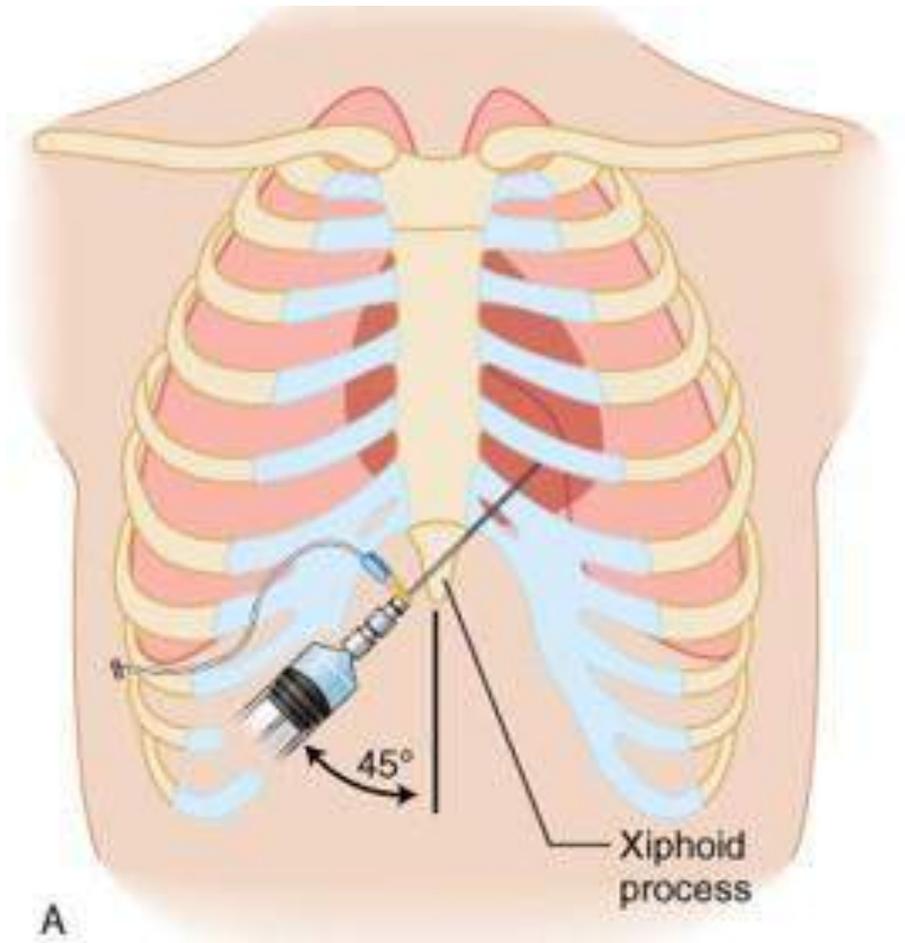
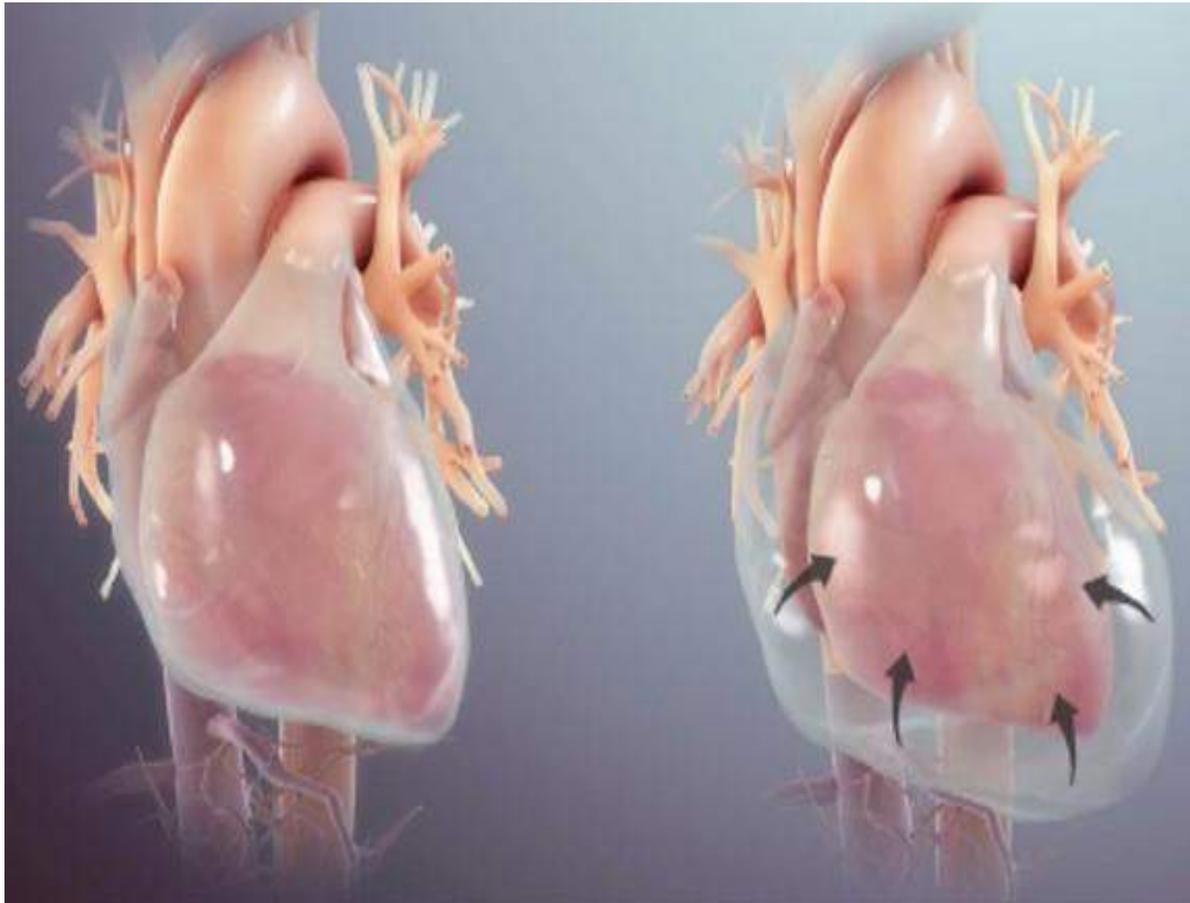
To demonstrate oblique sinus: - push your fingers below diaphragmatic surface then upwards behind the back of Lt atrium





PERICARDIAL EFFUSION

DEF. - accumulation of fluid in pericardial cavity which may be aspirated by a needle inserted to the left of xiphoid process directed upwards & to lt (in area of pericardial notch)



BLOOD SUPPLY OF PERICARDIUM

1-Fibrous pericardium & parietal layer of serous pericardium :-

Arteries:-

Internal thoracic: - pericardiophrenic-musculophrenic-

Descending thoracic aorta

Veins: -

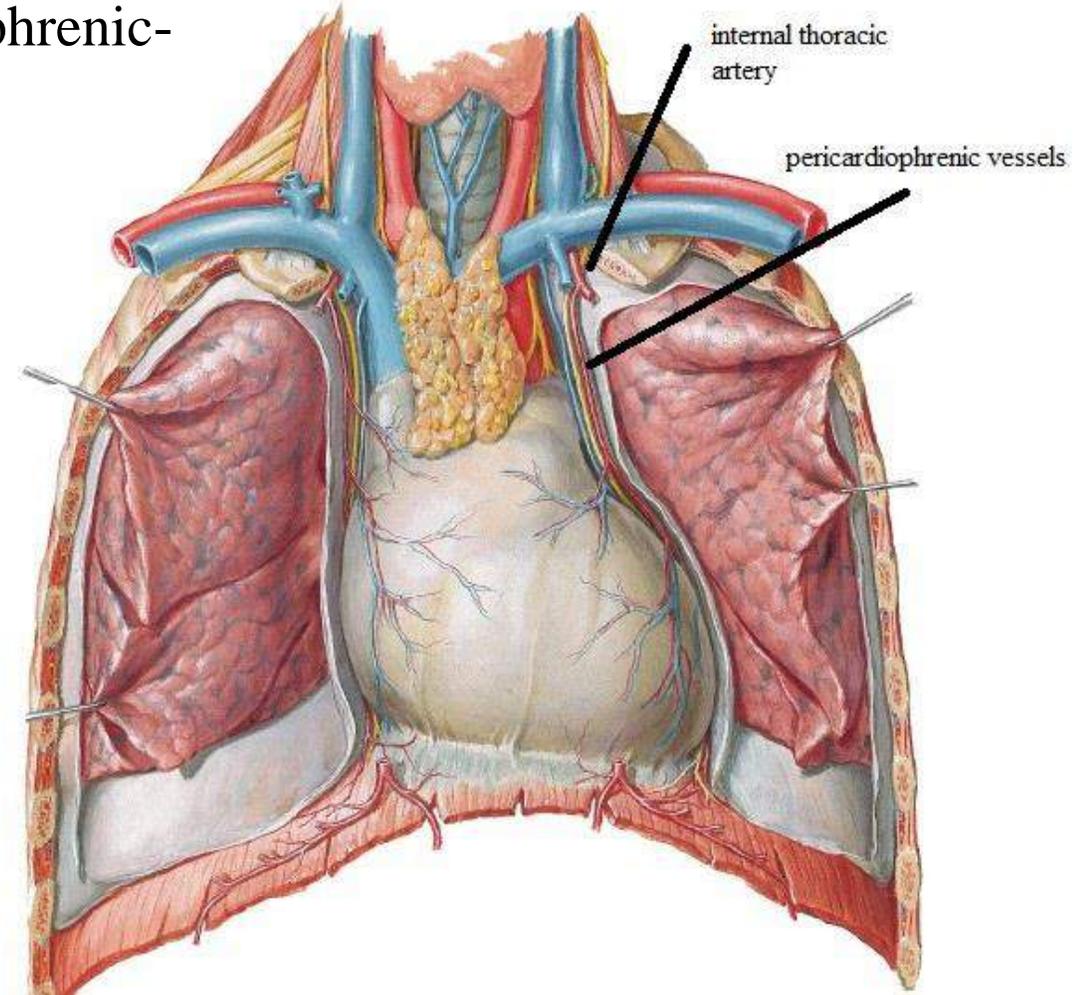
internal thoracic & azygos

2-Visceral layer of serous pericardium :-

Arteries:-

Coronary arteries

Veins:- drained by cardiac veins



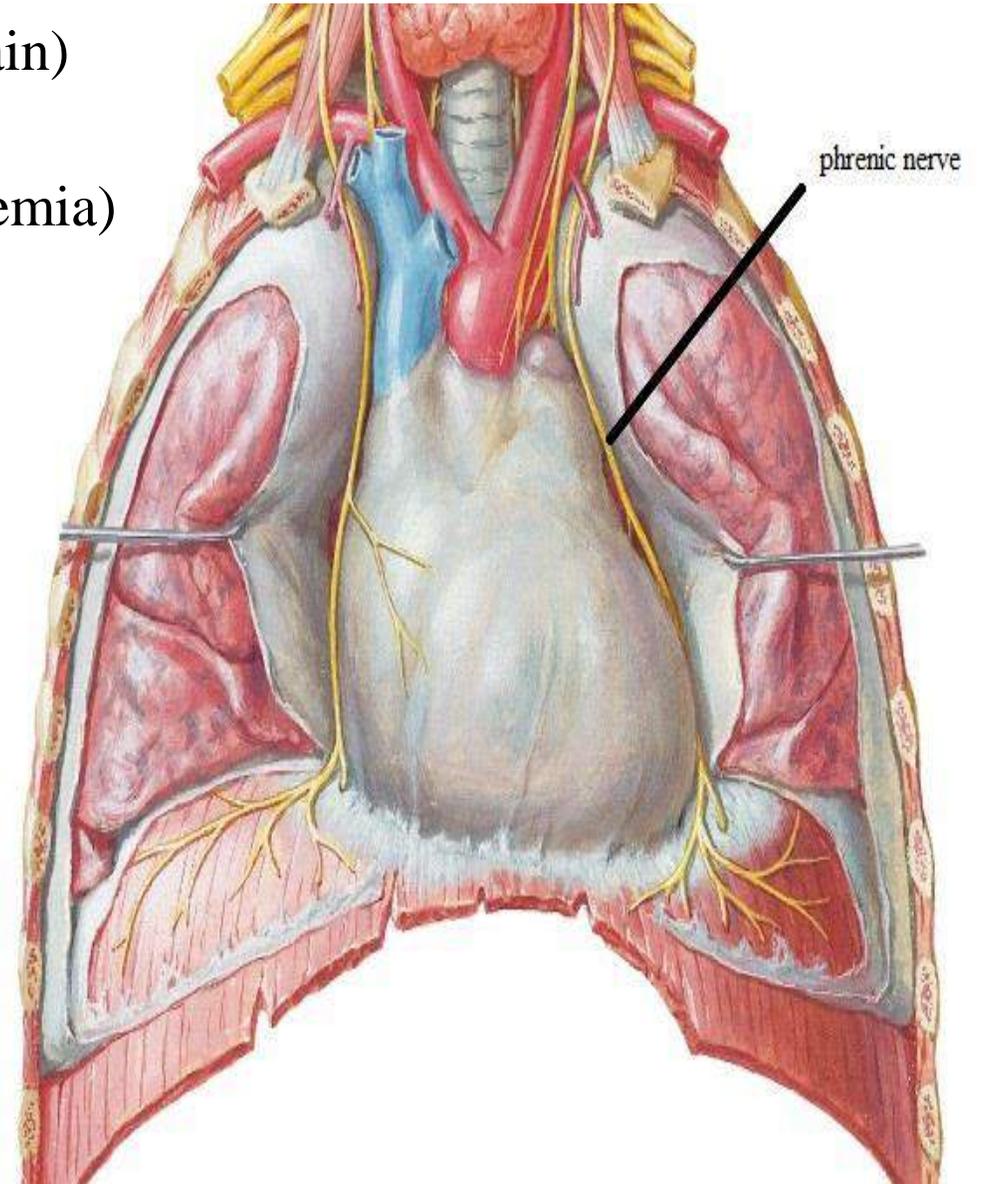
NERVE SUPPLY OF PERICARDIUM

1-fibrous & parietal layer of serous :

phrenic n. & intercostal nerves(sensitive to pain)

2- visceral layer of serous :

autonomic cardiac plexuses (sensitive to ischemia)





THANQ