

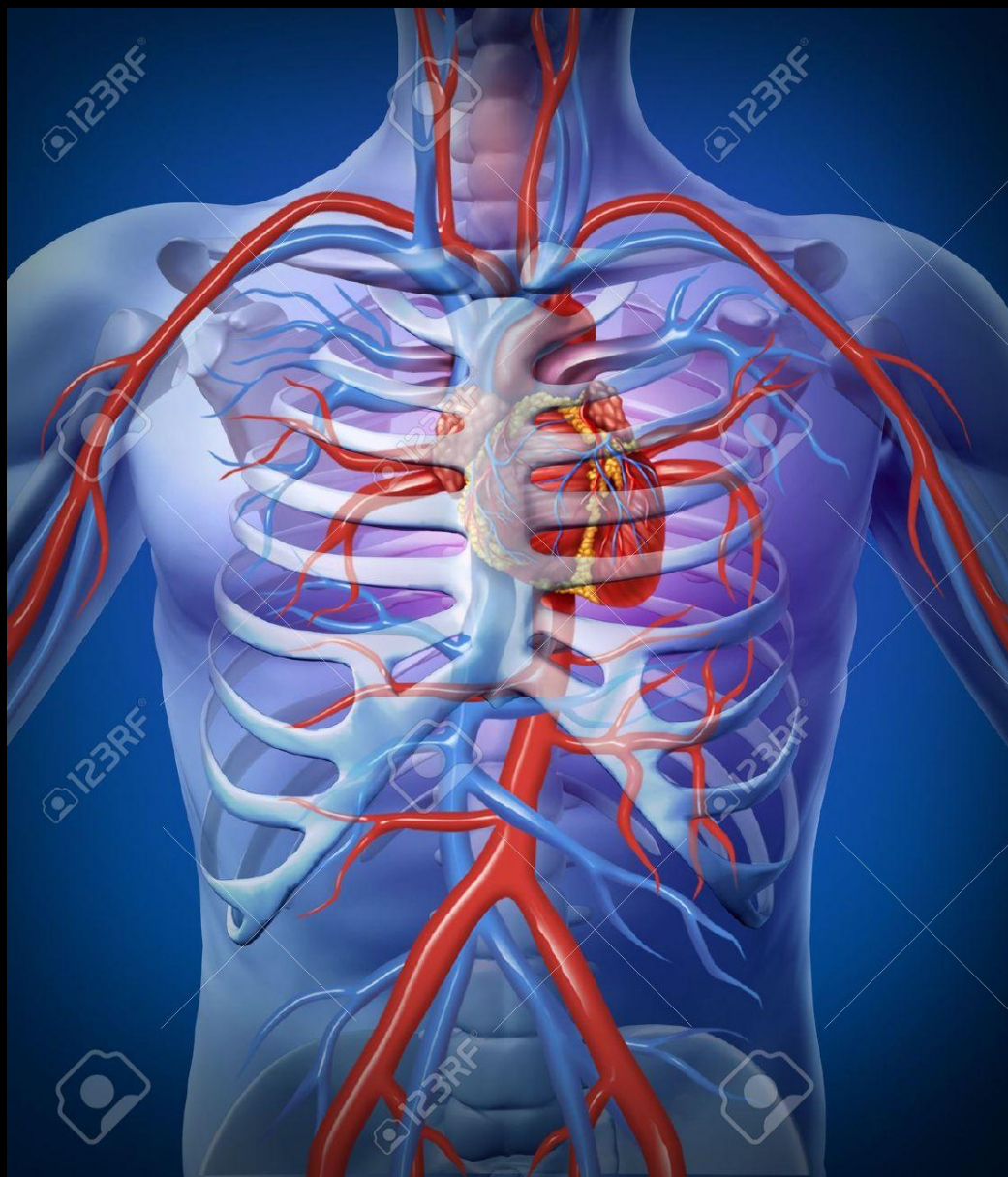
An anatomical illustration of the human heart and lungs. The heart is shown in a reddish-pink color, with its four chambers and major blood vessels (aorta, pulmonary artery, pulmonary veins, and vena cava) clearly visible. The lungs are shown in a light blue color, with their branching bronchial tree and vascular network. The entire system is set within a semi-transparent ribcage and spine, all against a dark background.

HEART

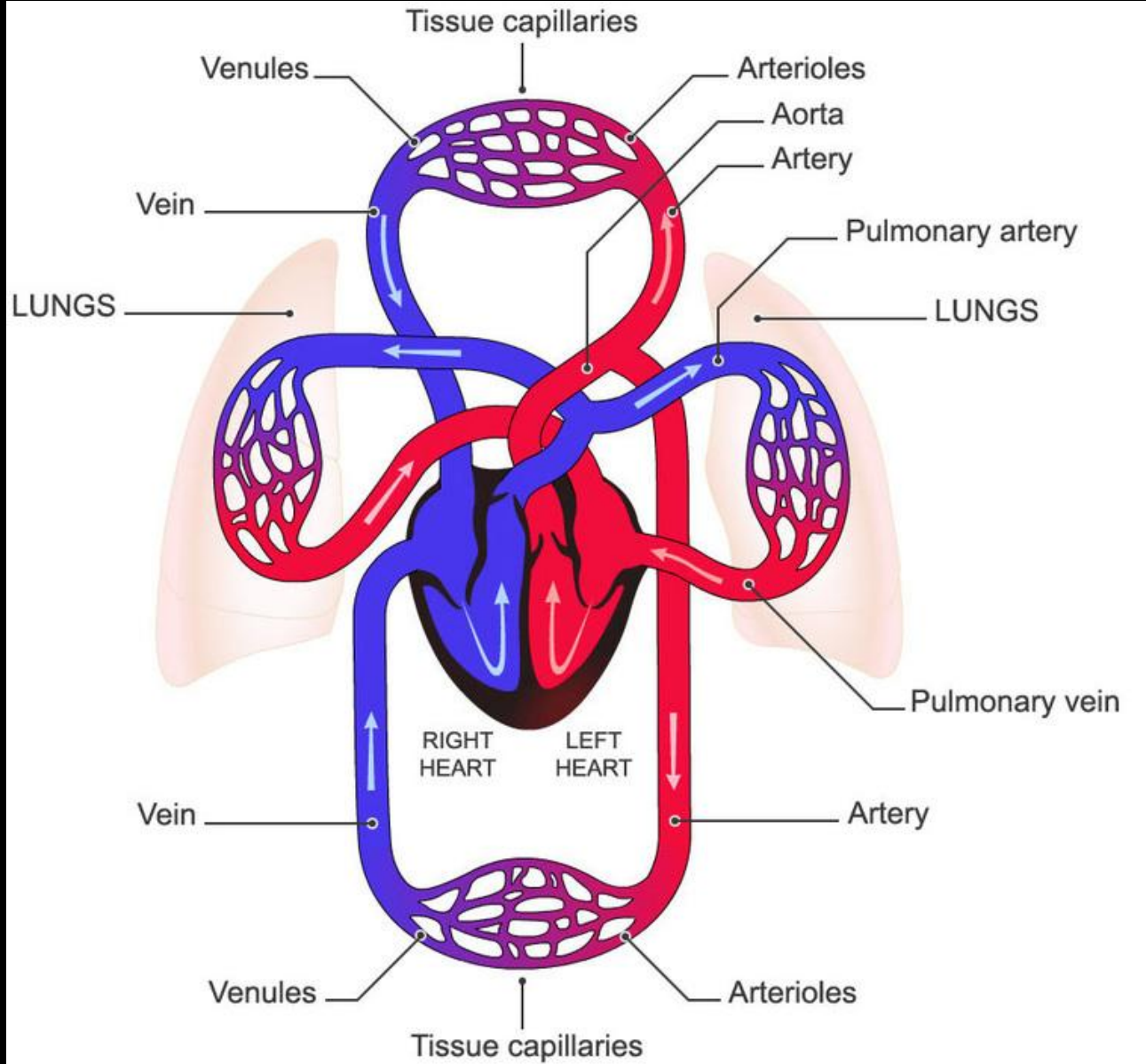
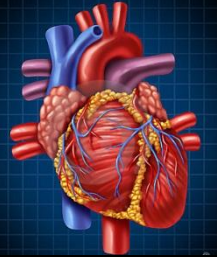
II semester

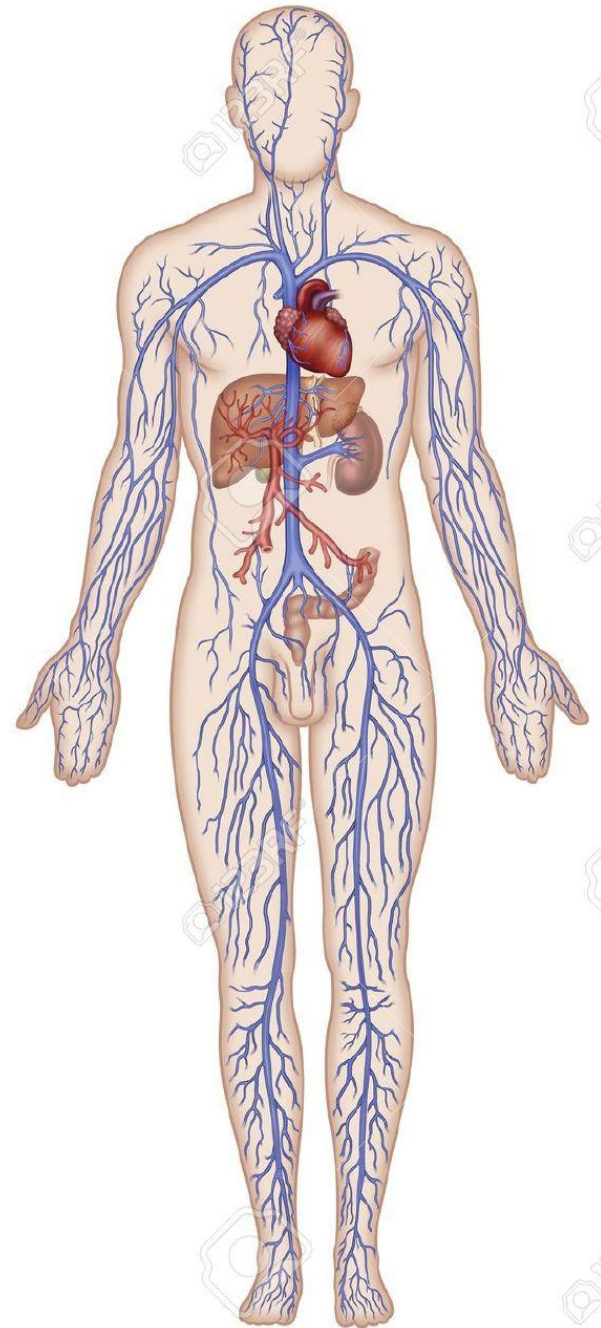
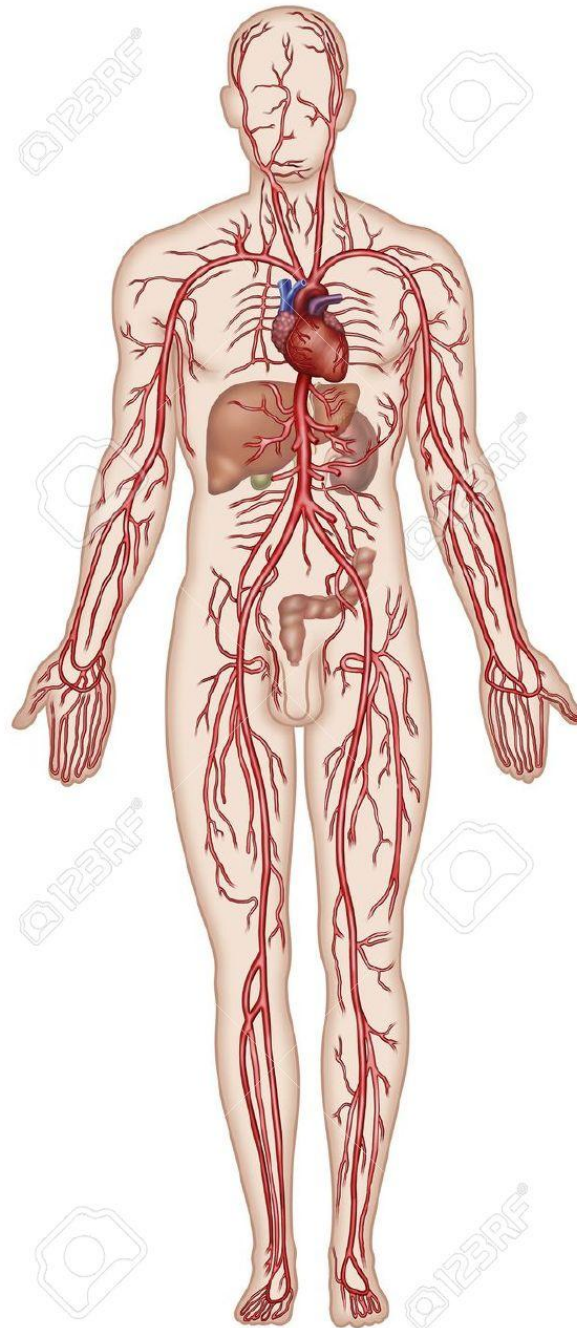
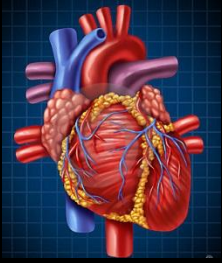
Associate Professor,

Lilia R. Shaymardanova, M.D., Ph.D.



Круги крово- обращения

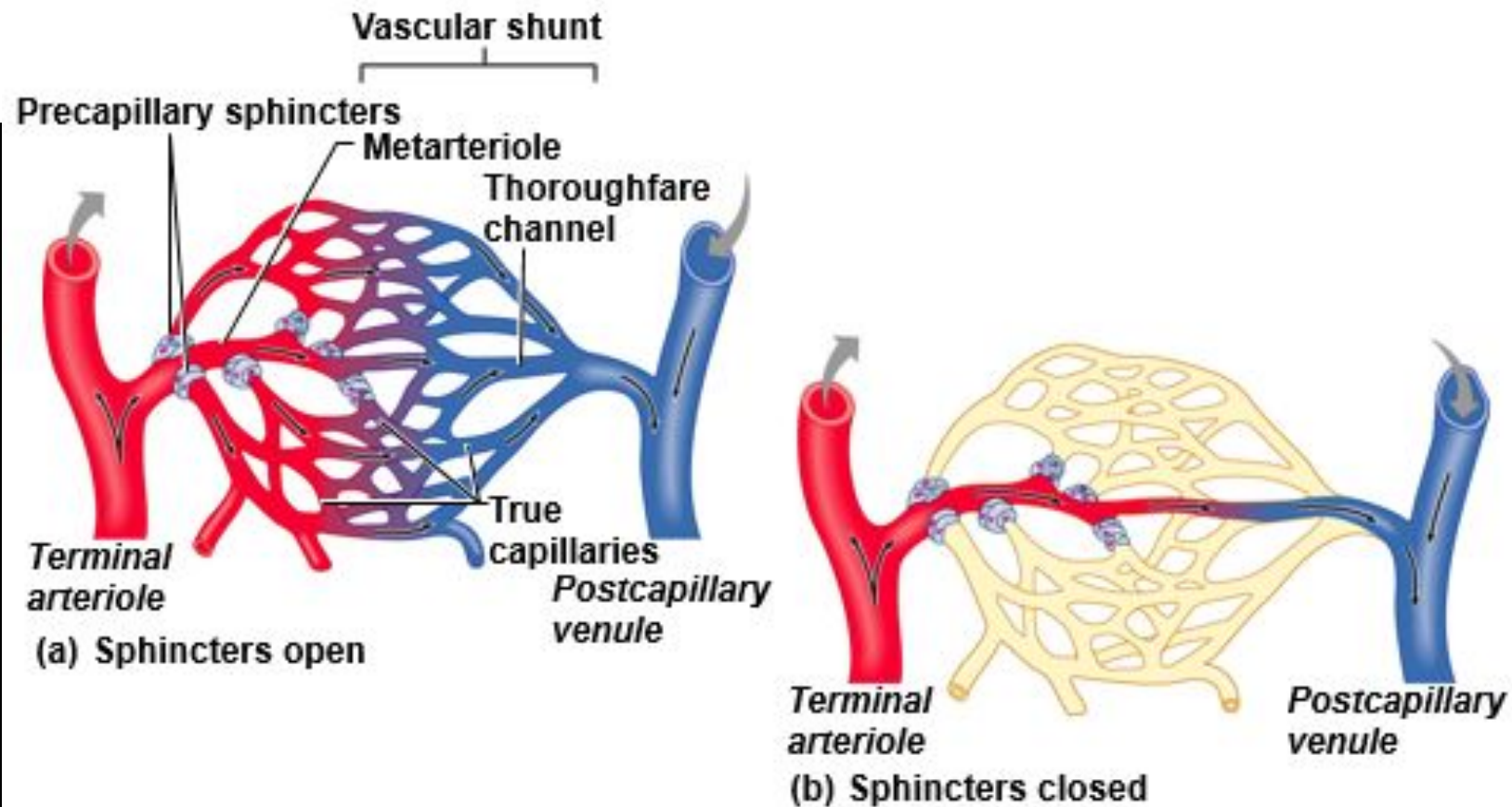


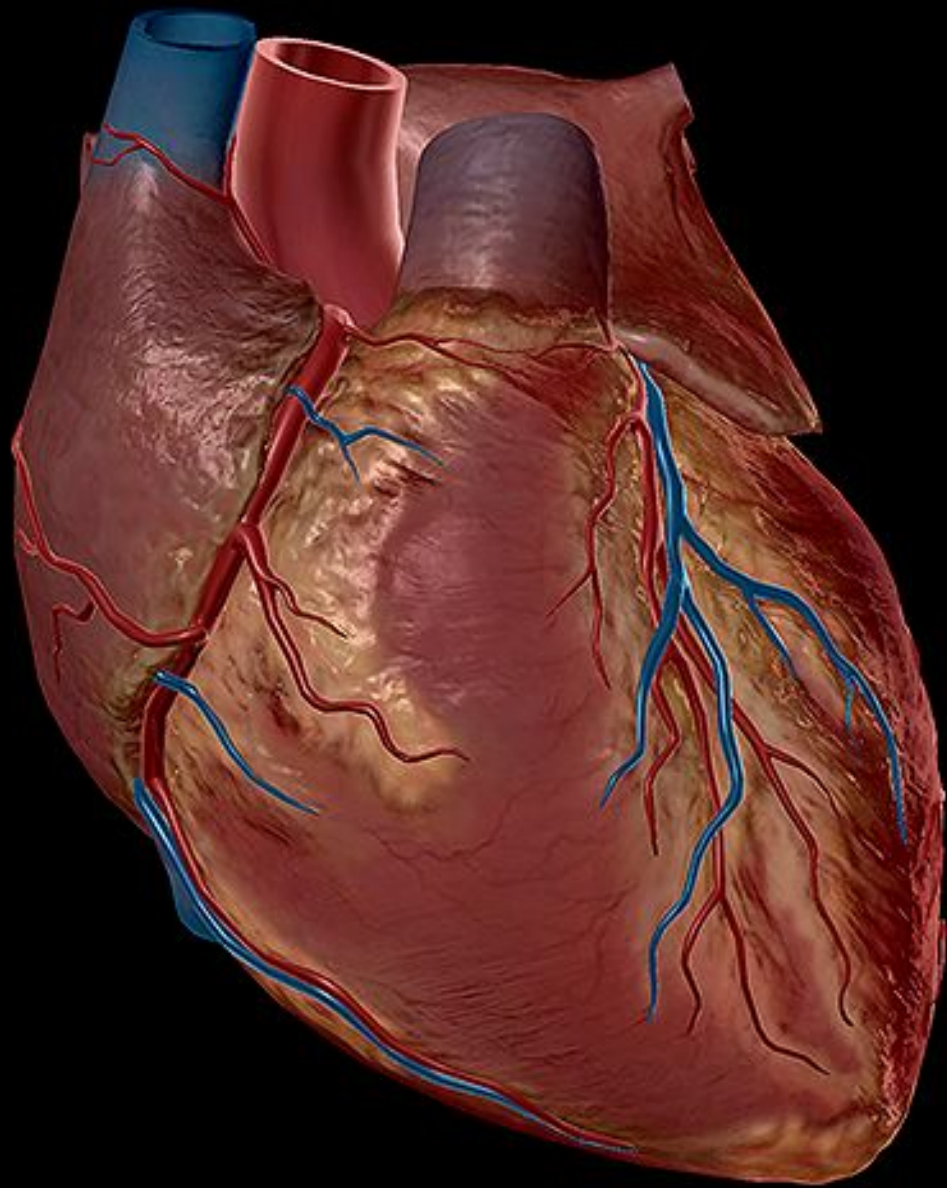


MICROCIRCULATORY BED COMPRISES SEVEN STRUCTURES

- ❖ ARTERIOLES
- ❖ PRECAPILLARY ARTERIOLES
- ❖ CAPILLARIES
- ❖ POSTCAPILLARY VENULES
- ❖ VENULES
- ❖ PRECAPILLARY SPHINCTERS
- ❖ AV SHUNT

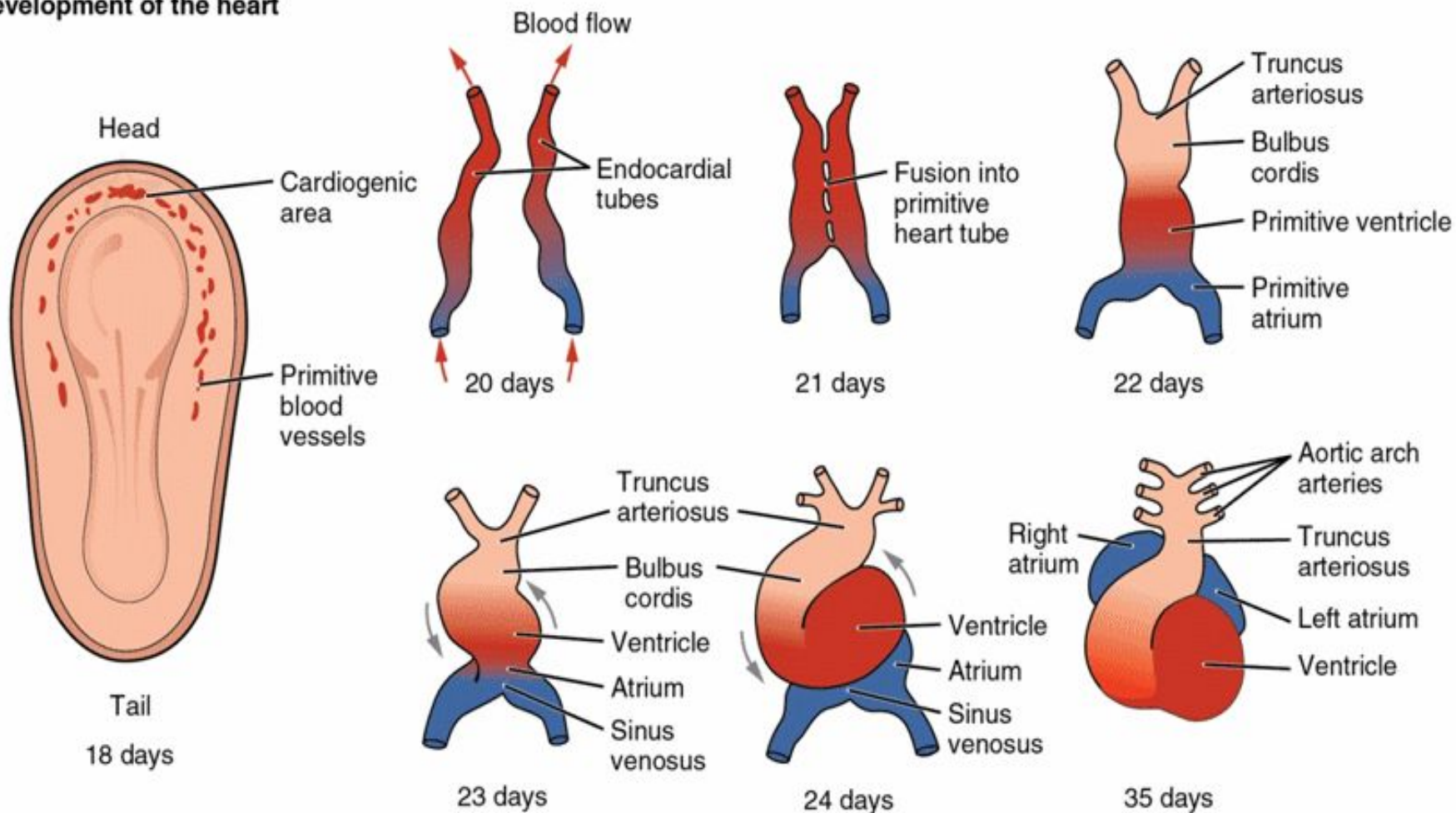
Микроциркуляторное русло



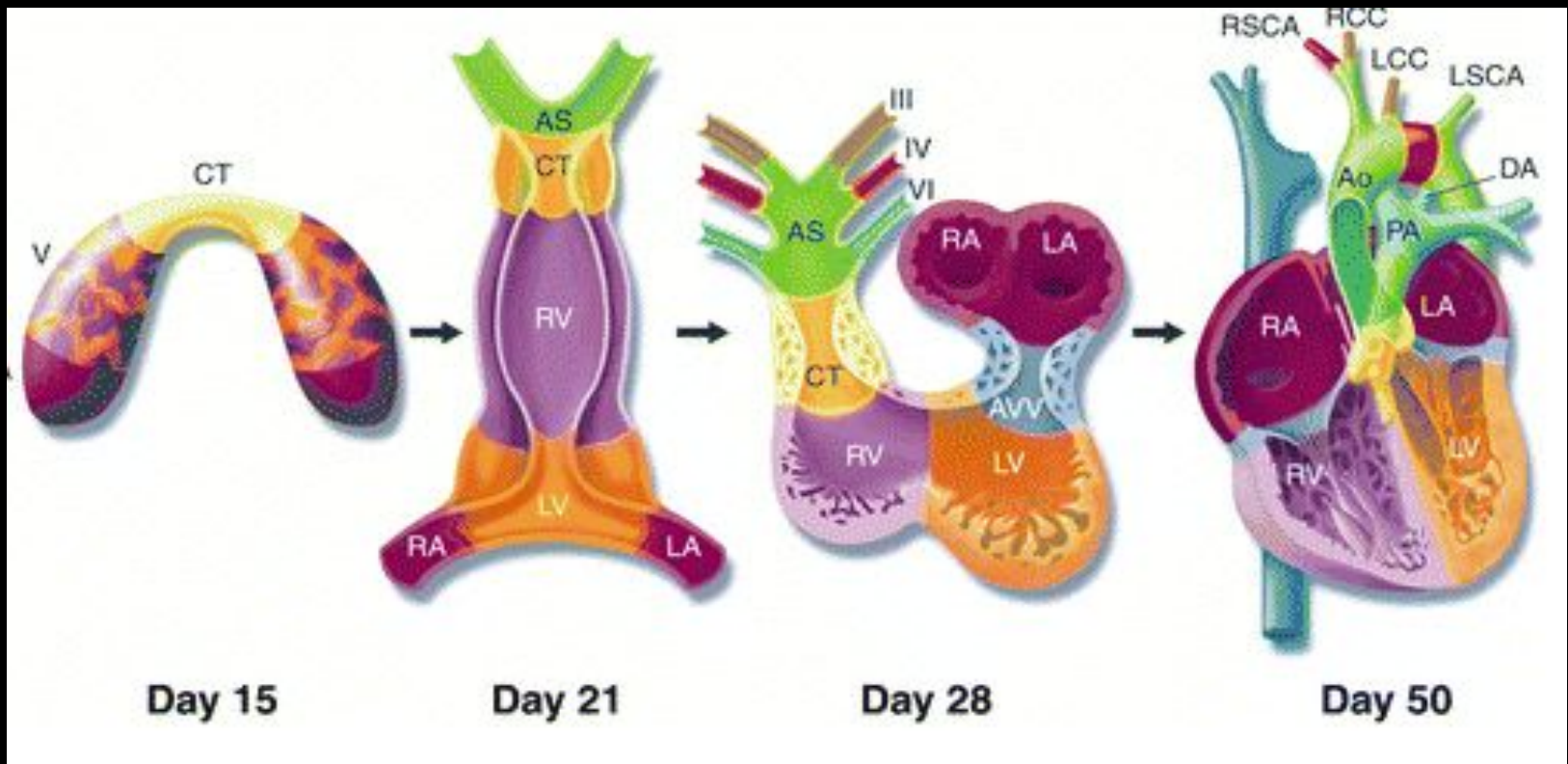
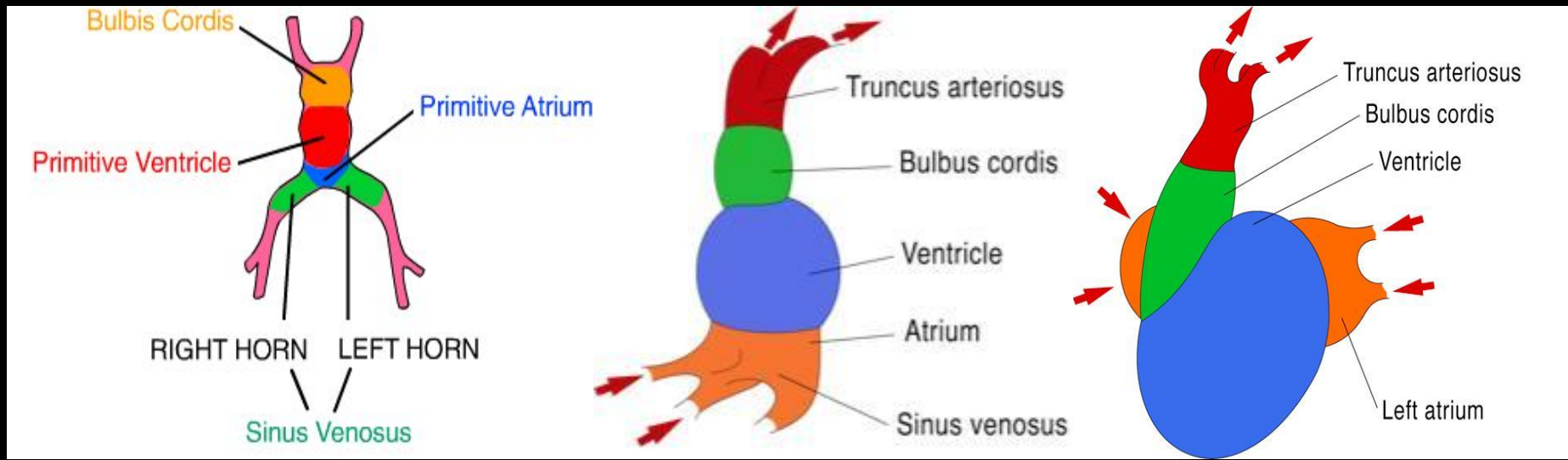


развитие

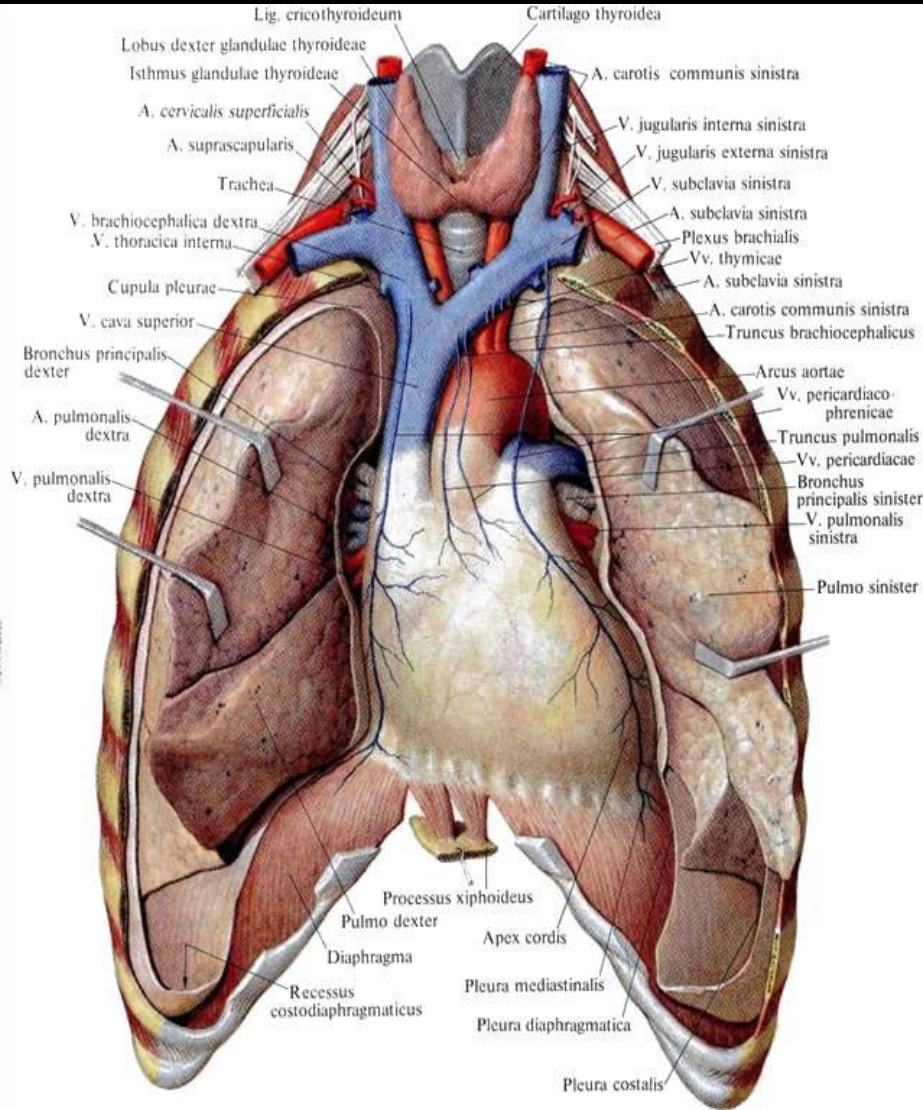
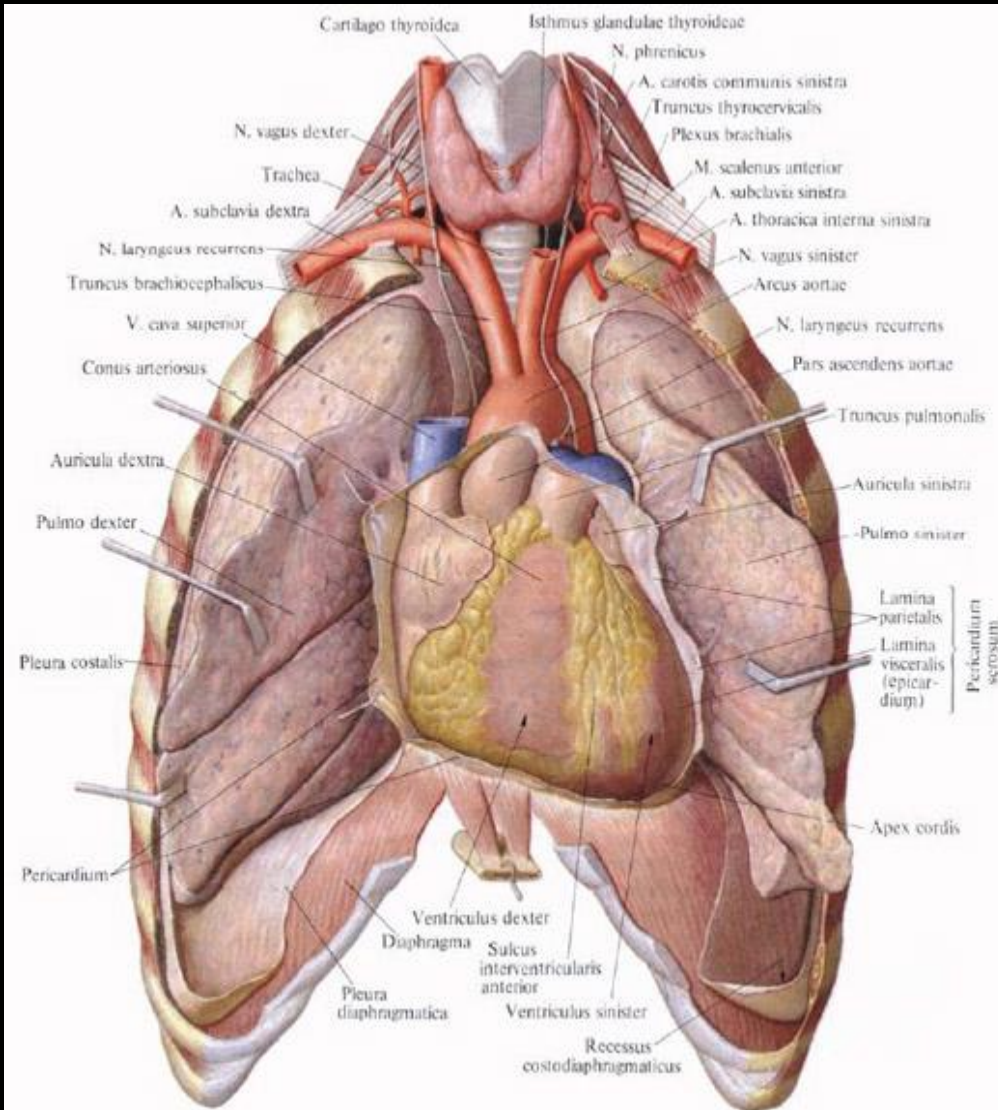
Development of the heart



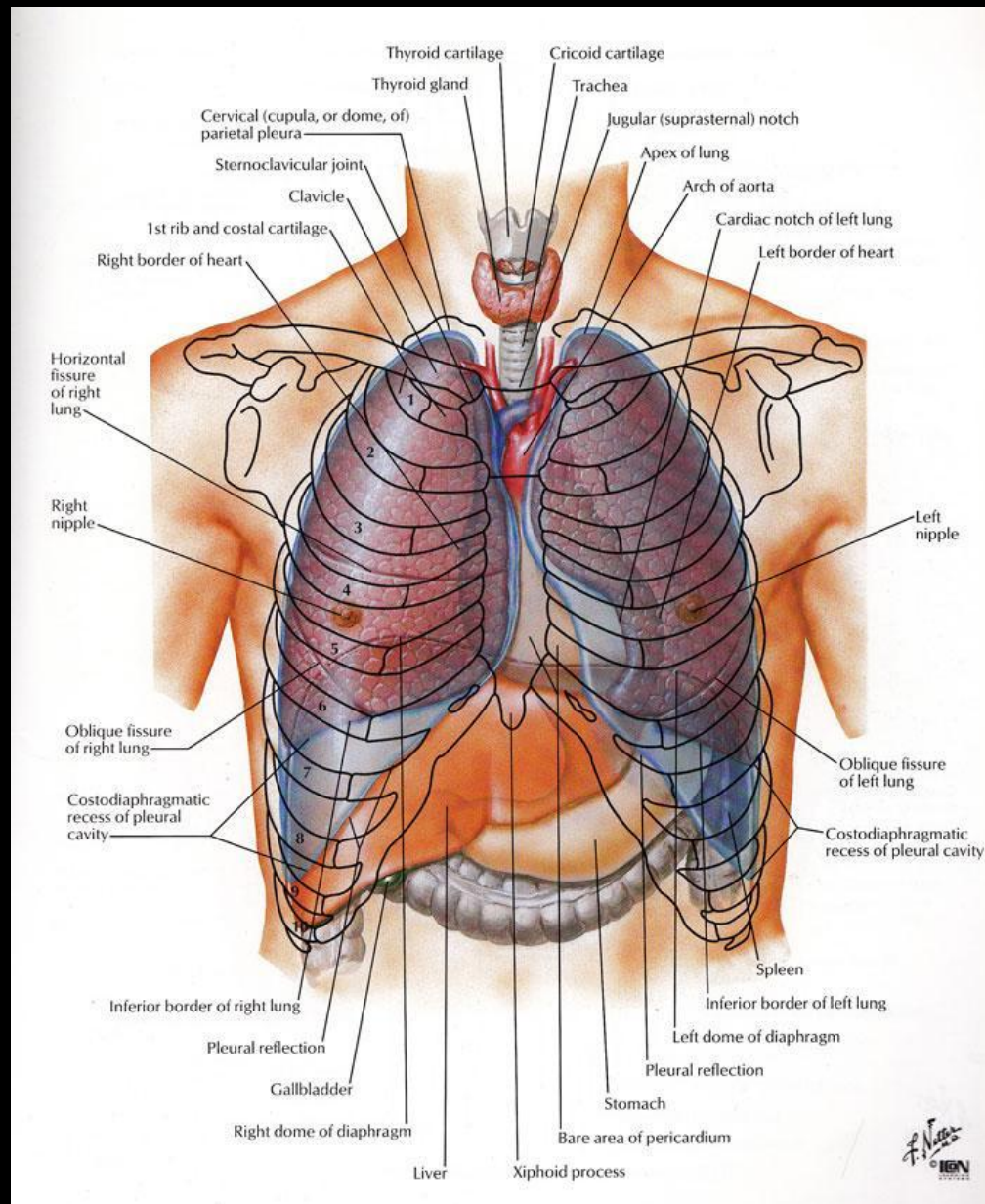
★ **Cardiogenic area begins right in the middle of head pole**



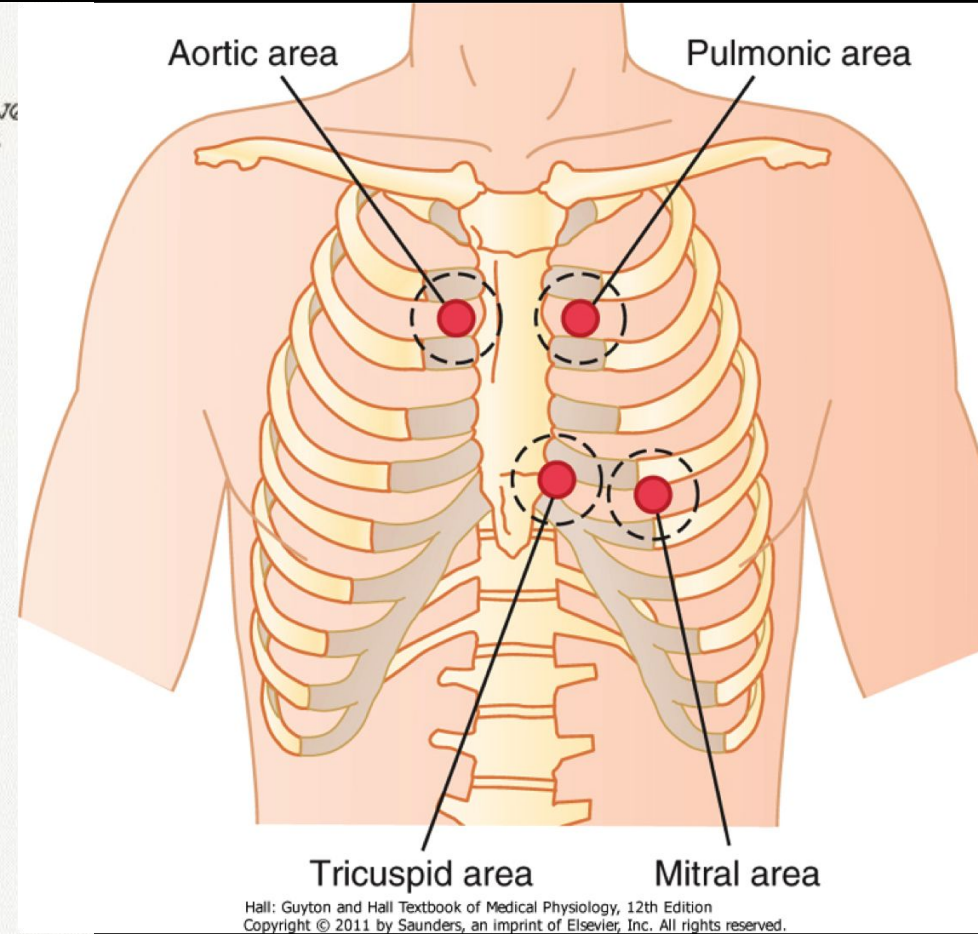
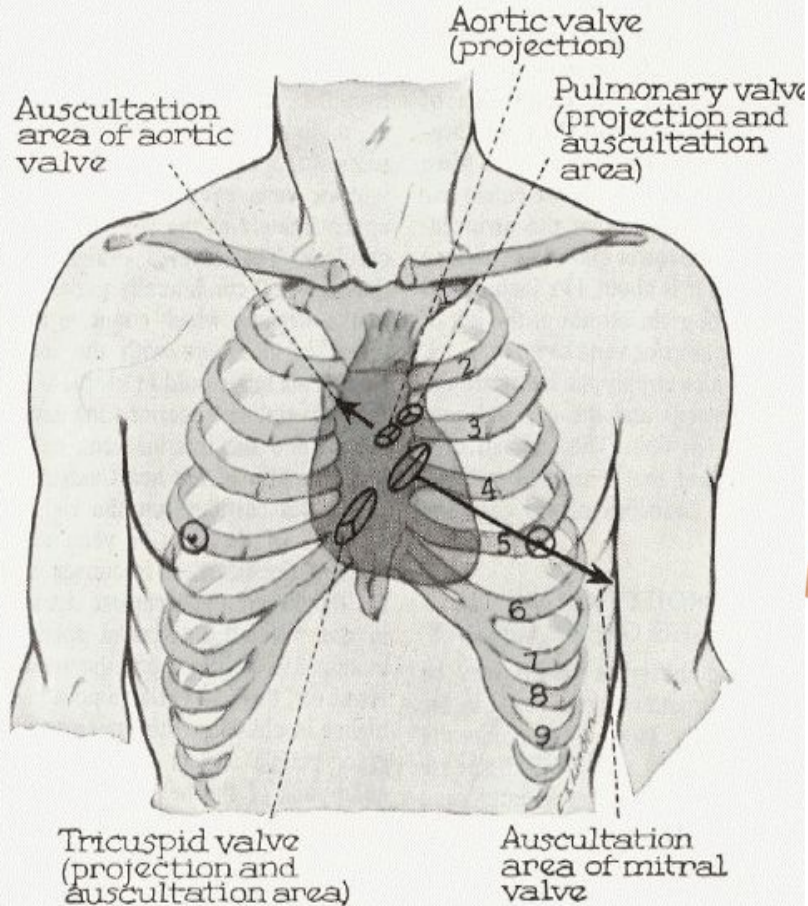
Топография - голотопия

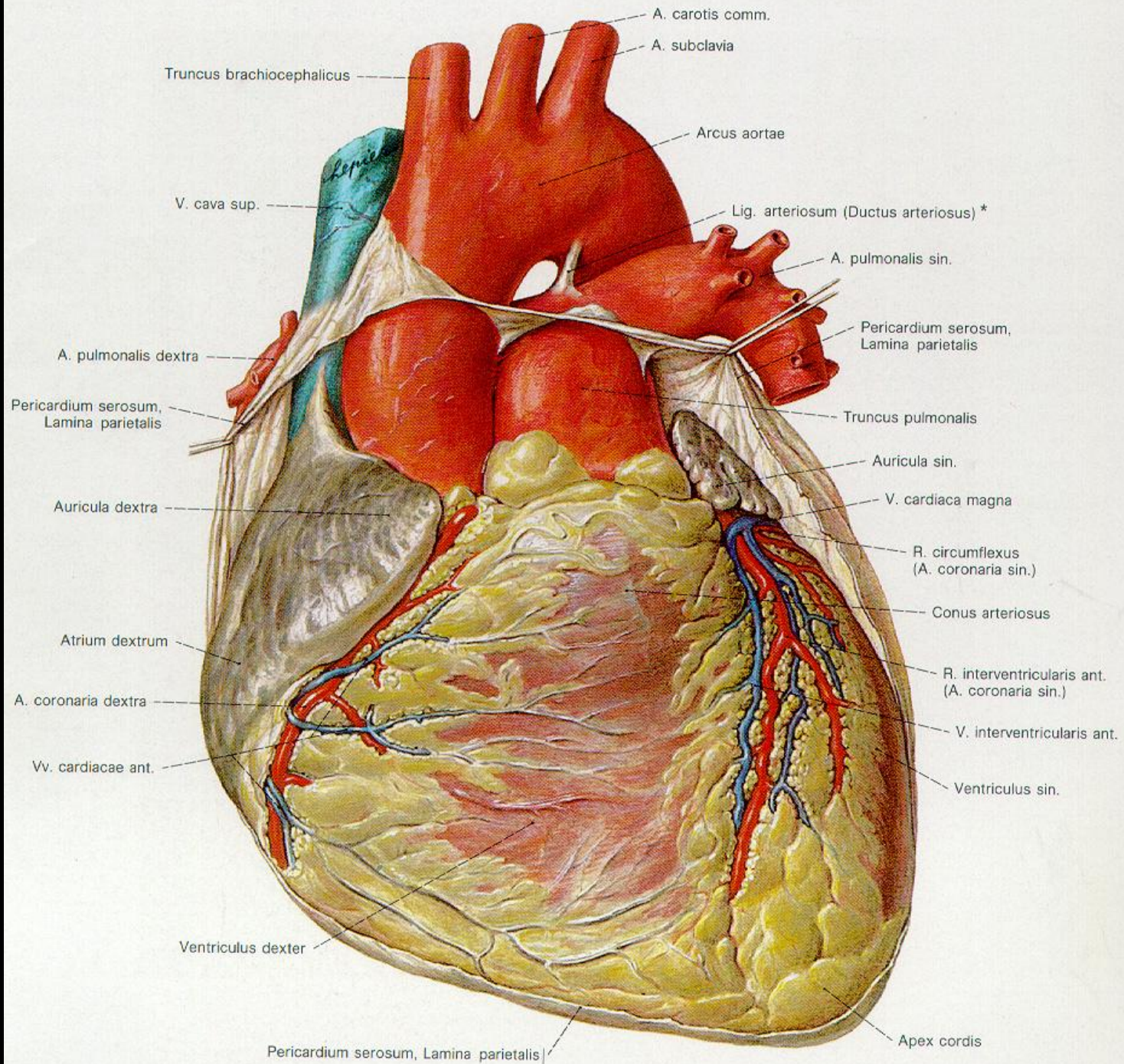


Топография - синтопия



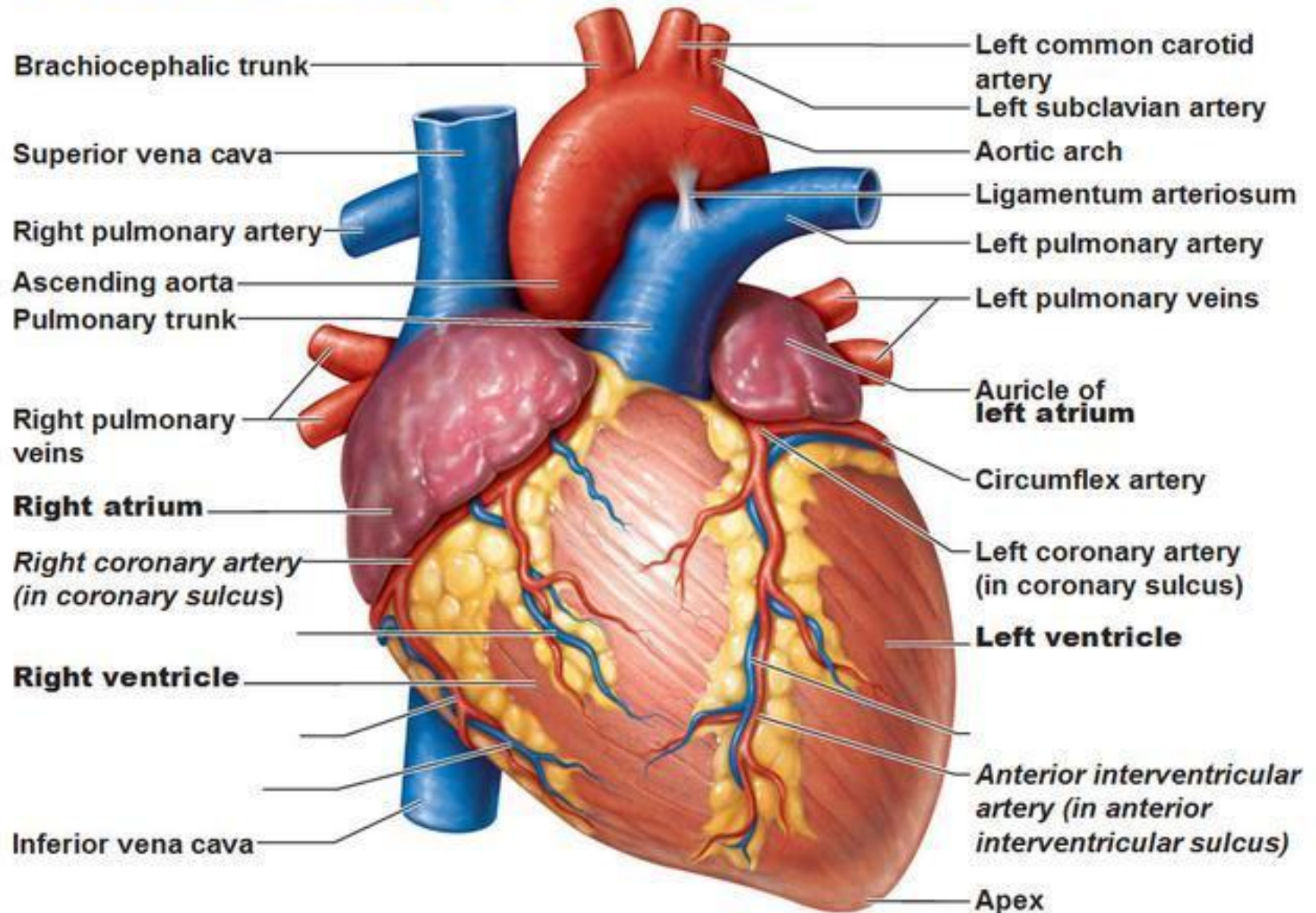
Топография - скелетотопия



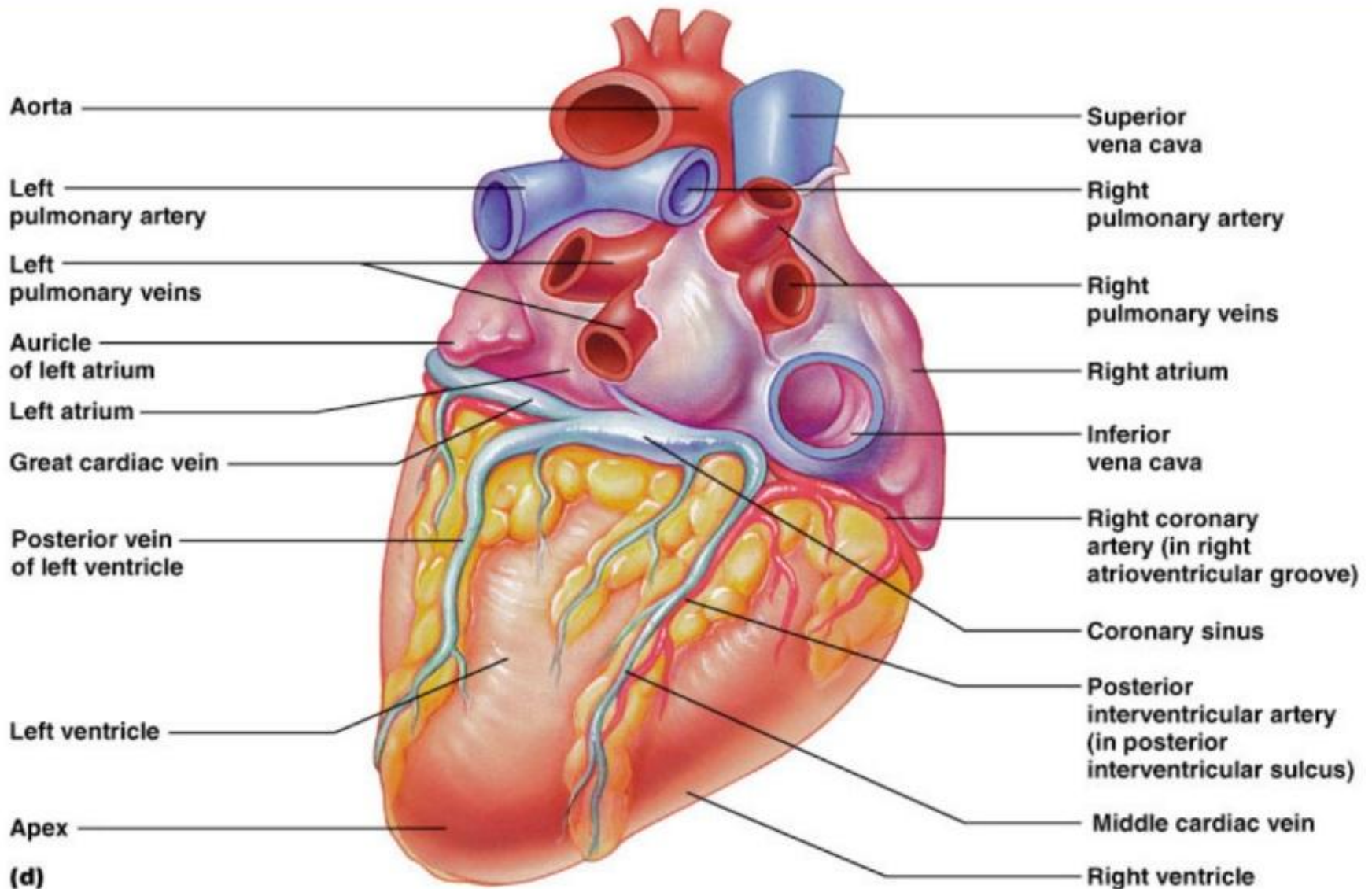


Gross Anatomy of the Heart

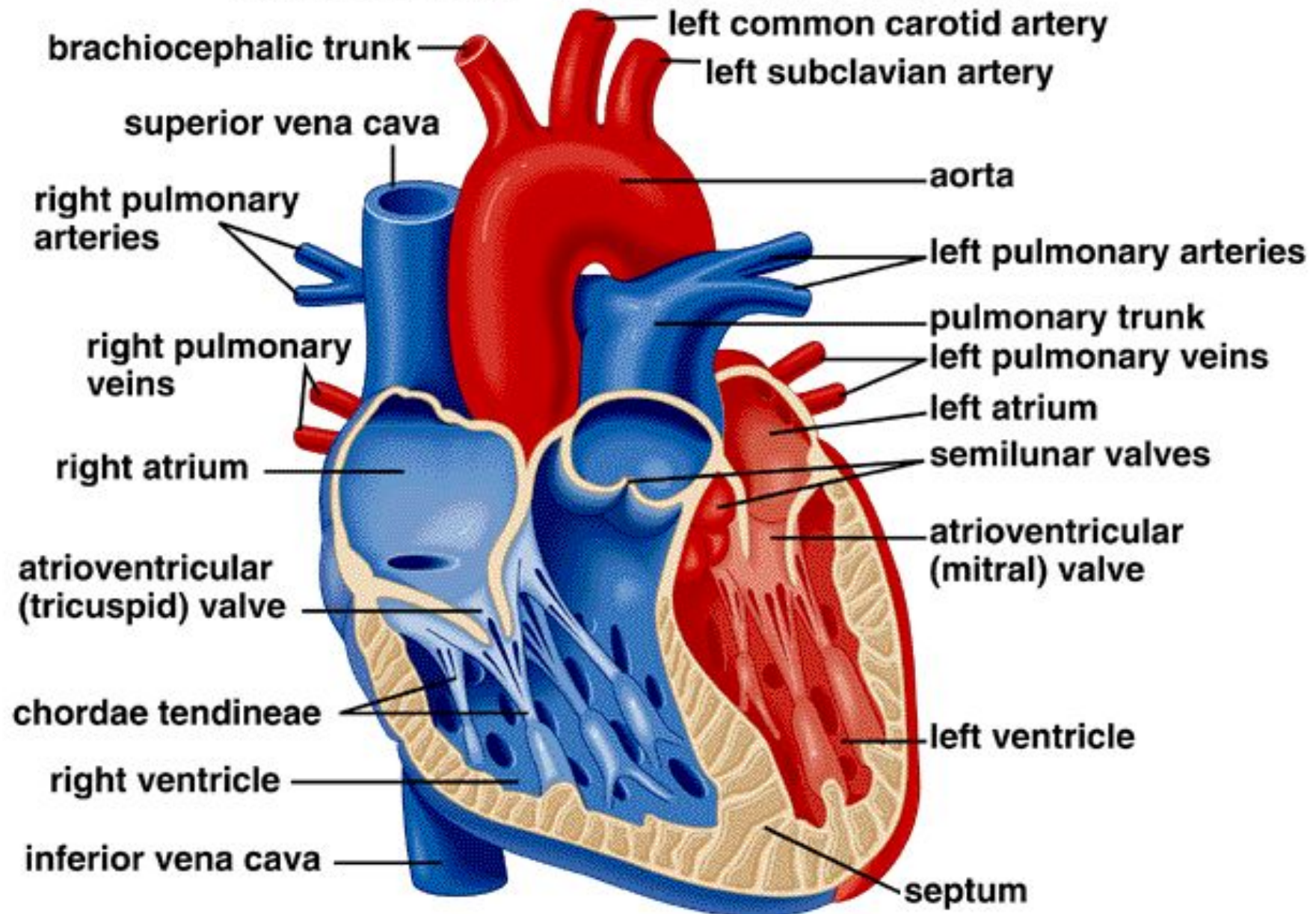
Anterior view



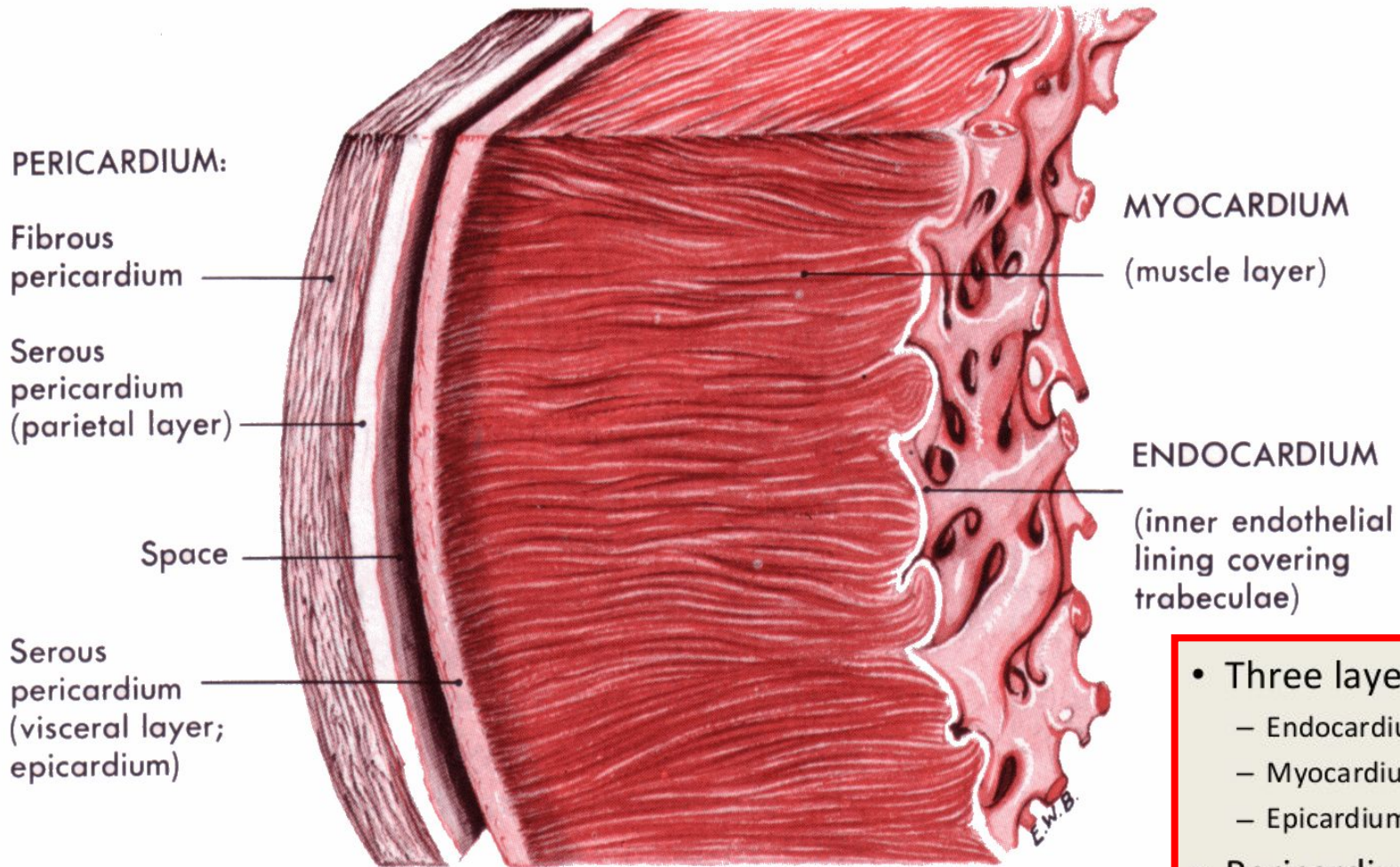
External Heart: Posterior View



Internal View of Heart



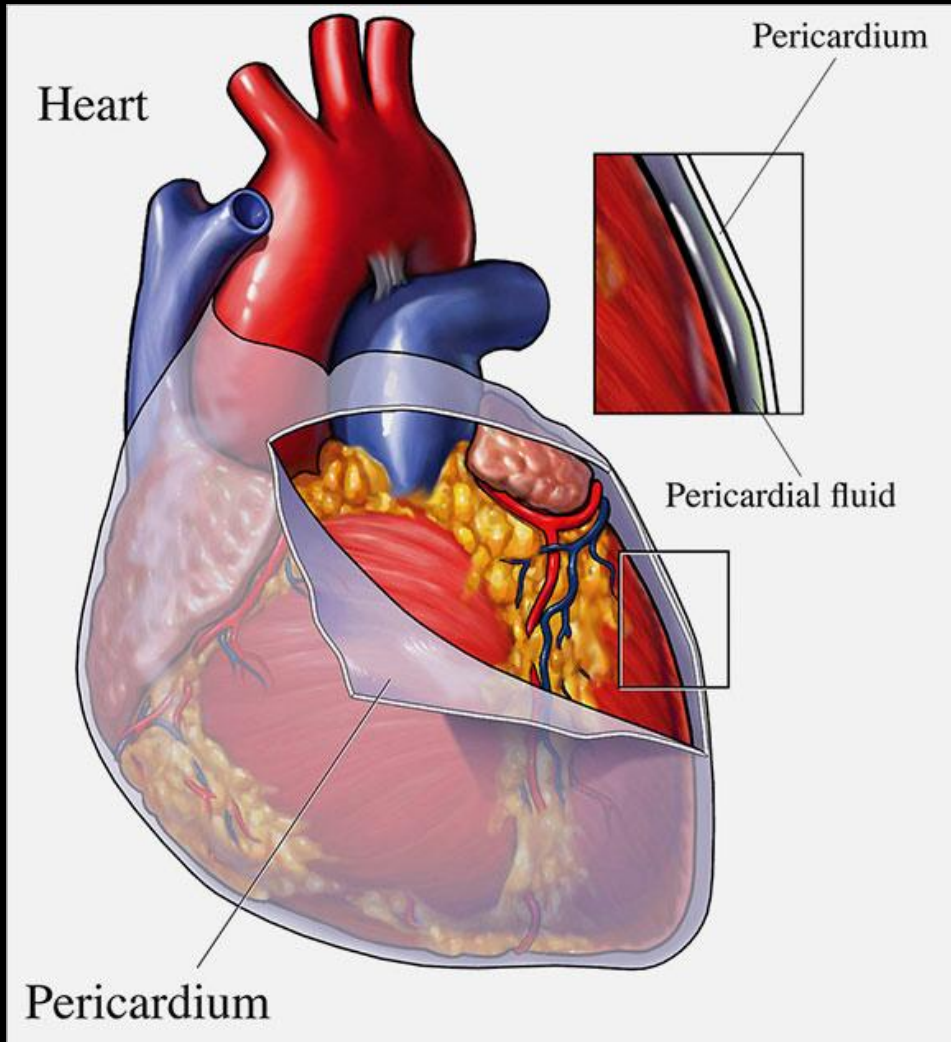
Оболочки сердца



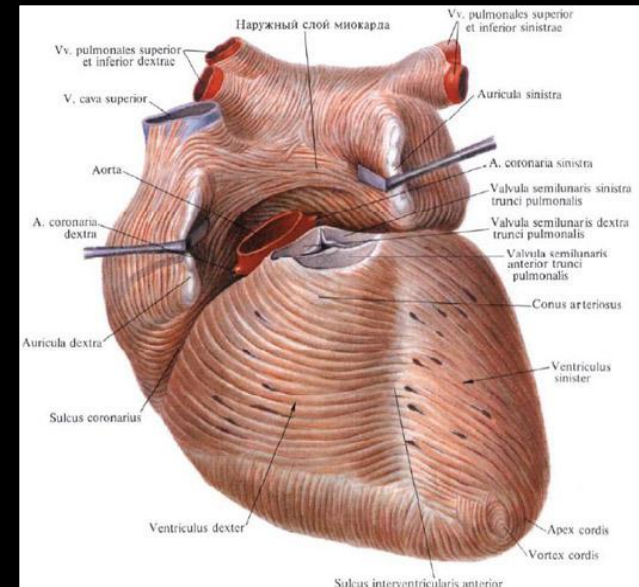
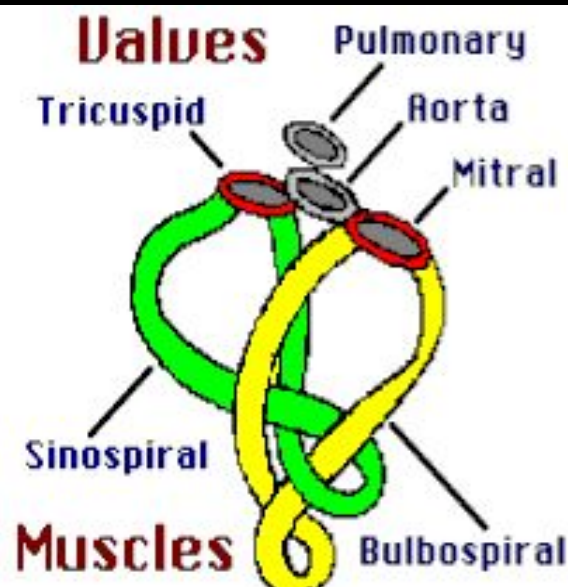
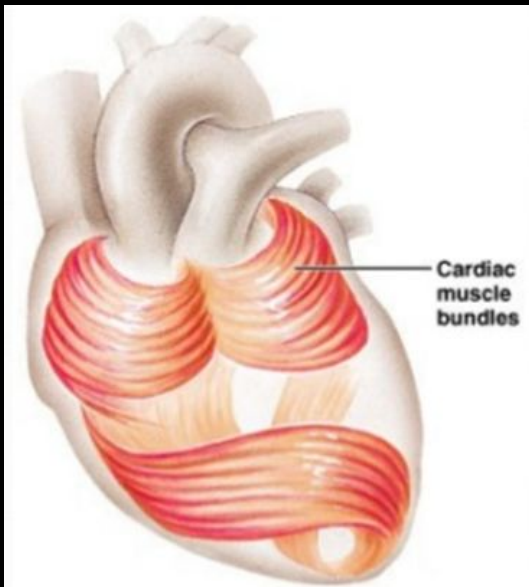
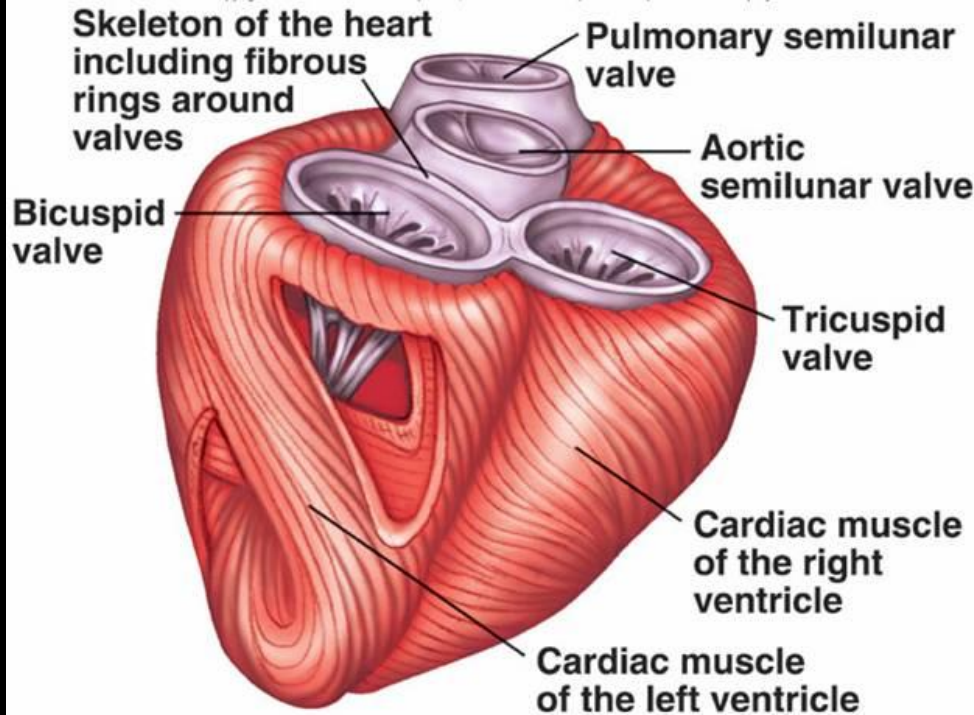
Section of the heart wall showing the components of the outer pericardium (heart sac), muscle layer (myocardium), and inner lining (endocardium).

- Three layers of heart
 - Endocardium
 - Myocardium
 - Epicardium
- Pericardium
- Pericardial space, with 10 to 30 mL fluid

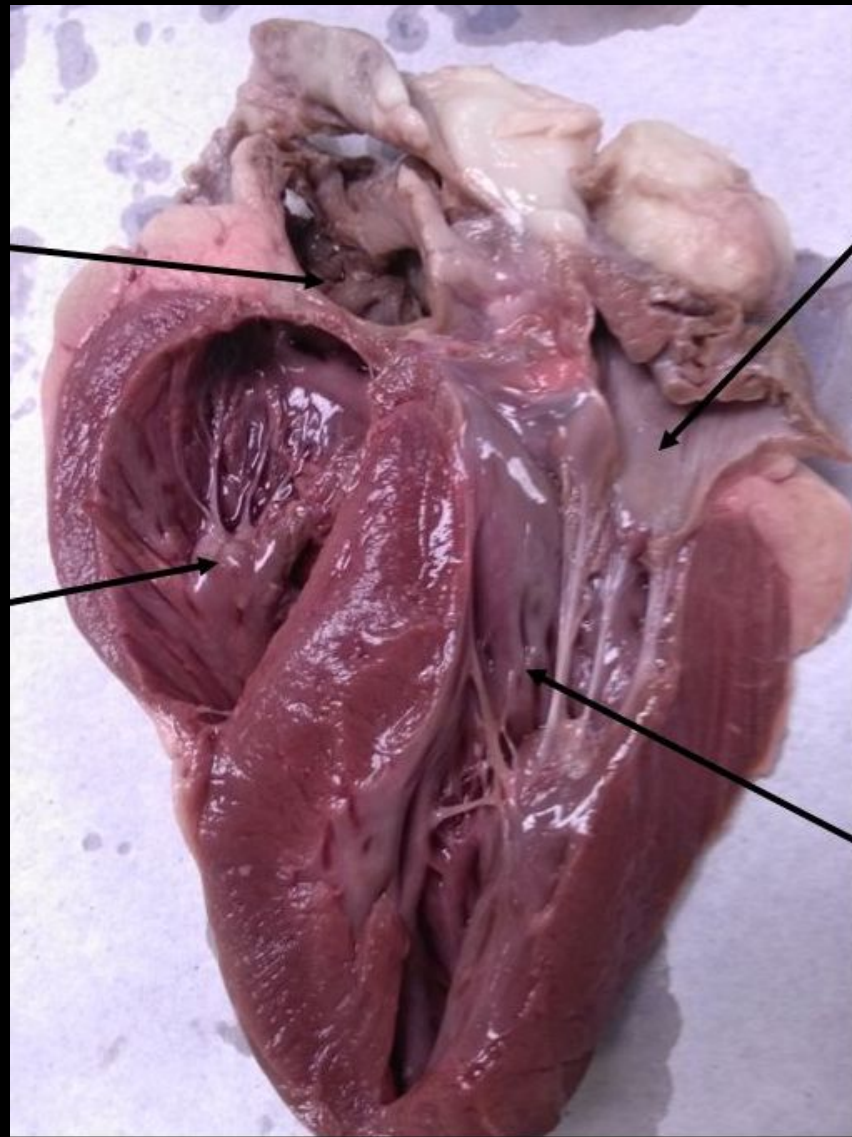
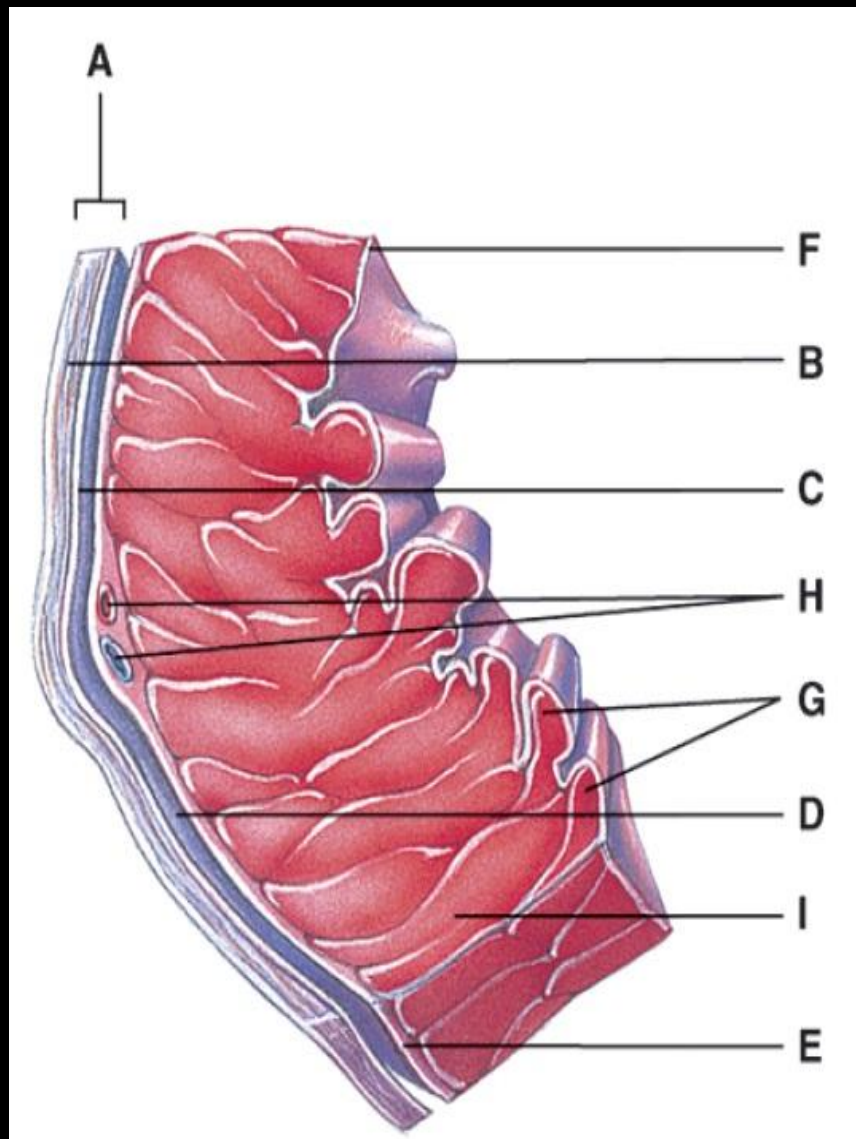
Перикард



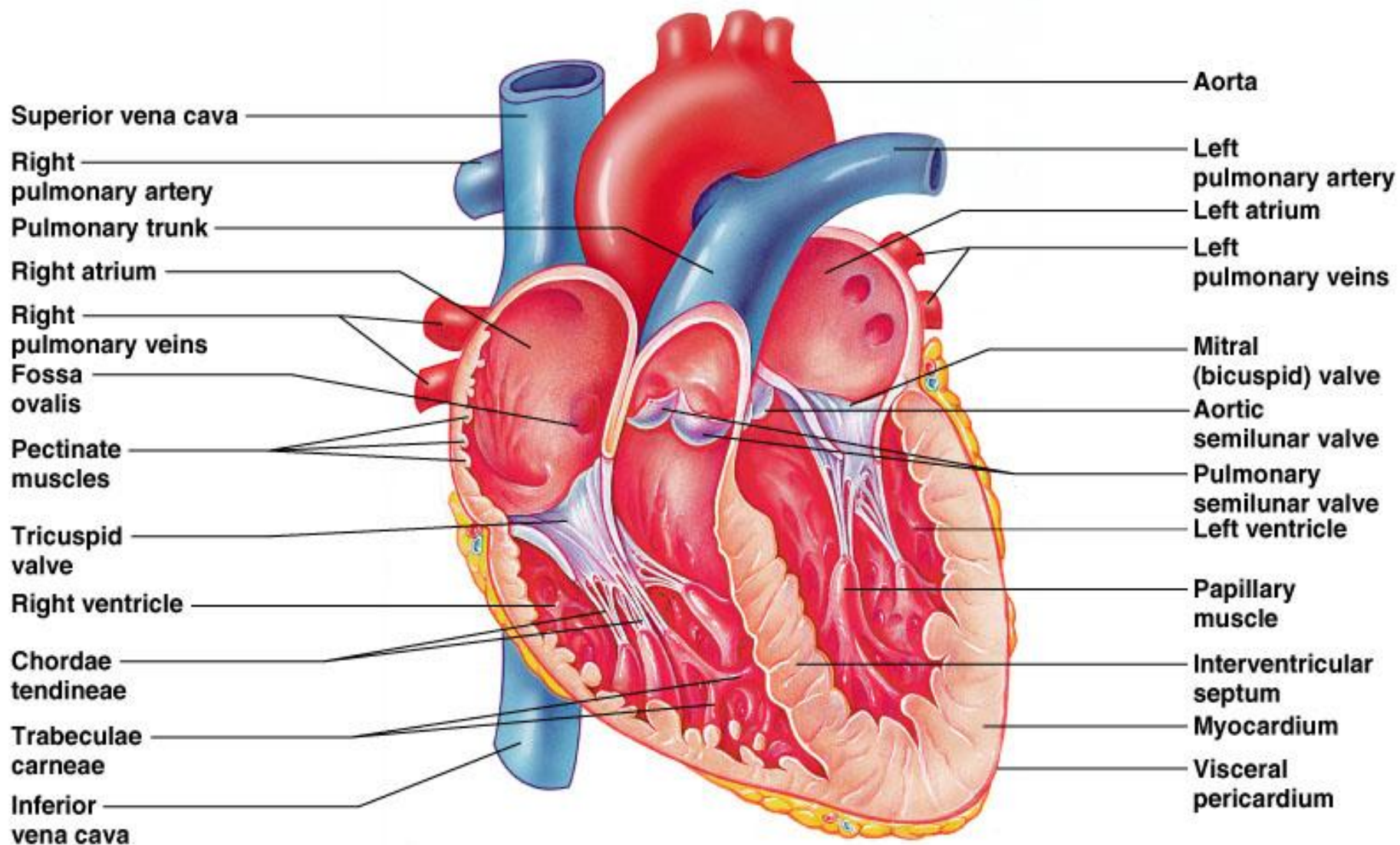
Миокард



Эндокард

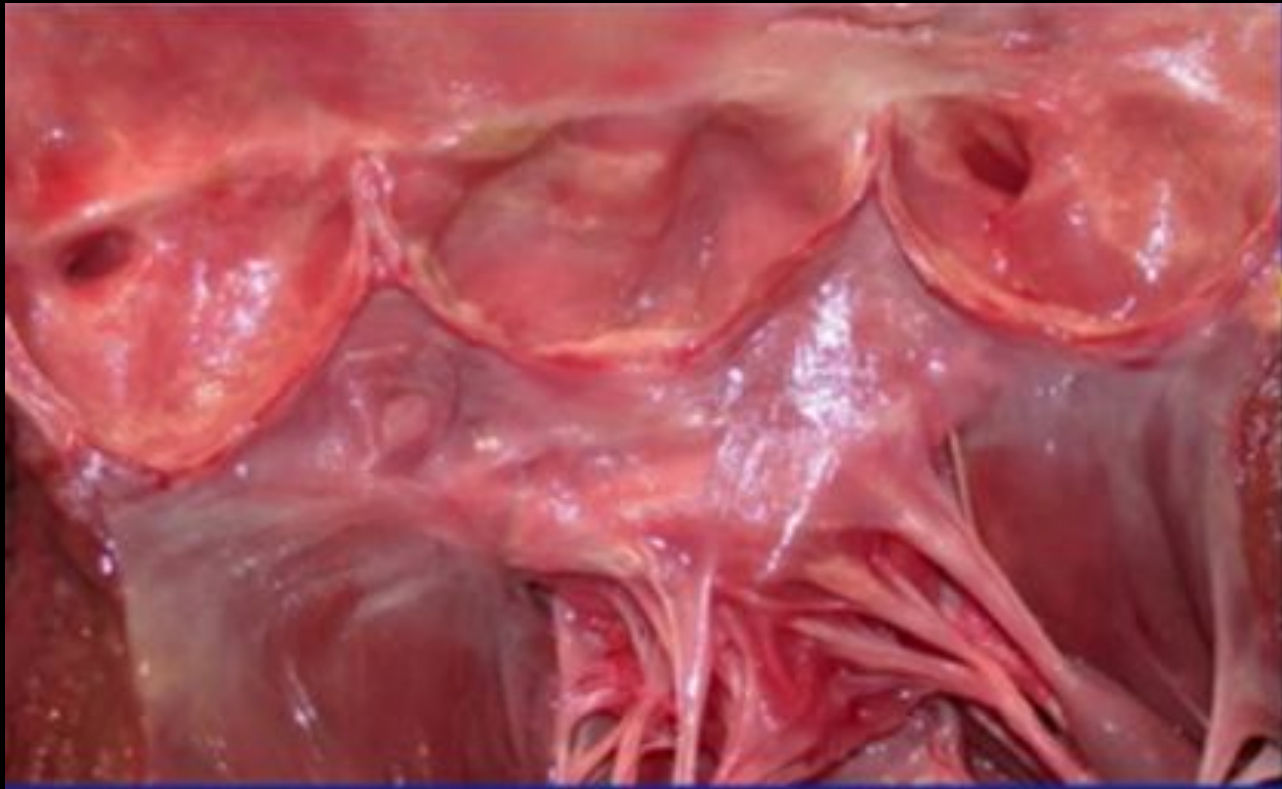


КЛАПАНЫ



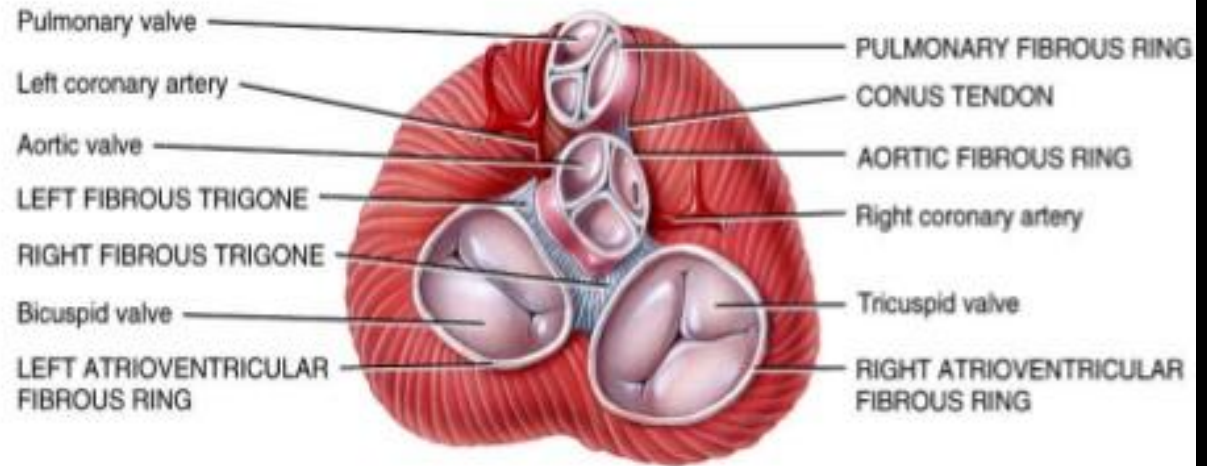
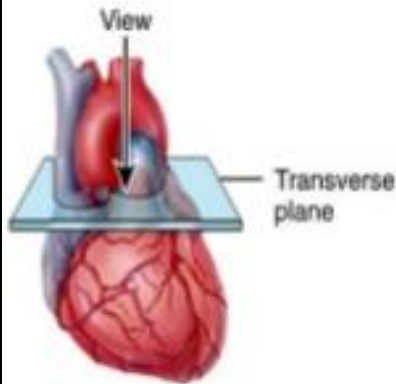
(e)

Клапаны



Строение клапанов

Fibrous Skeleton of Heart



Superior view (the atria have been removed)

Dense CT rings surround heart **valves**

- fuse together & merge with interventricular septum

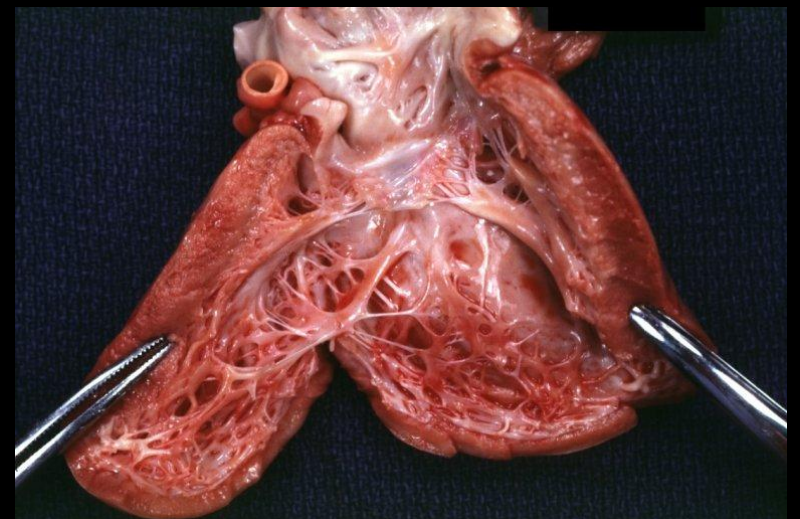
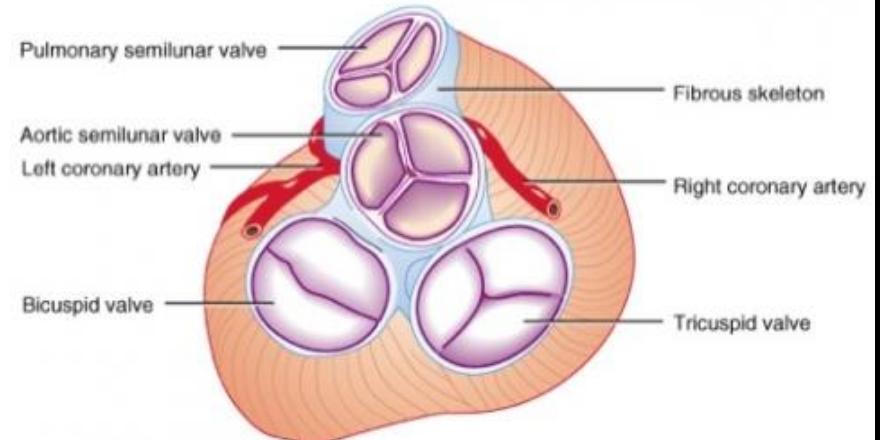
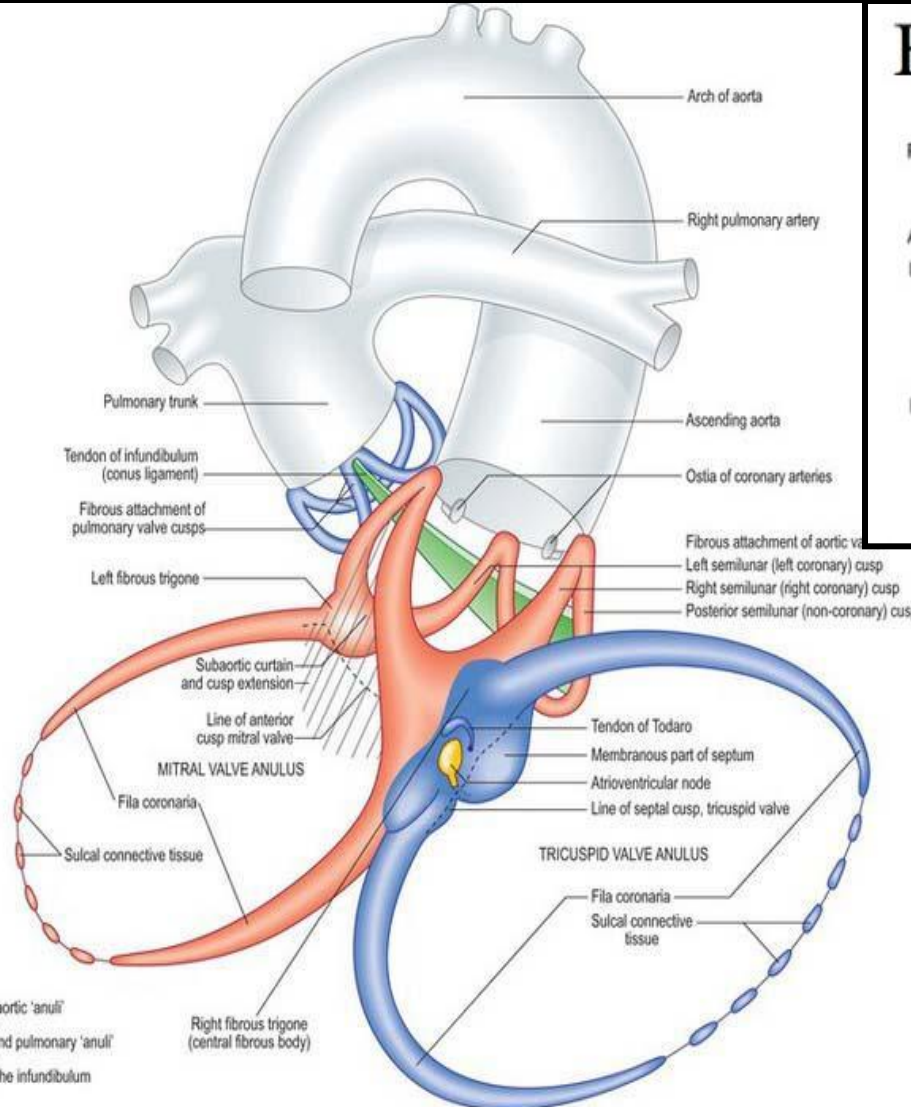
Functions of fibrous skeleton:

- valve support structure
- Prevents overstretching of the valves
- insertion point for cardiac muscle bundles
- electrical insulator b/w atria & ventricles



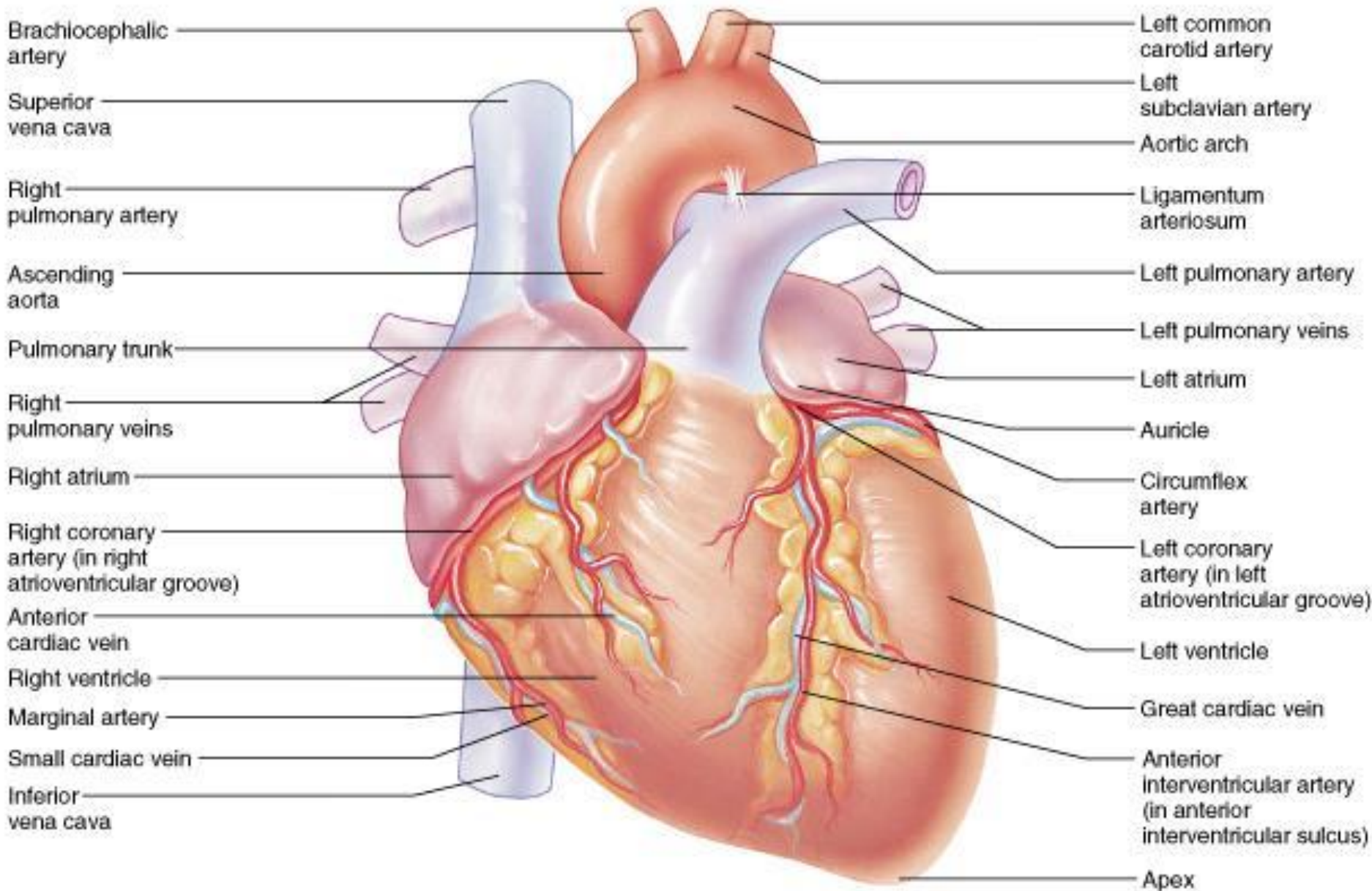
Фиброзный скелет сердца

Fibrous Skeleton of Heart



Проекция камер сердца на рентгенограмме





(b)