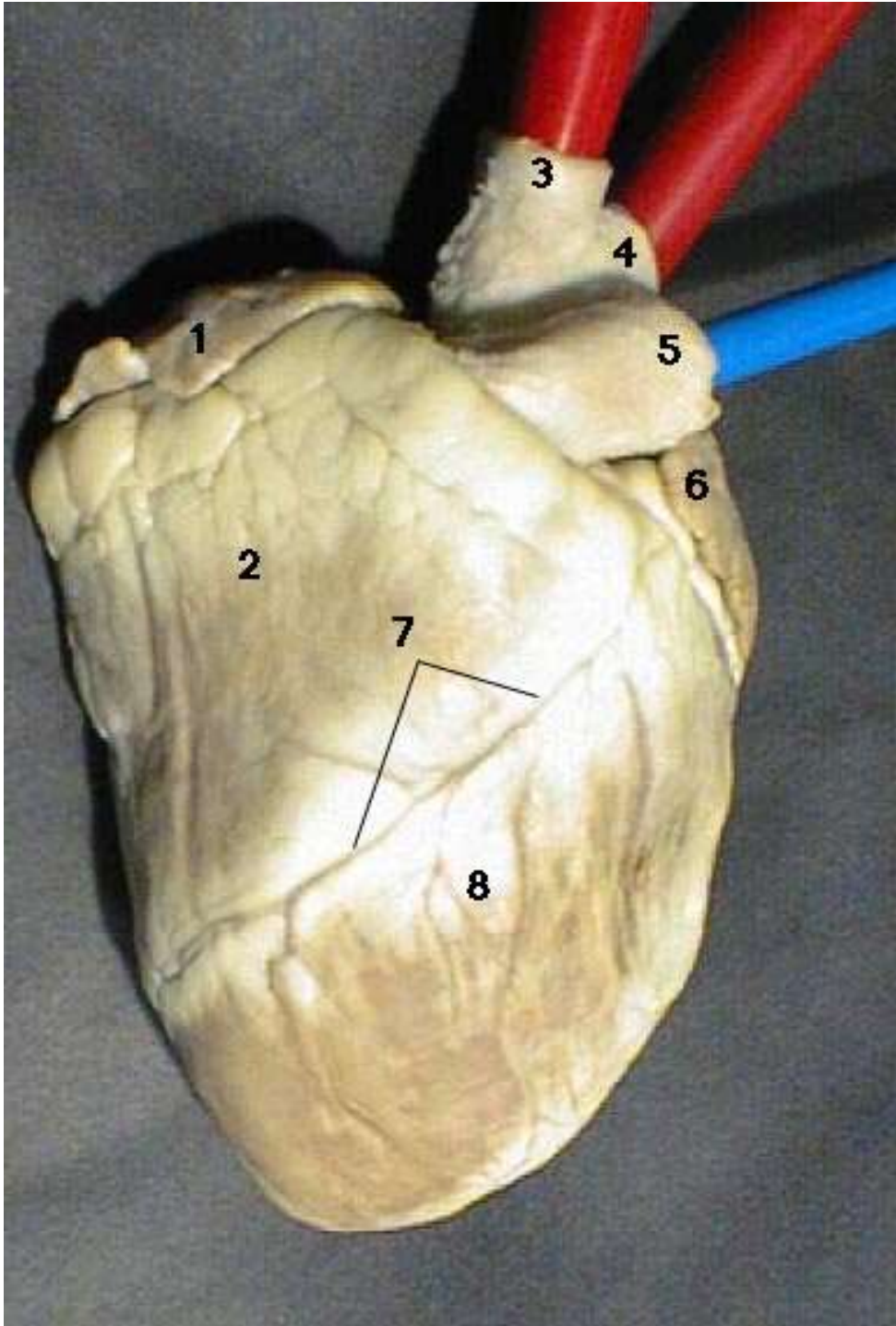


Sheep Heart

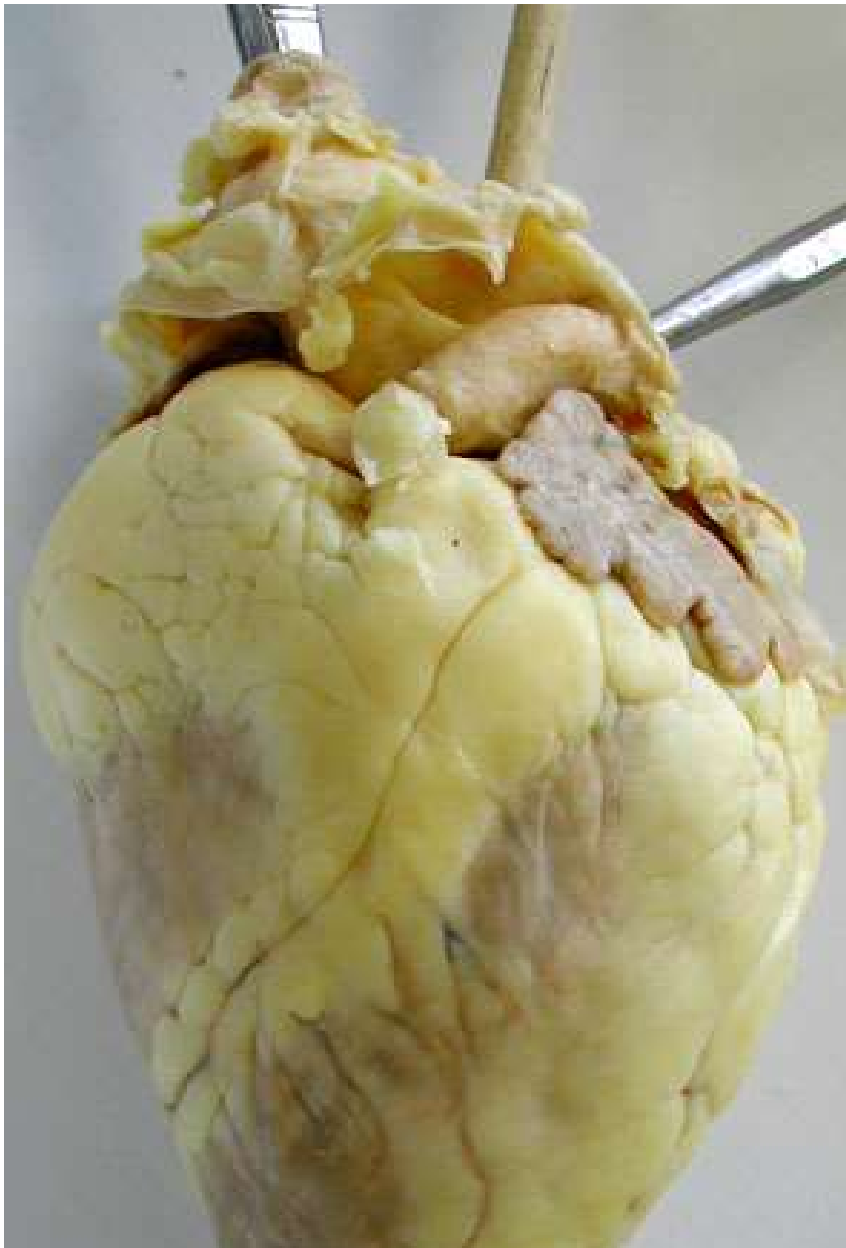
Danil Hammoudi.MD

- **Aorta** - the biggest and longest artery (a blood vessel carrying blood away from the heart) in the body. It carries oxygen-rich blood from the left ventricle of the heart to the body.**inferior vena cava** - a large vein (a blood vessel carrying blood to the heart) that carries oxygen-poor blood to the right atrium from the lower half of the body.
- **Left atrium** - the left upper chamber of the heart. It receives oxygen-rich blood from the lungs via the pulmonary vein.
- **Left ventricle** - the left lower chamber of the heart. It pumps the blood through the aortic valve into the aorta.
- **Mitral valve** - the valve between the left atrium and the left ventricle. It prevents the back-flow of blood from the ventricle to the atrium.
- **Pulmonary artery** - the blood vessel that carries oxygen-poor blood from the right ventricle of the heart to the lungs.
- **Pulmonary valve** - the flaps between the right ventricle and the pulmonary artery. When the ventricle contracts, the valve opens, causing blood to rush into the pulmonary artery. When the ventricle relaxes, the valves close, preventing the back-flow of blood from the pulmonary artery to the right atrium.
- **Pulmonary vein** - the blood vessel that carries oxygen-rich blood from the lungs to the left atrium of the heart.
- **Right atrium** - the right upper chamber of the heart. It receives oxygen-poor blood from the body through the inferior vena cava and the superior vena cava.
- **Right ventricle** - the right lower chamber of the heart. It pumps the blood into the pulmonary artery.
- **Septum** - the muscular wall that separates the left and right sides of the heart.
- **Superior vena cava** - a large vein that carries oxygen-poor blood to the right atrium from the upper parts of the body.
- **Tricuspid valve** - the flaps between the right atrium and the right ventricle. It is composed of three leaf-like parts and prevents the back-flow of blood from the ventricle to the atrium.



External Heart (Anterior View)

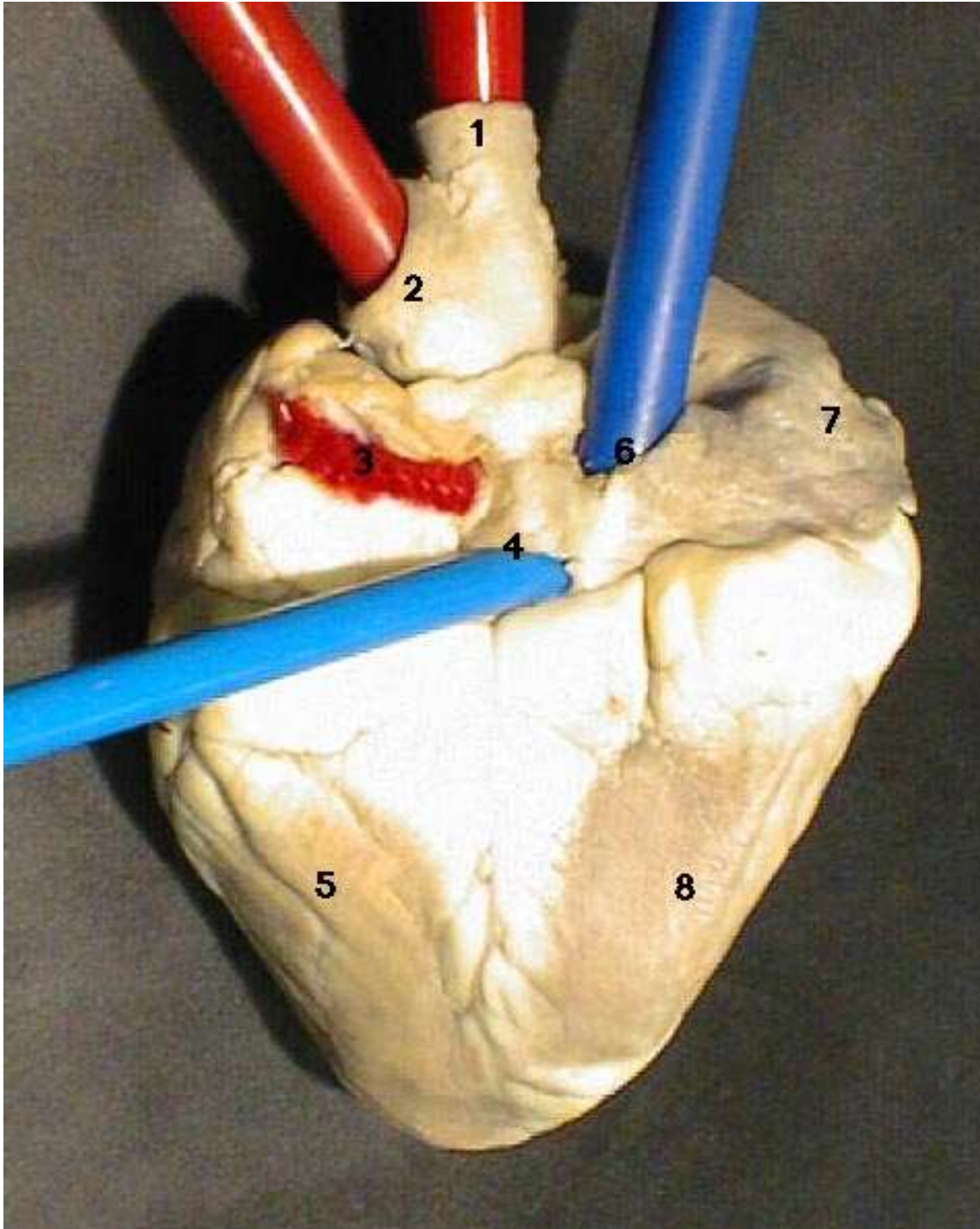
1. Right Auricle
2. Right Ventricle
3. Brachiocephalic Artery (Oxygenated)
4. Aortic Arch (Oxygenated)
5. Pulmonary Artery (Deoxygenated)
6. Left Auricle
7. Interventricular Sulcus
8. Left Ventricle



The wooden probe is in the Aorta, forceps are in the brachiocephalic artery, & a metal probe is in the pulmonary artery.



Anterior or ventral surface



External Heart (Posterior View)

1. Brachiocephalic Artery (Oxygenated)
2. Aortic Arch (Oxygenated)
3. Openings for Pulmonary Veins (Oxygenated)
4. Opening for Inferior Vena Cava (Deoxygenated)
5. Left Ventricle
6. Opening for Superior Vena Cava (Deoxygenated)
7. Right Auricle
8. Right Ventricle



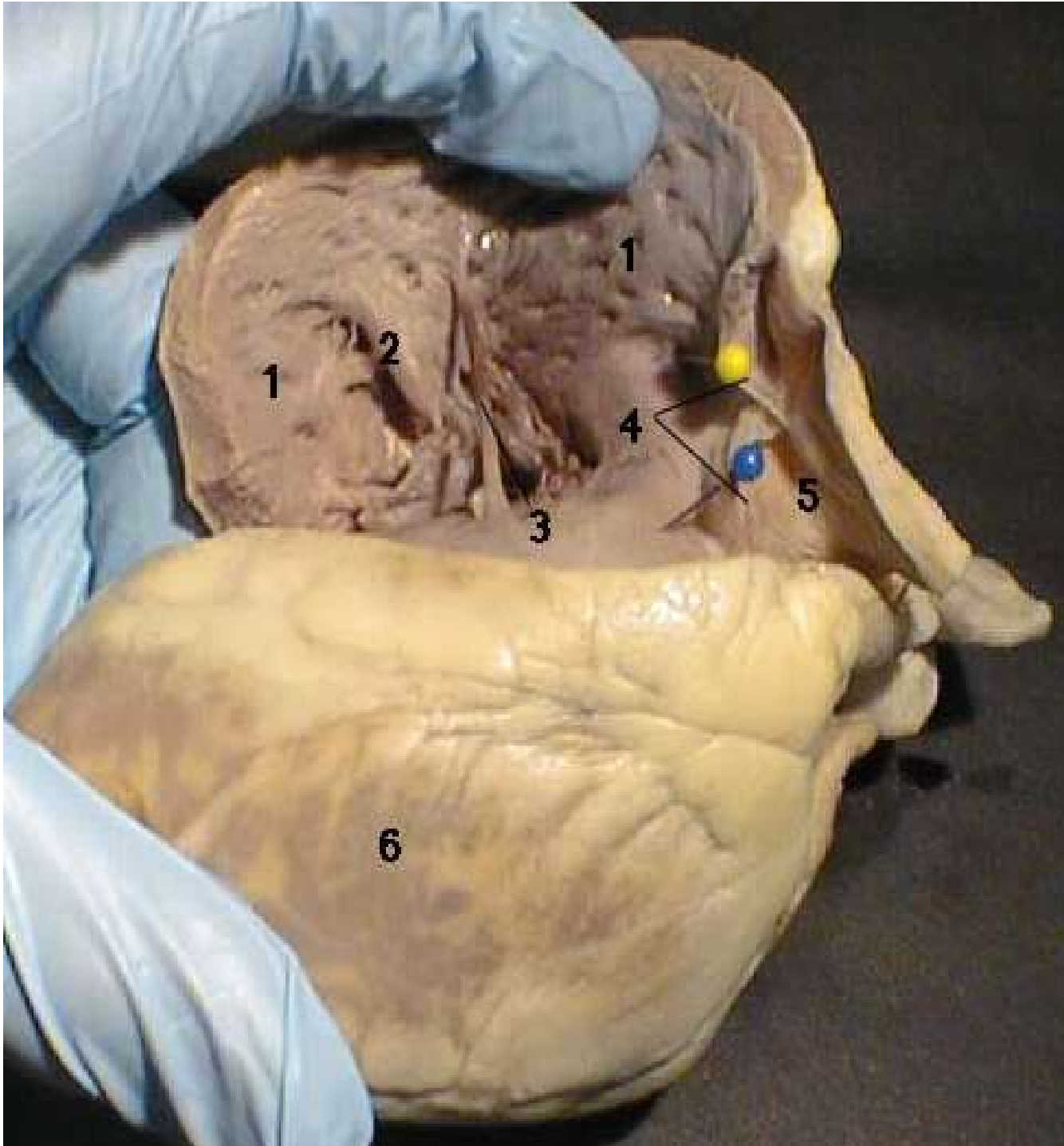
anterior or ventral surface



posterior or dorsal surface. The right atrium has a partial cut through it. The vena cava & pulmonary veins are not easily located.

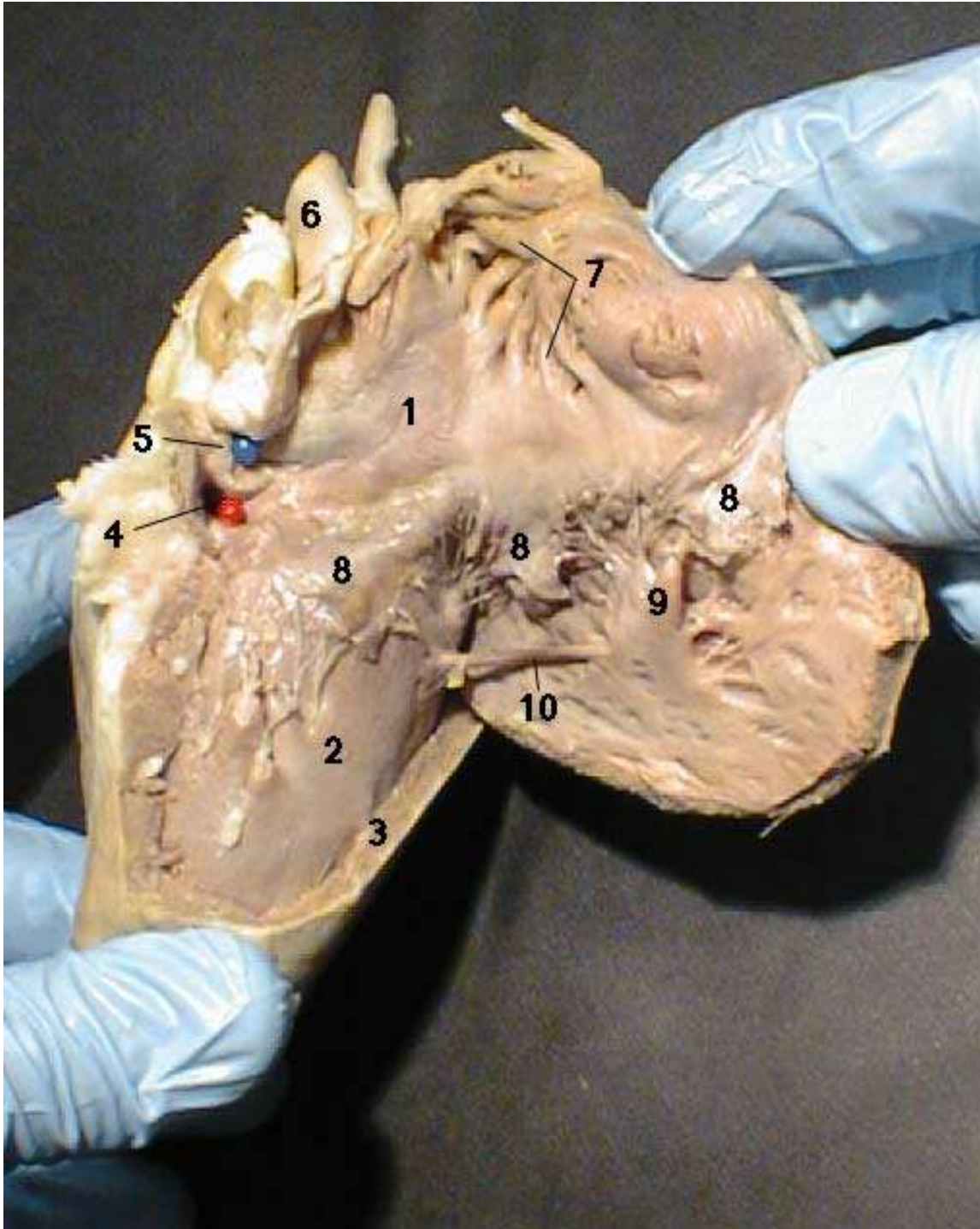


posterior or dorsal surface.
A small pair of forceps is in the
superior vena cava, large forceps in
pulmonary vein & a probe goes into
the inferior vena cava.



***Right Side Heart -
Opened (Anterior
View)***

1. Right Ventricle
2. Papillary Muscle
3. Moderator Band
4. Pulmonary Semilunar Valve
5. Pulmonary Artery
6. Left Ventricle



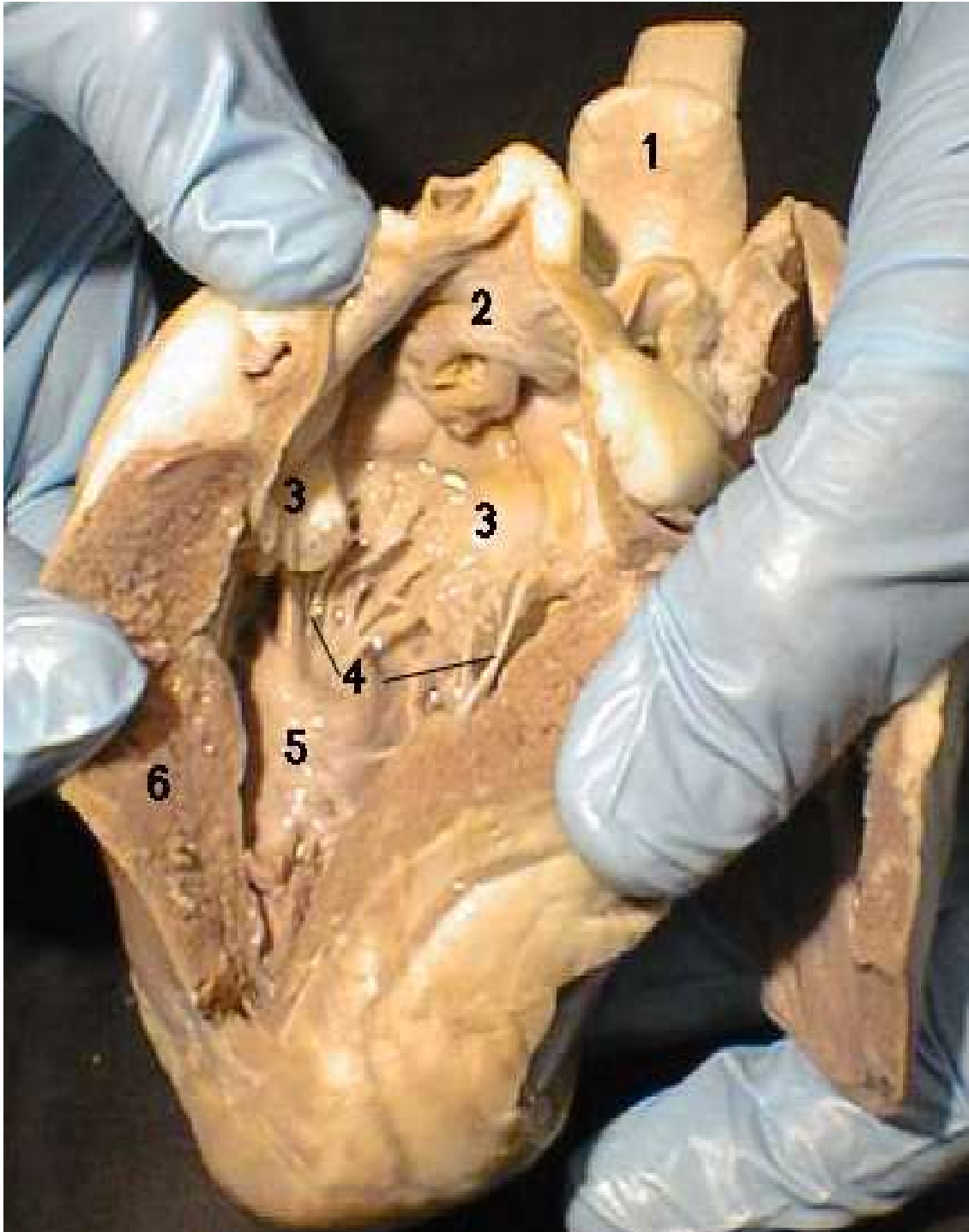
***Right Side Heart - Opened
(Posterior View)***

1. Right Atrium
2. Right Ventricle
3. Myocardium (*Note Thinness*)
4. Opening of Coronary Sinus
5. Inferior Vena Cava
6. Superior Vena Cava
7. Pectinate Muscle
8. Tricuspid Valve
9. Papillary Muscle
10. Moderator Band



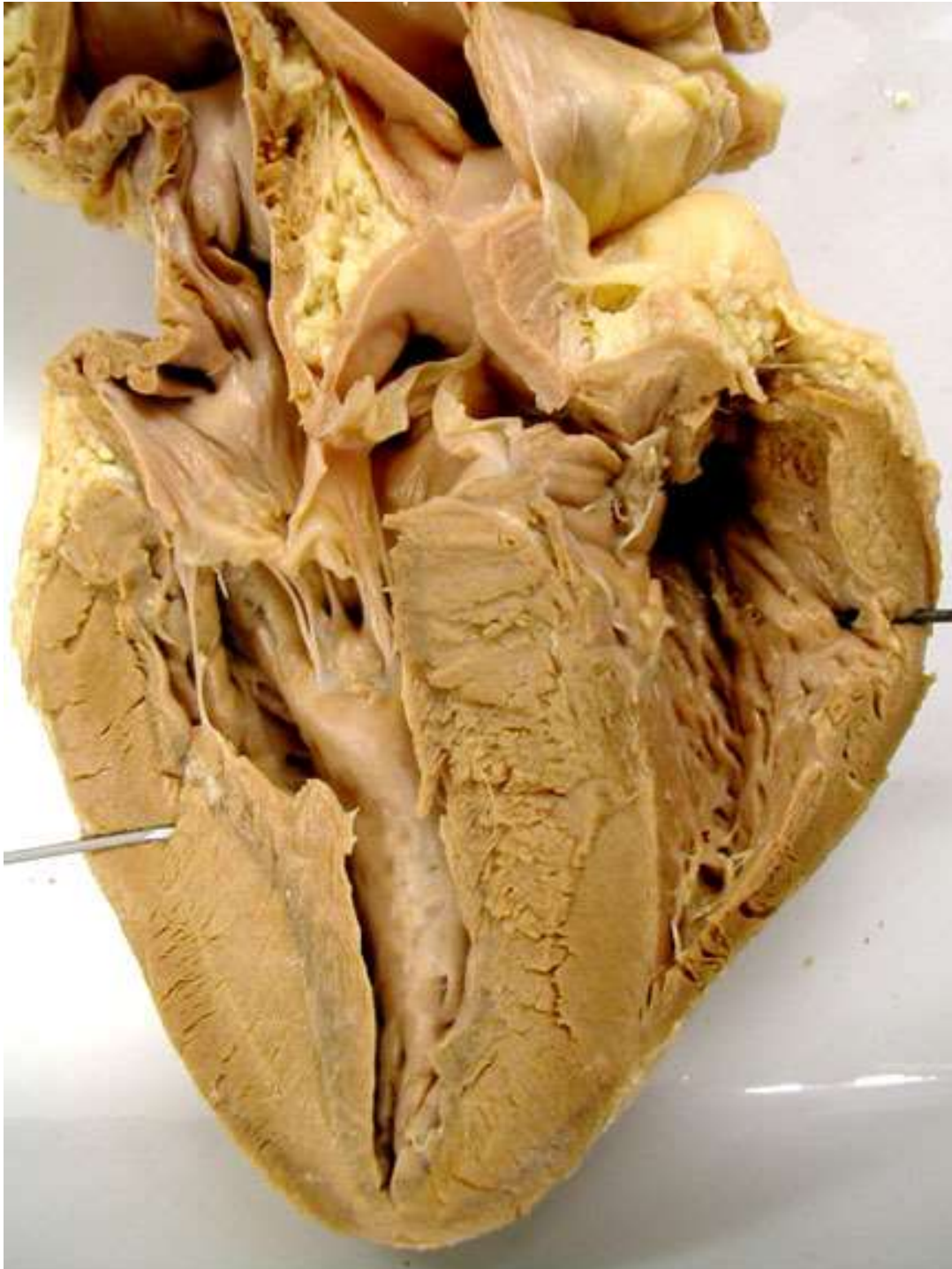
Left Side Heart - Opened (Lateral View)

1. Pulmonary Artery
2. Brachiocephalic Artery
3. Aorta
4. Aortic Semilunar Valve
5. Opening for Coronary Artery
6. Trabeculae Carneae of Left Ventricle
7. Ventricular Myocardium (*Note Thickness*)



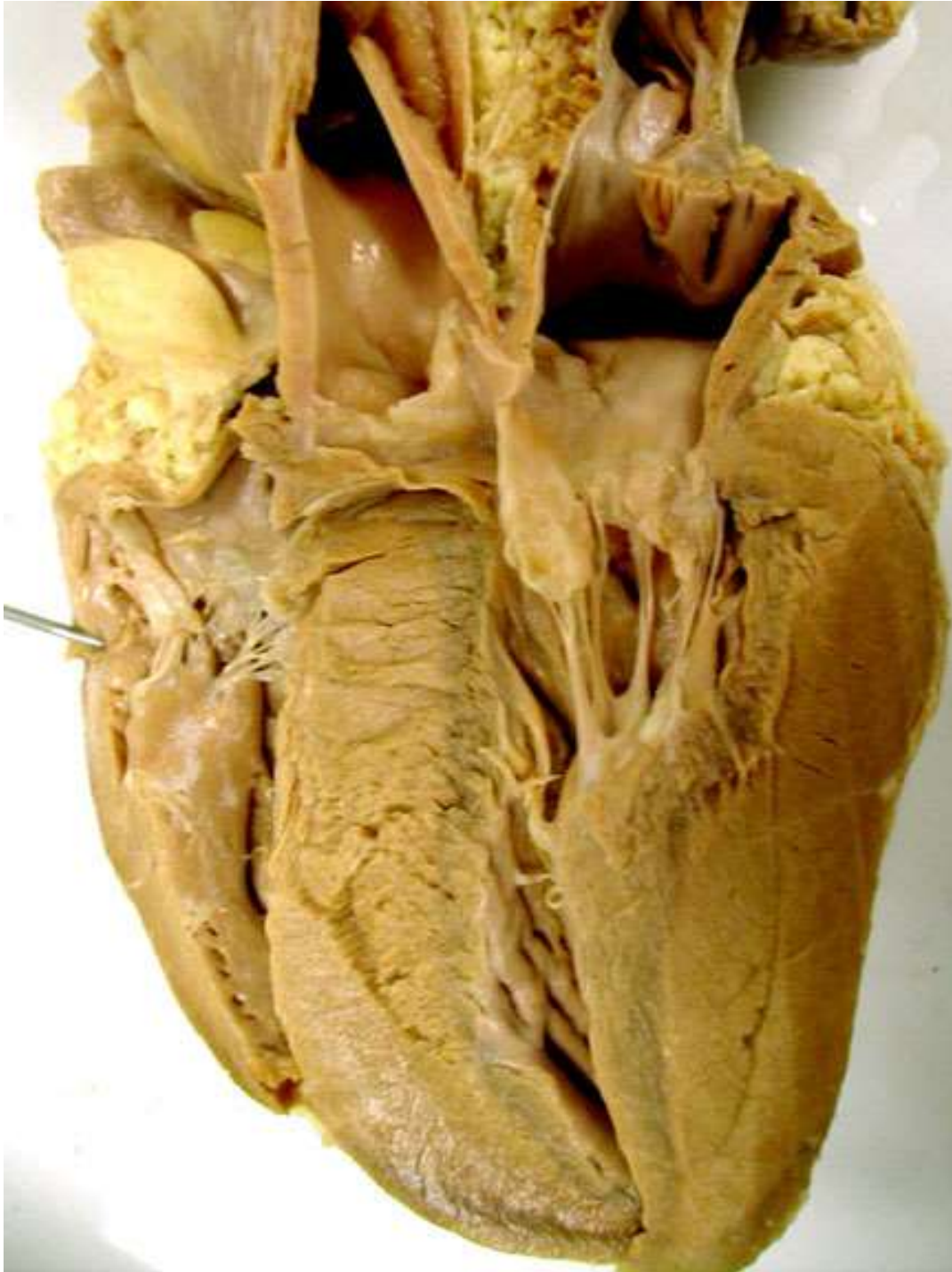
***Left Side Heart - Opened
(Posterior View)***

1. Aortic Arch
2. Left Atrium
3. Mitral Valve
4. Chordae Tendineae
5. Left Ventricle
6. Myocardium (*Note Thickness*)



internal view. The left atrium & ventricle are on your left.

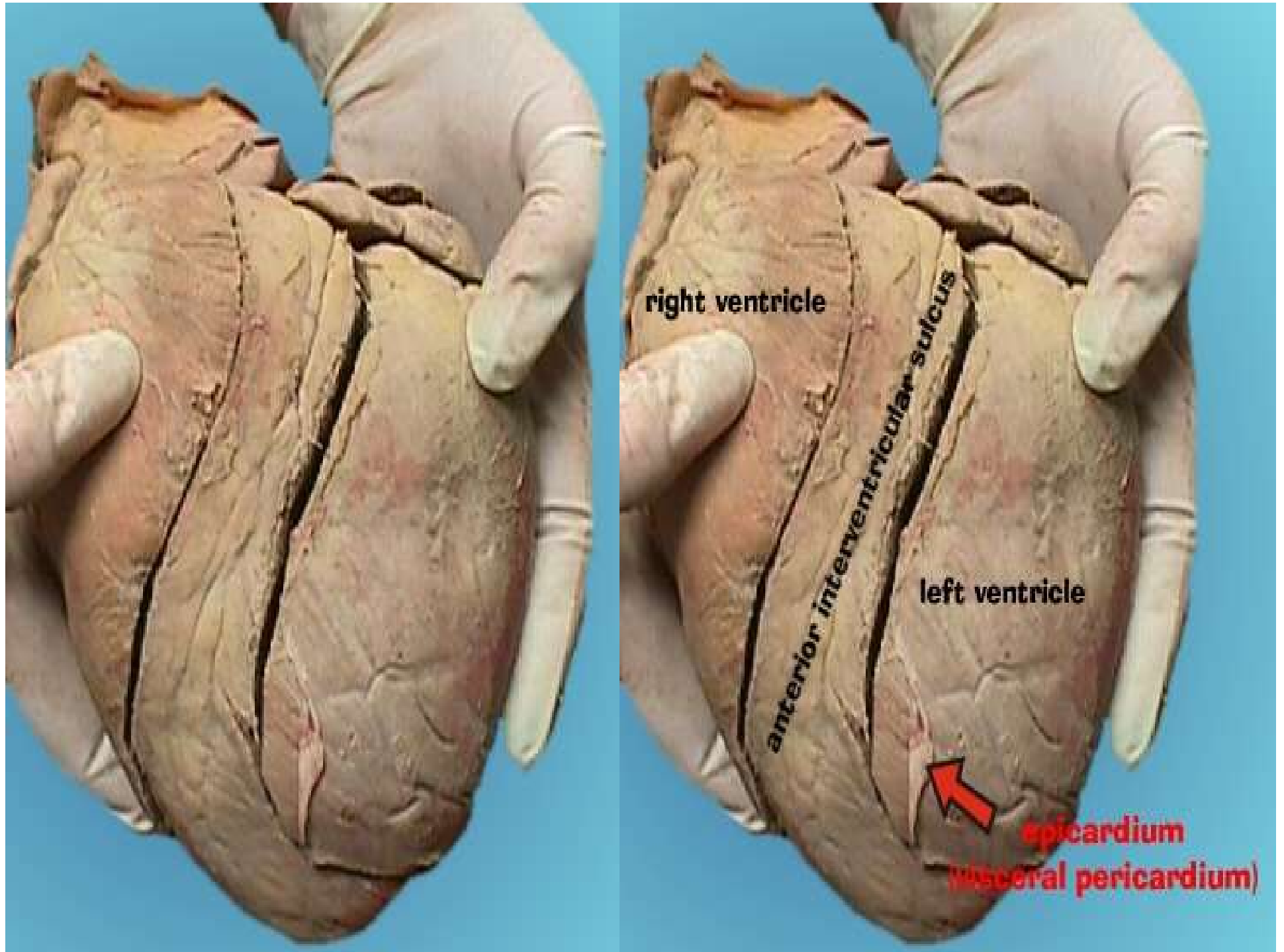
A relatively large section of the right ventricle is also visible on the right.



internal view.

The left atrium & left ventricle are on your right.

The aorta & its semilunar valves are also visible.

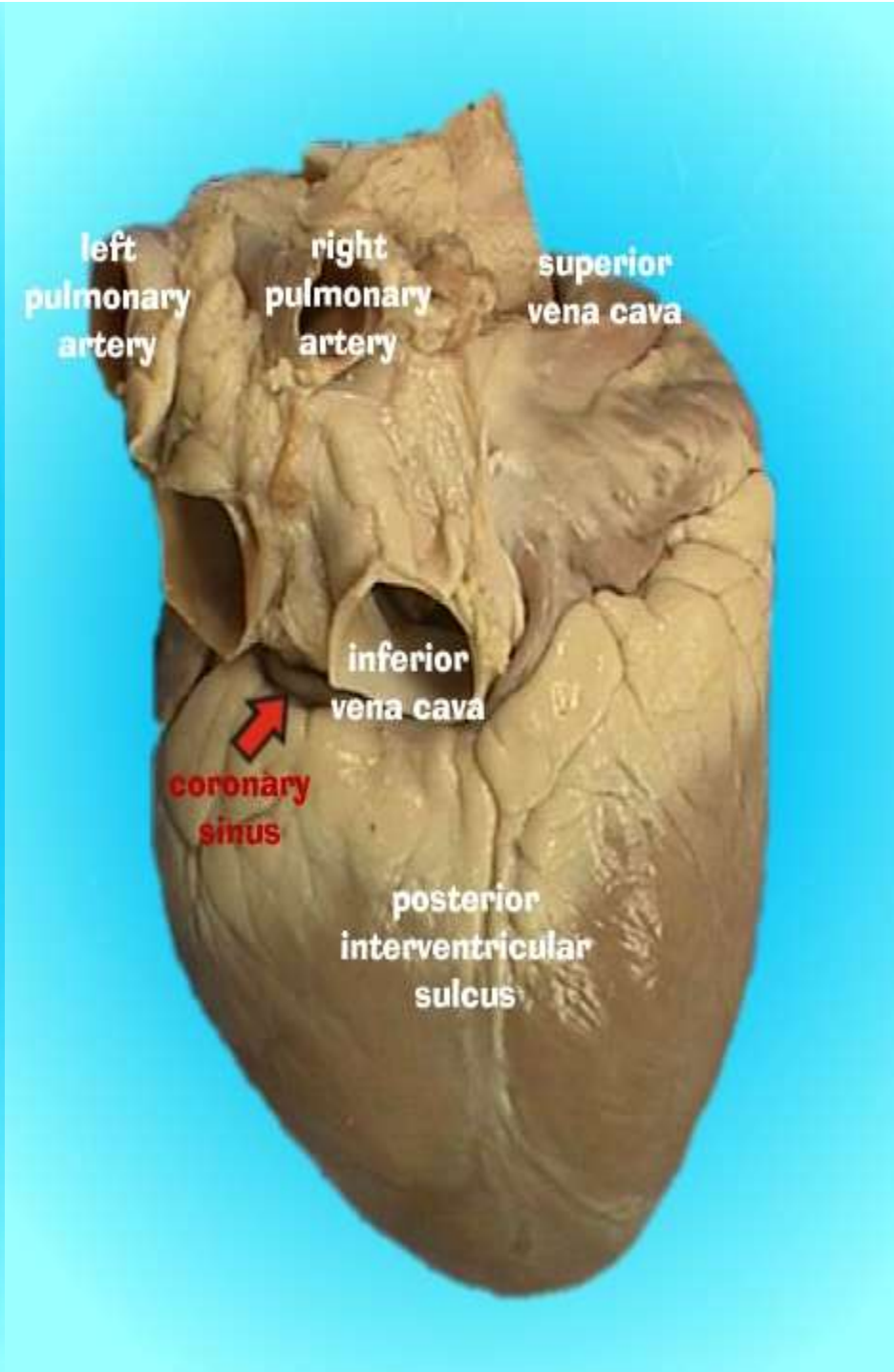
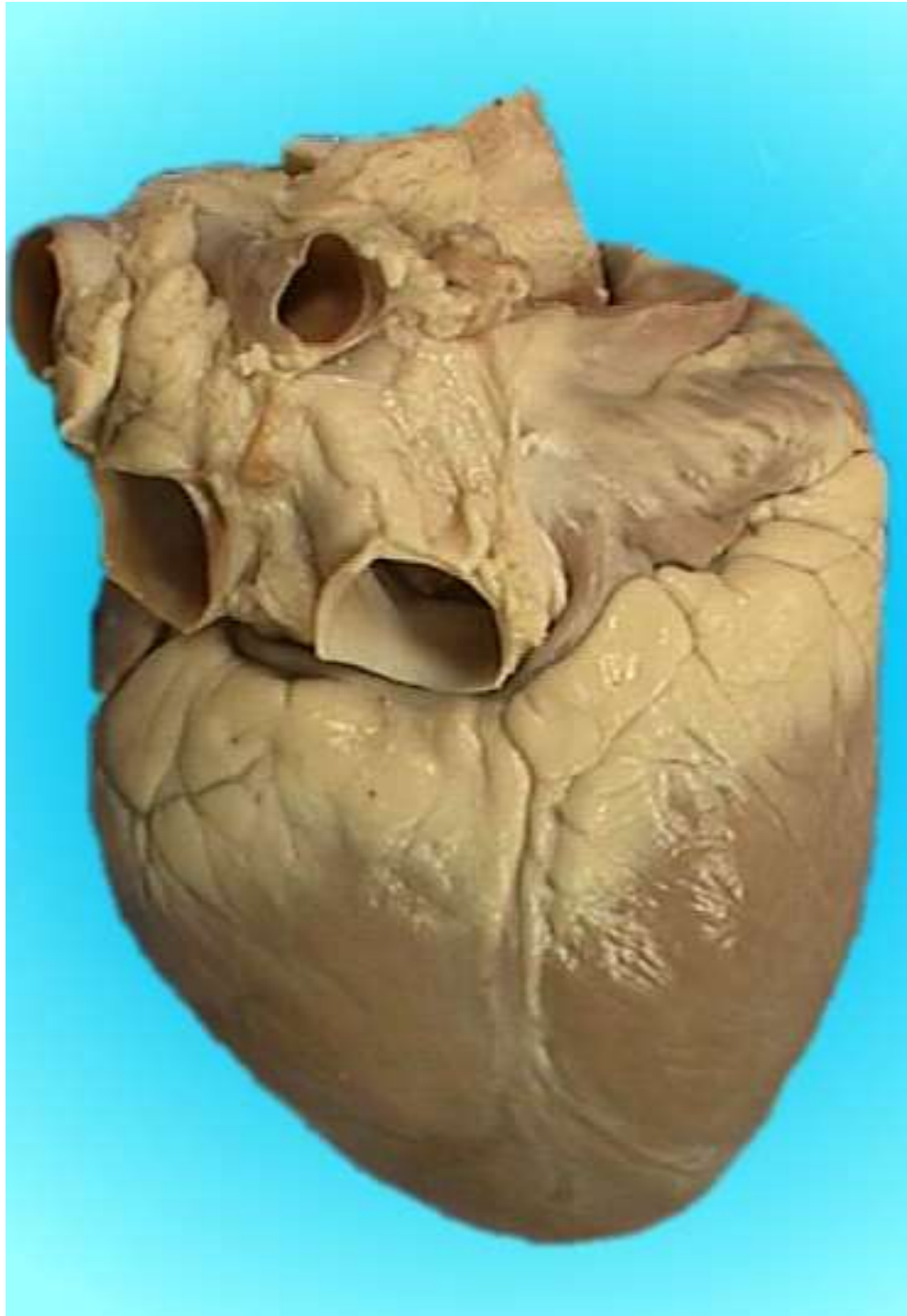


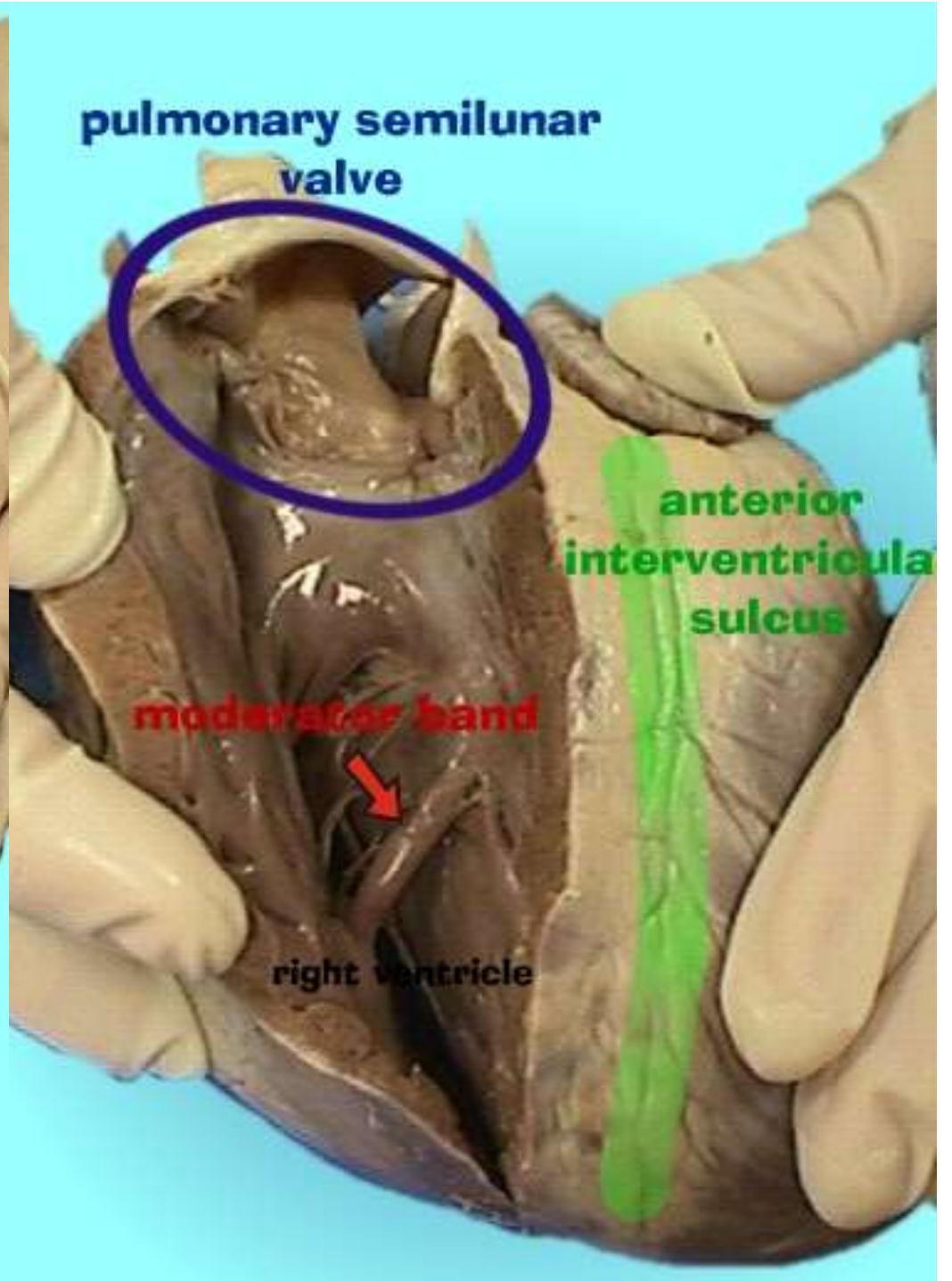
right ventricle

anterior interventricular sulcus

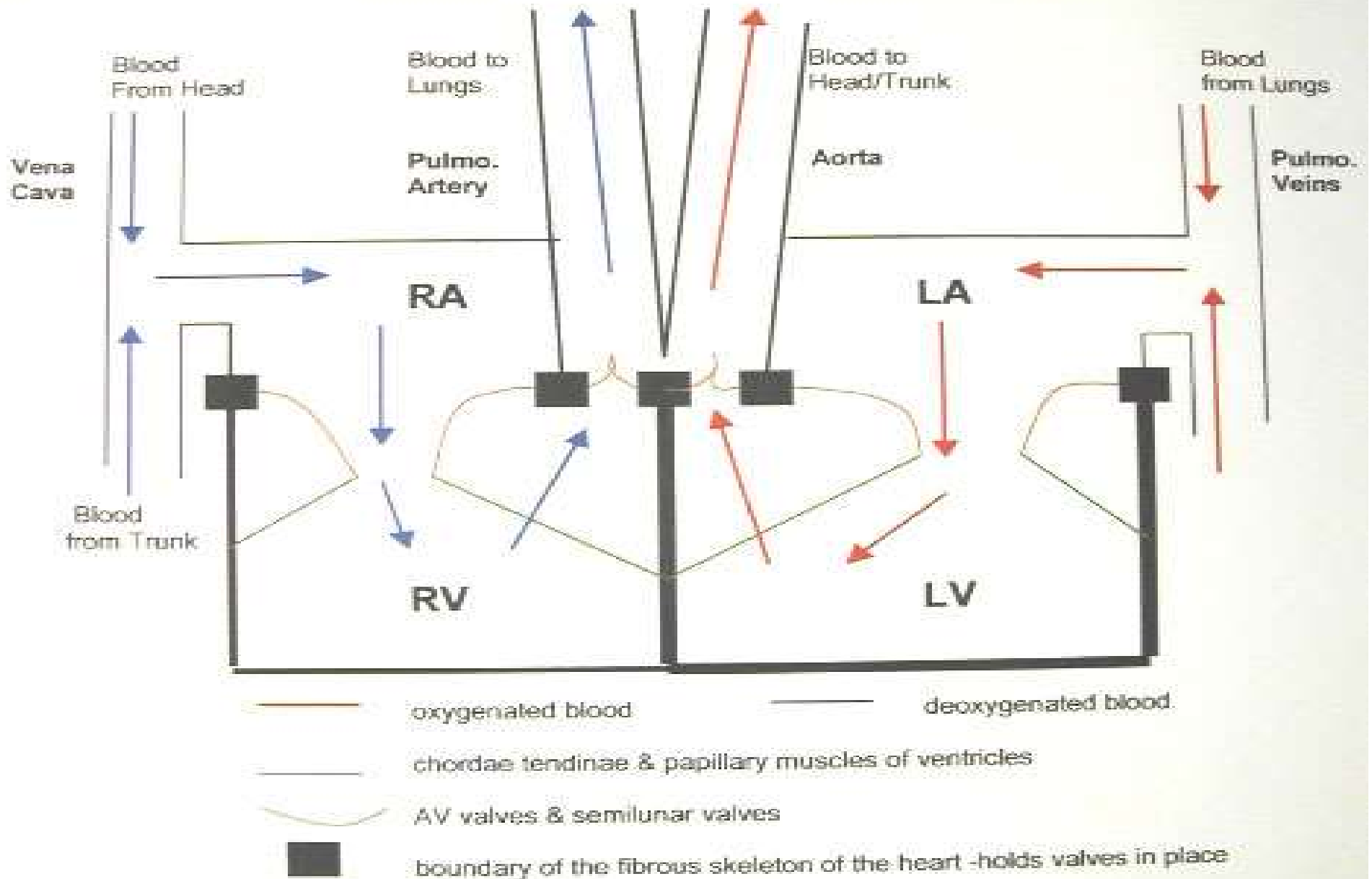
left ventricle

epicardium
(visceral pericardium)

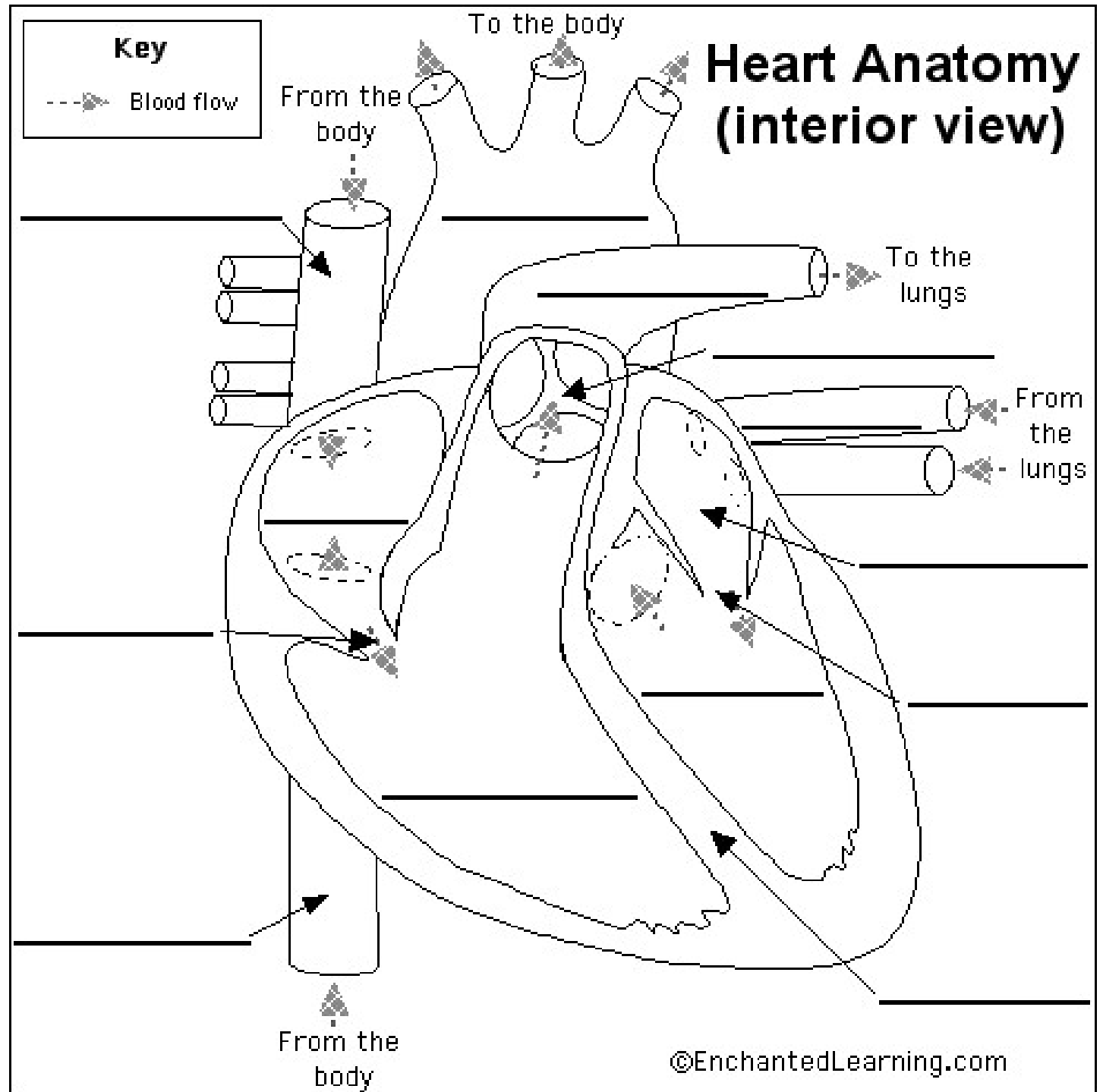


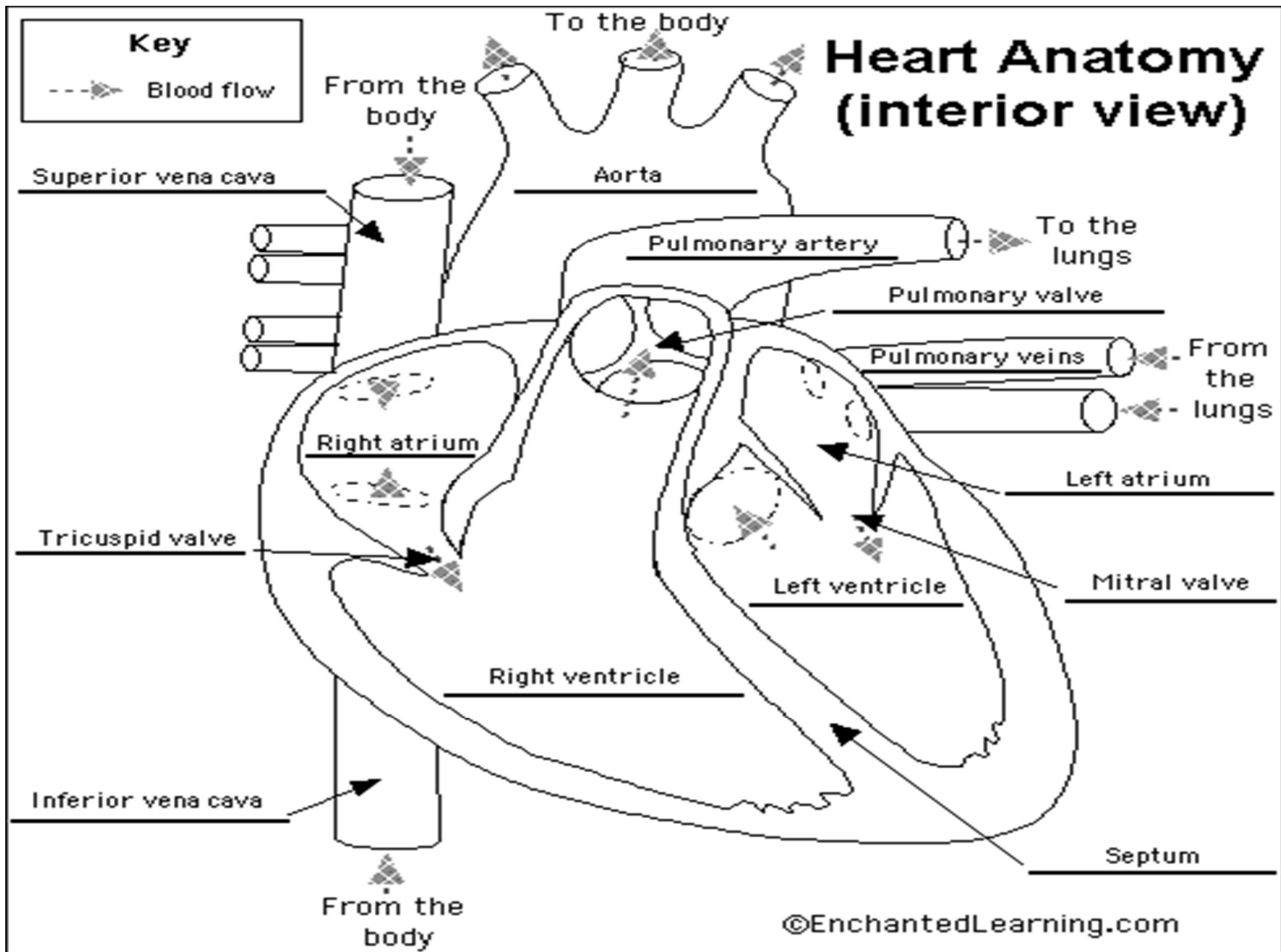


Simple (2 D) Heart Anatomy

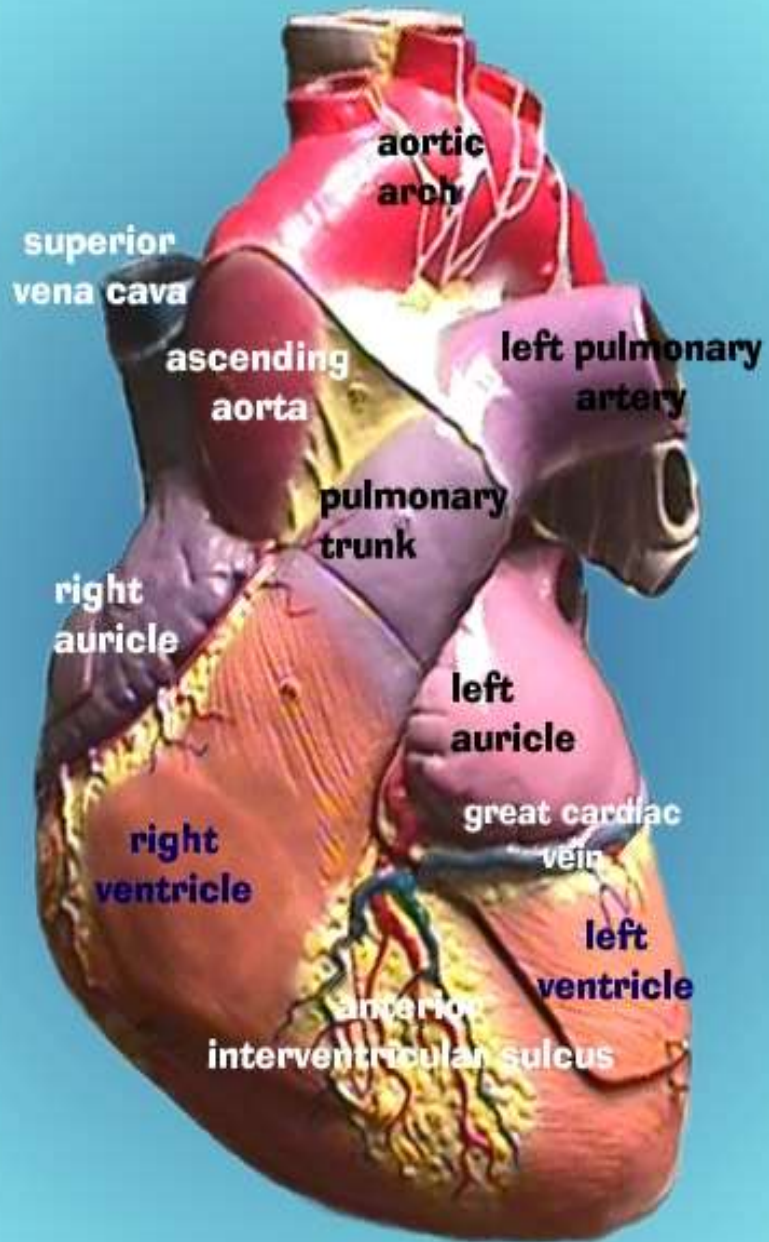


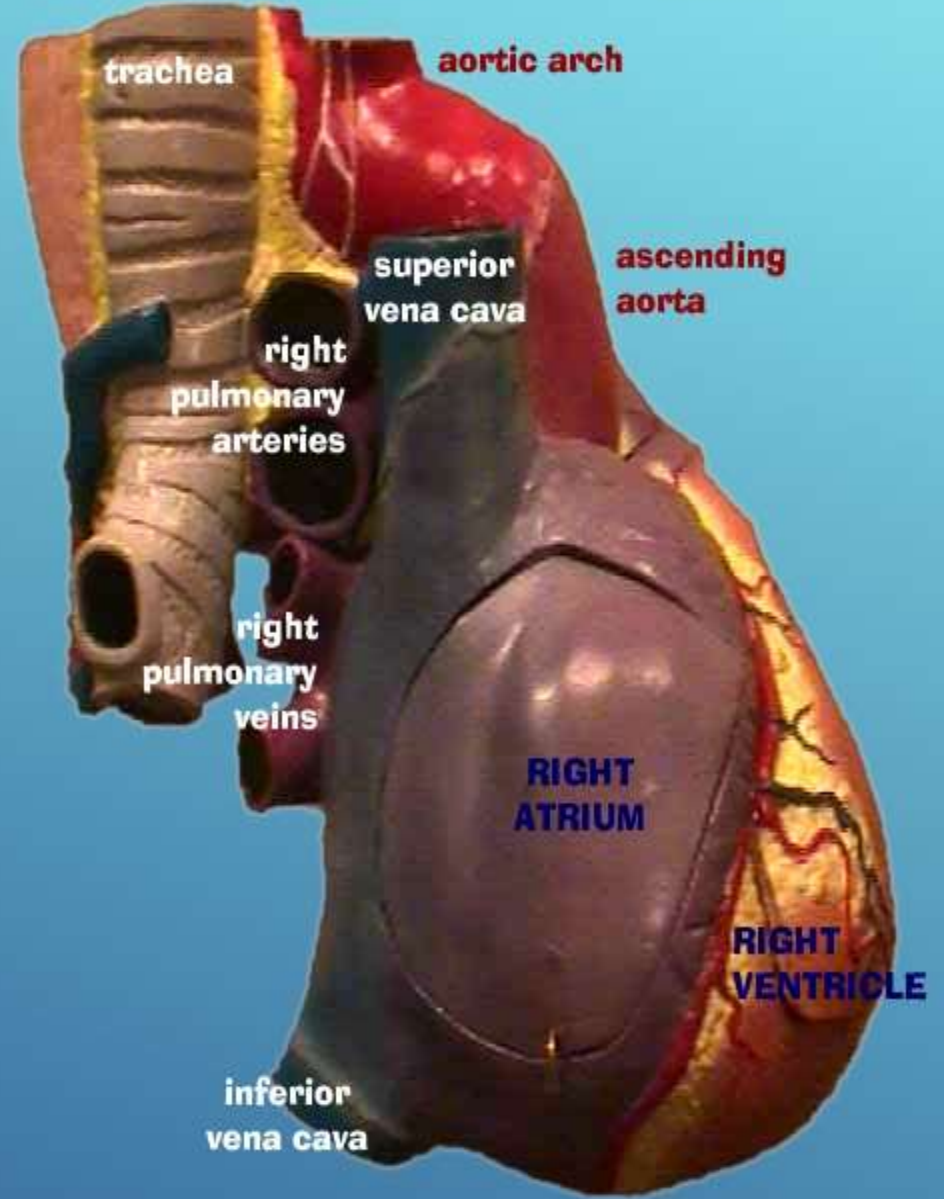
TO PRACTICE

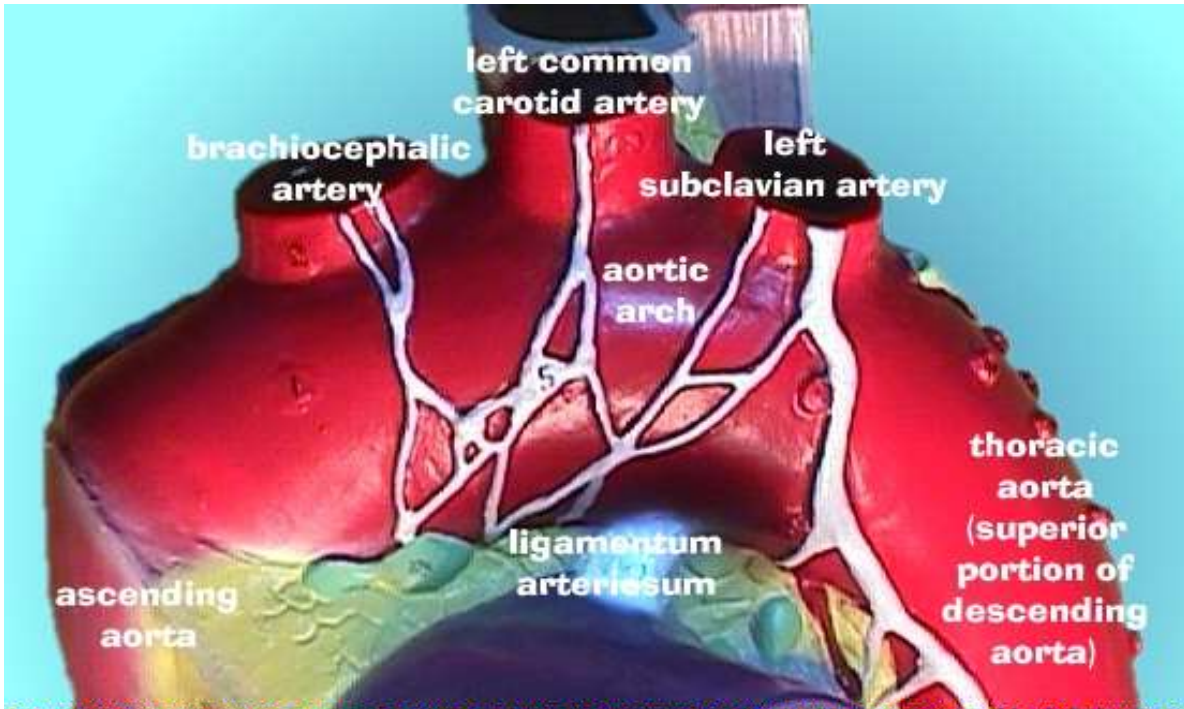


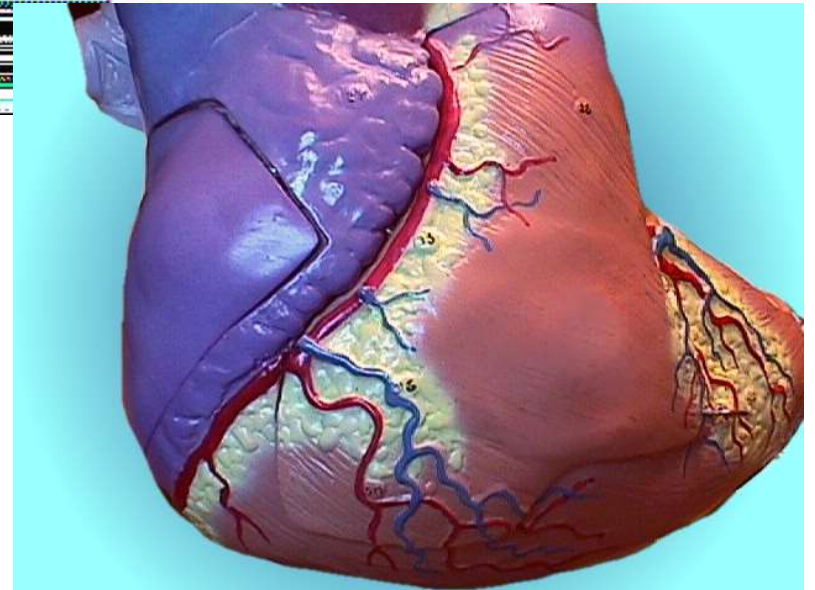
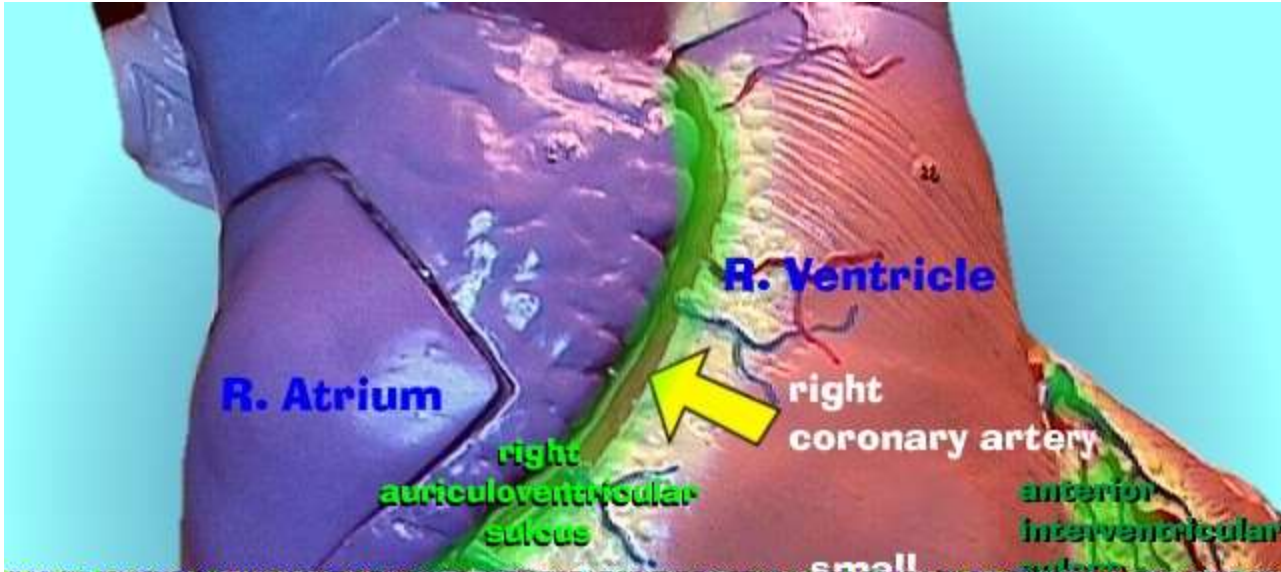


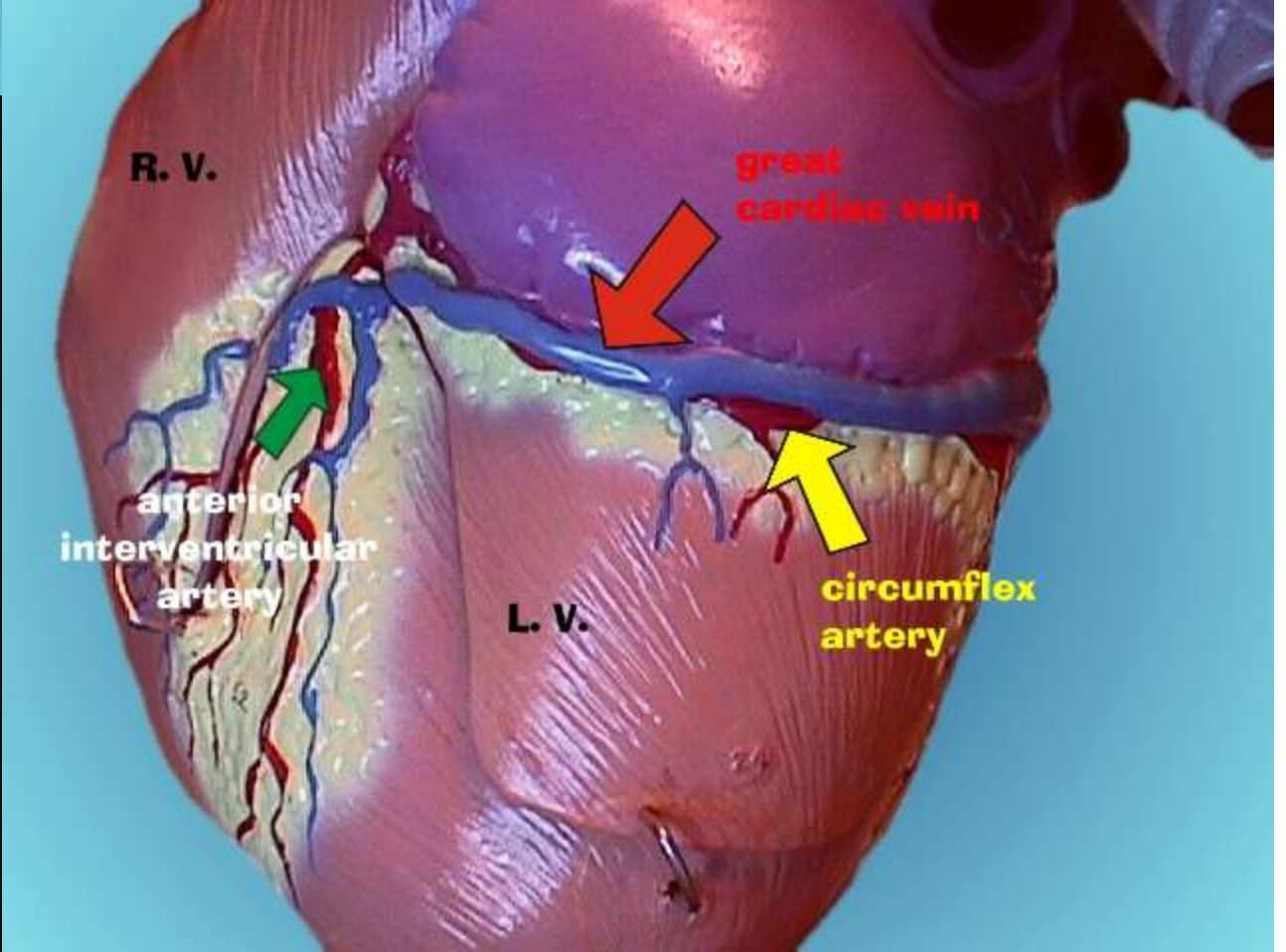
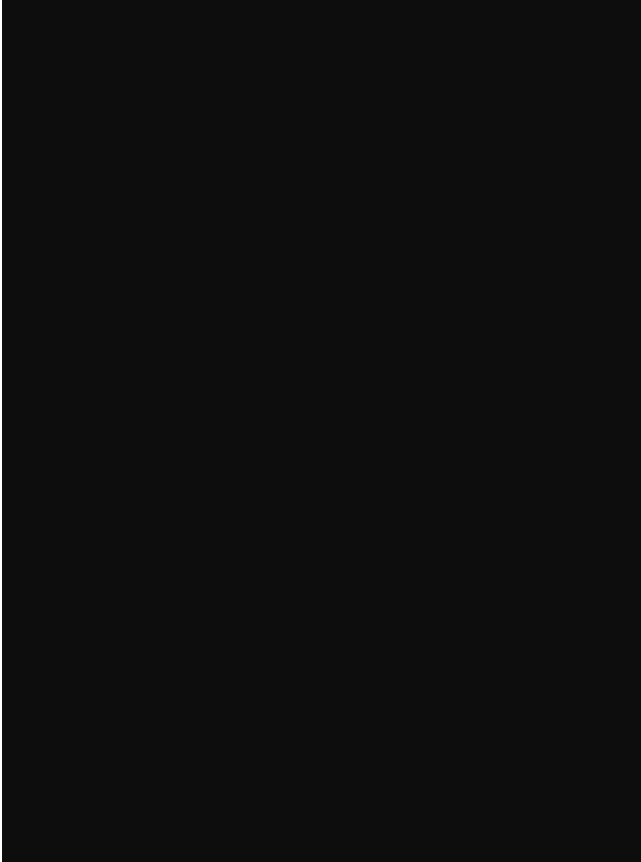
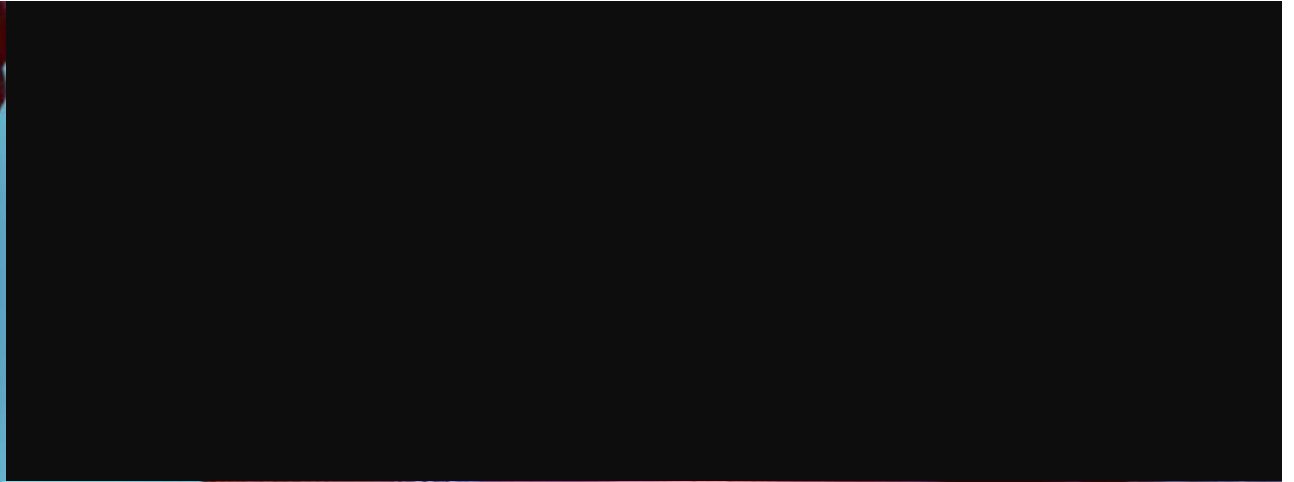
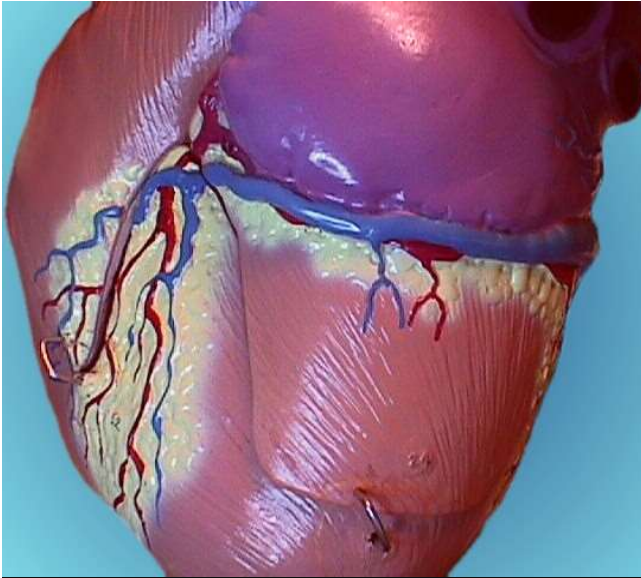
HEART MODELS

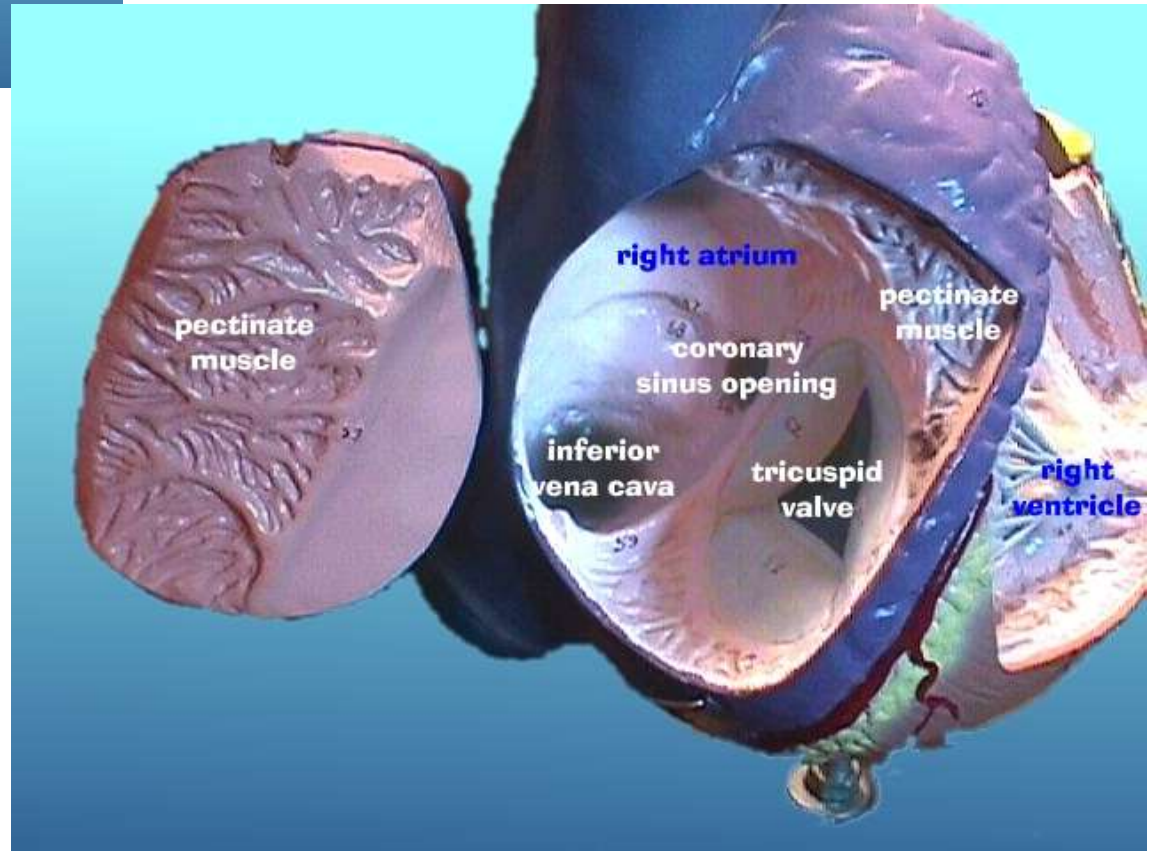
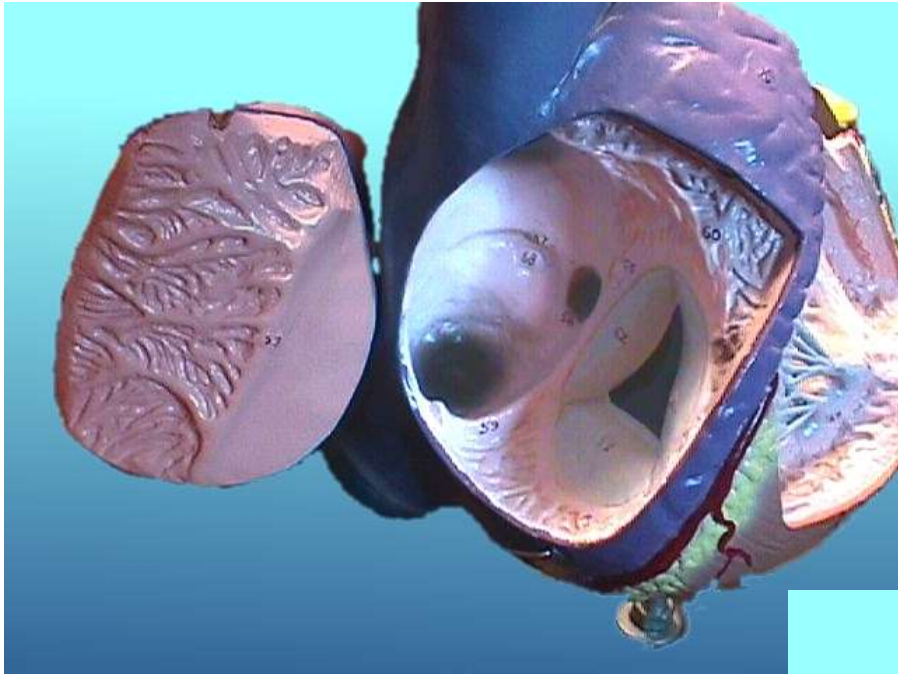


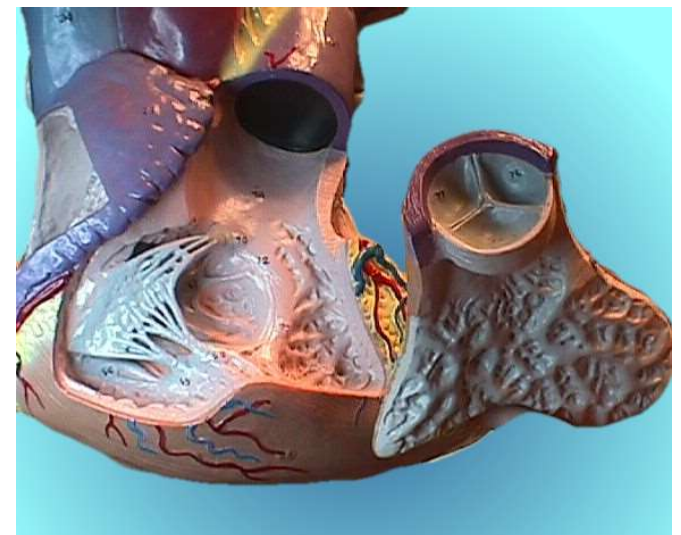
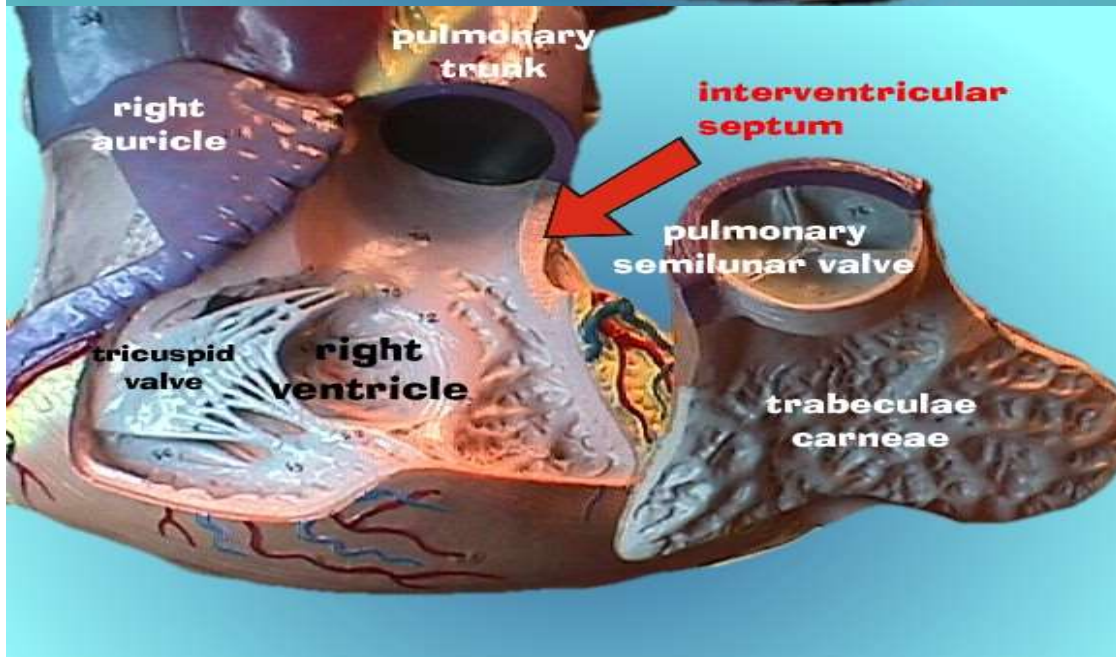
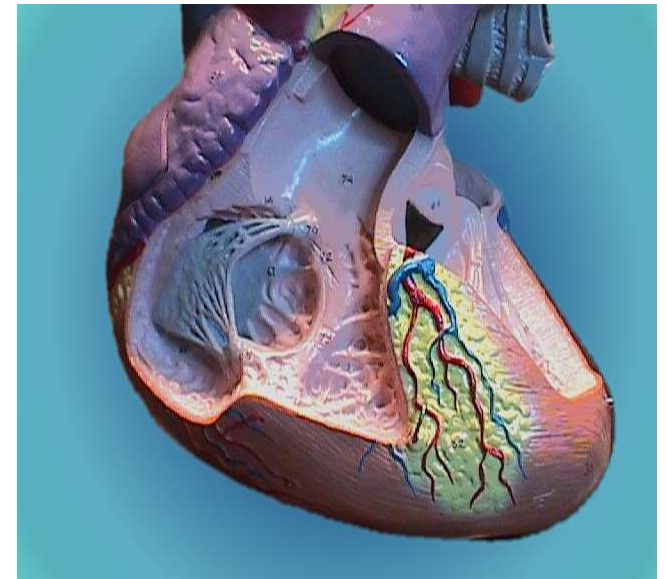
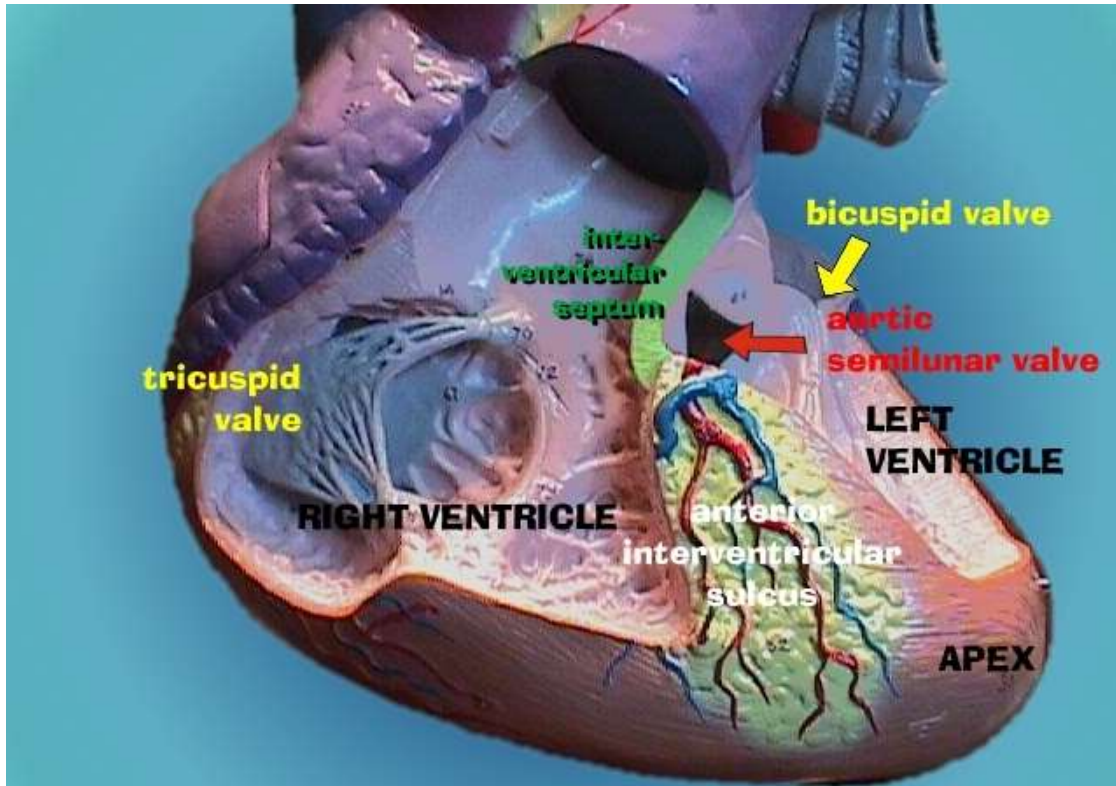


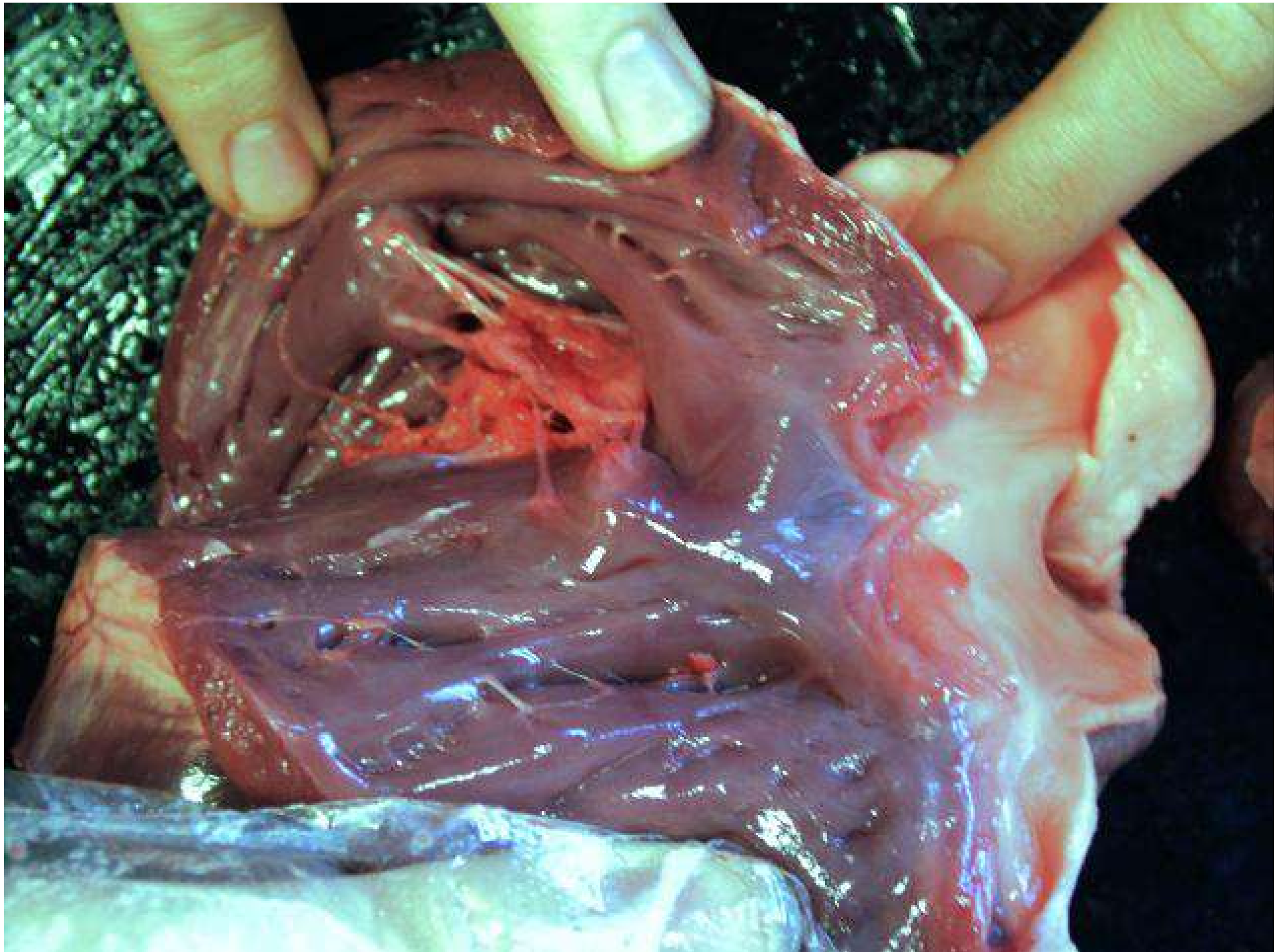












HEART DISSECTION



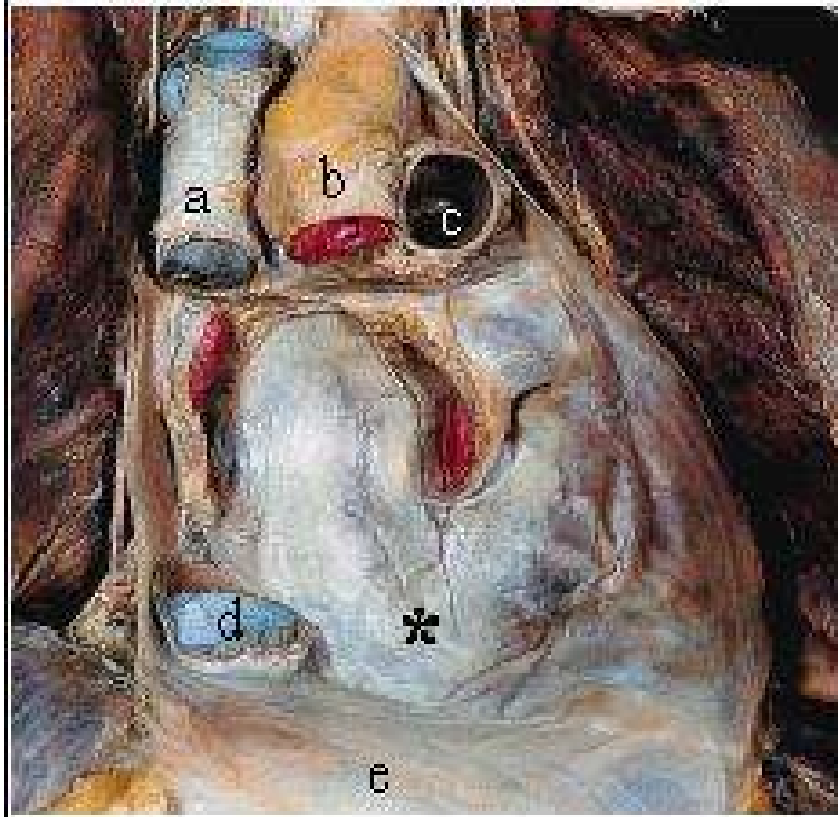


act Heart...

This shows the pig heart from the front, with the portion on the right of the picture being the left side of the heart and vice versa.

The *aorta* is clearly visible at the top, with an *atrium* on either side, while the *ventricles* are in the bottom left.

PERICARDIAL SAC



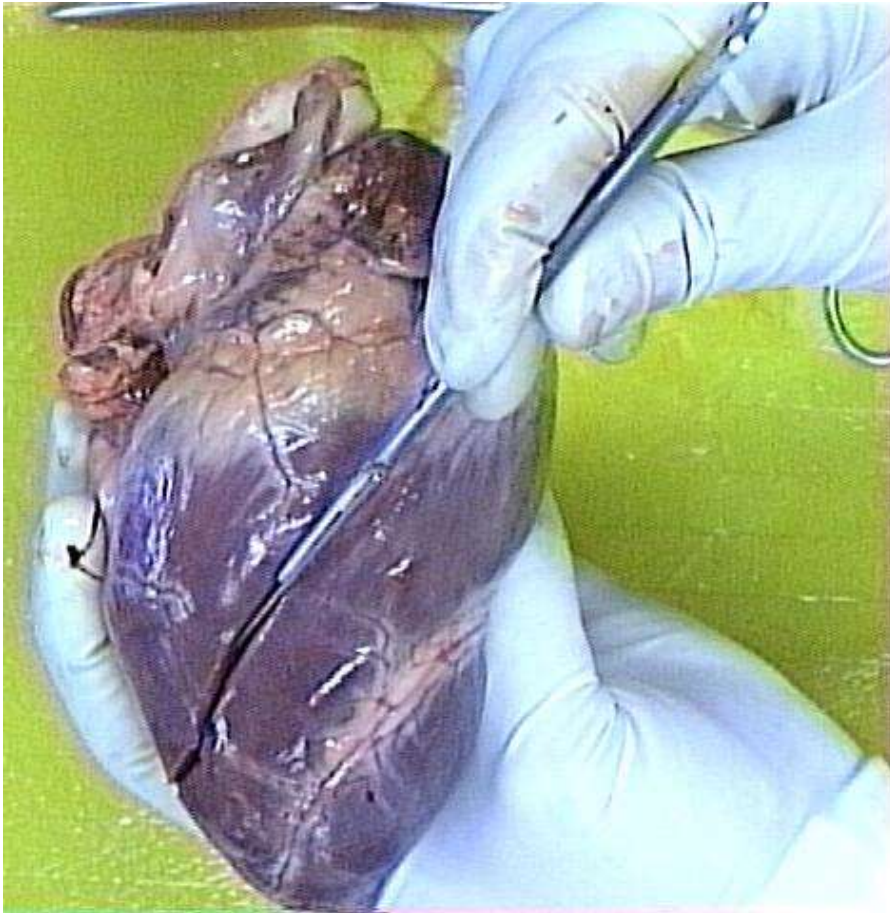
The Pericardium is a double sac of serous membrane surrounding the heart.

A. Parietal pericardium - a loose fitting outer membrane consisting of two layers: 1. The fibrous layer and 2. The serous layer.

B. Visceral pericardium - this layer is also called the epicardium. It is well integrated with the muscular wall of the heart. It is often infiltrated with fat.

C. Pericardial cavity - is a fluid-filled cavity located between the parietal and visceral membranes.

The first incision...



... is along the right ventricle.

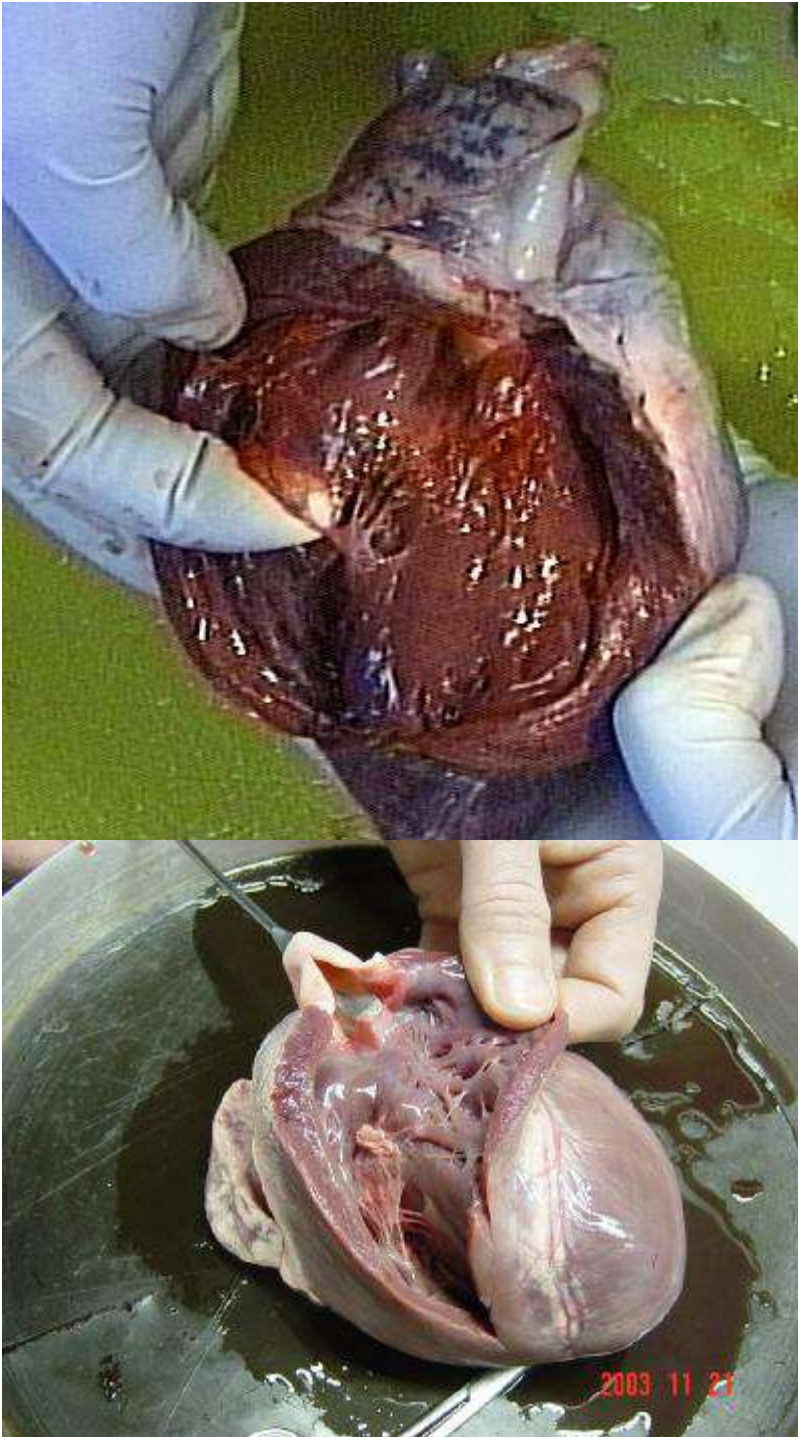
The right ventricle can be identified by squeezing the heart, since the myocardium on the right side is much less rigid than that of the left ventricle.

This allows us to see the tricuspid valve and the right ventricular outflow tract which includes the pulmonary valve.

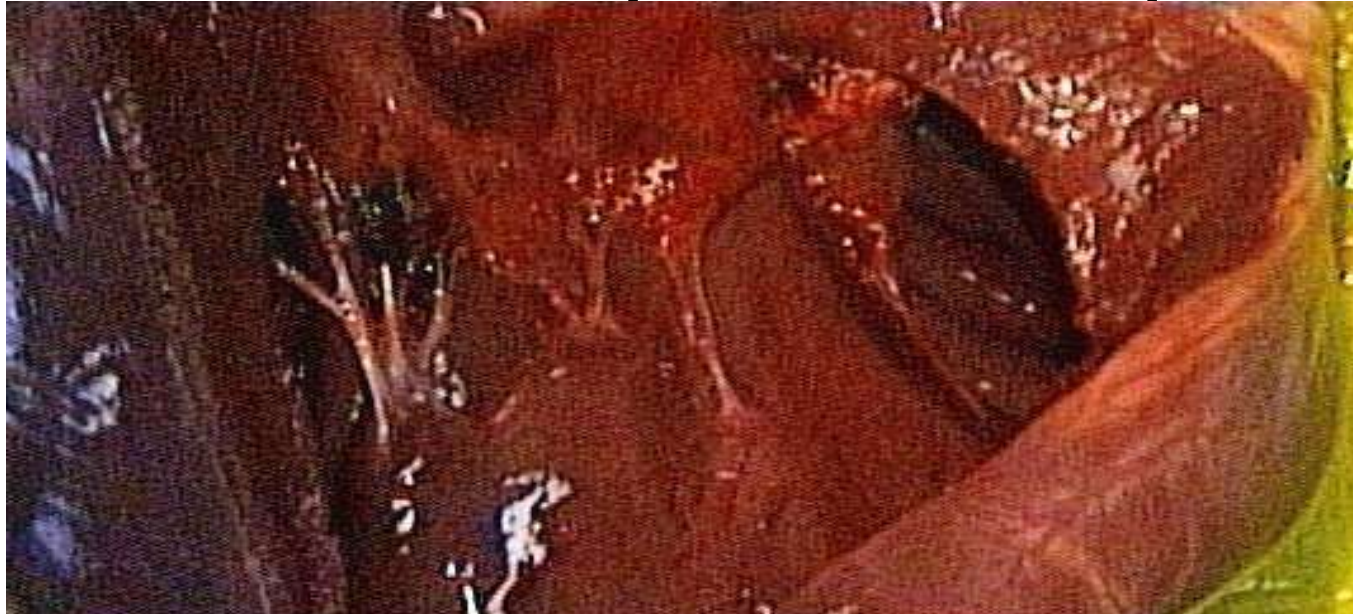
Longitudinal Cut...

The right ventricle has been cut open from the bottom towards the top.

In this picture, the myocardium is being held back. My finger is stuck underneath one leaflet of the tricuspid valve, which leads to the pulmonary valve.



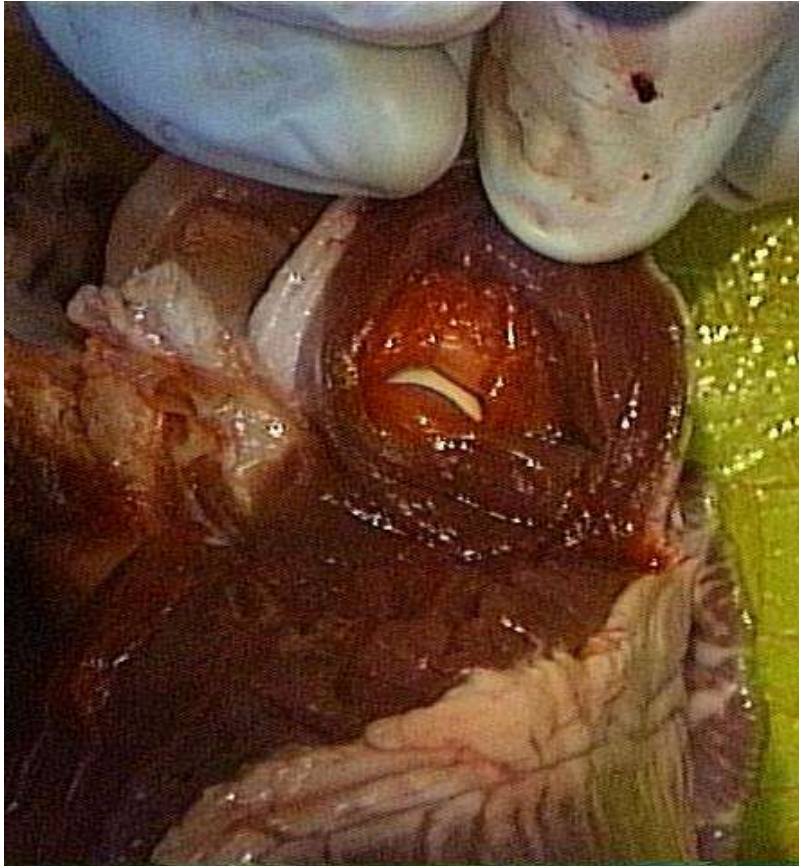
The Tricuspid Valve up close...



The tricuspid valve allows blood to flow from the right atrium into the right ventricle.



Pulmonary Valve...



When the heart is contracting, the pulmonary valve is open because the blood pushes the cusps out of the way.

After contracting, the ventricles begin to relax and the pulmonary valve closes and prevents back-flow (called *regurgitation*) of blood into the ventricle.

The Left Ventricle...



This longitudinal incision extends from the bottom to the top of the left ventricle, then continues up into the atrium to allow us to view the entire left heart.

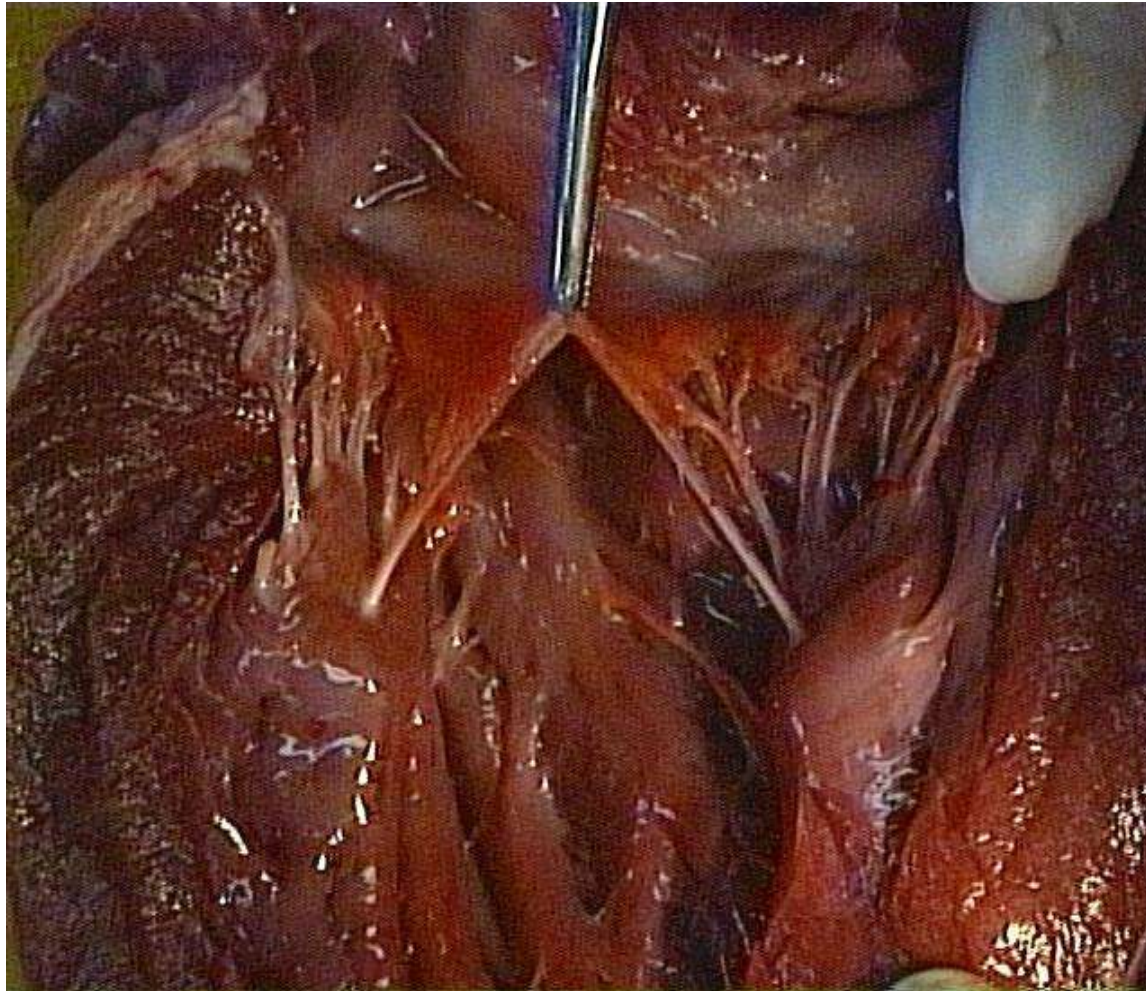
The Mitral (bicuspid) valve...



The mitral valve prevents blood from flowing back into the left atrium

The mitral valve is positioned between the atrium (at top) and ventricle (at bottom).

Left Ventricular Outflow...



Blood flows into the ventricles by passing through the mitral valve, but can you see where it flows out? This is a bit of a trick question because the outflow tract is hidden behind the mitral valves