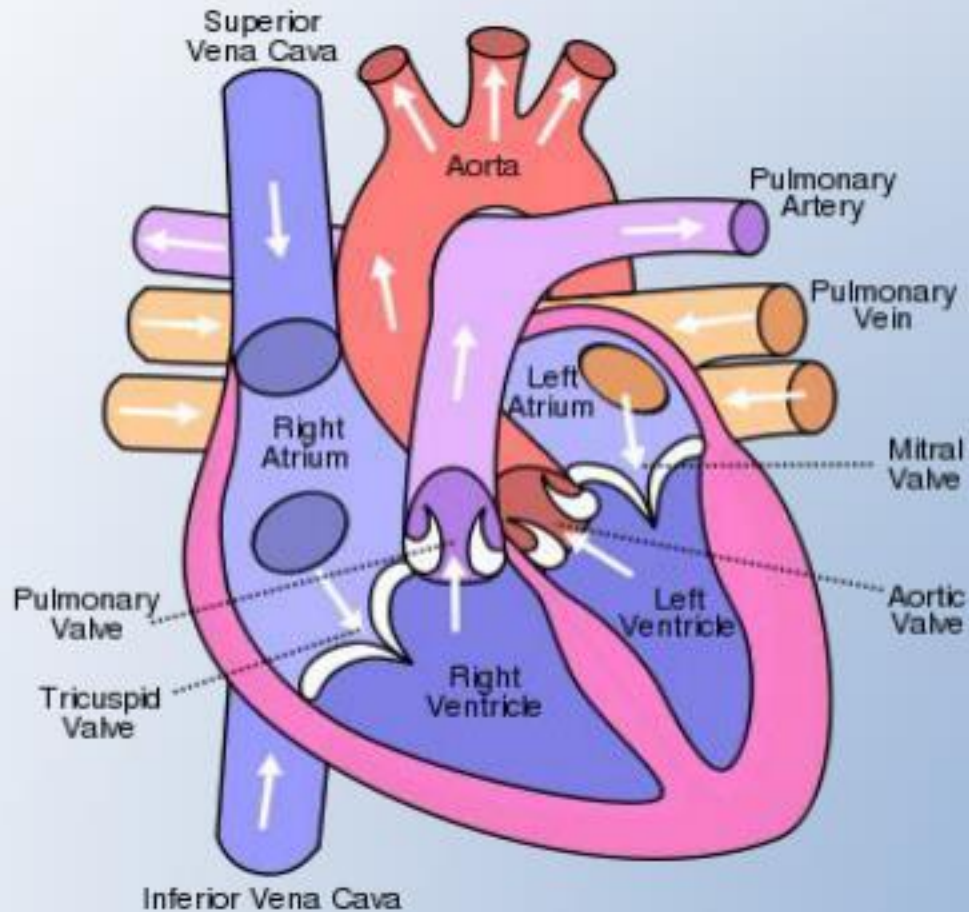
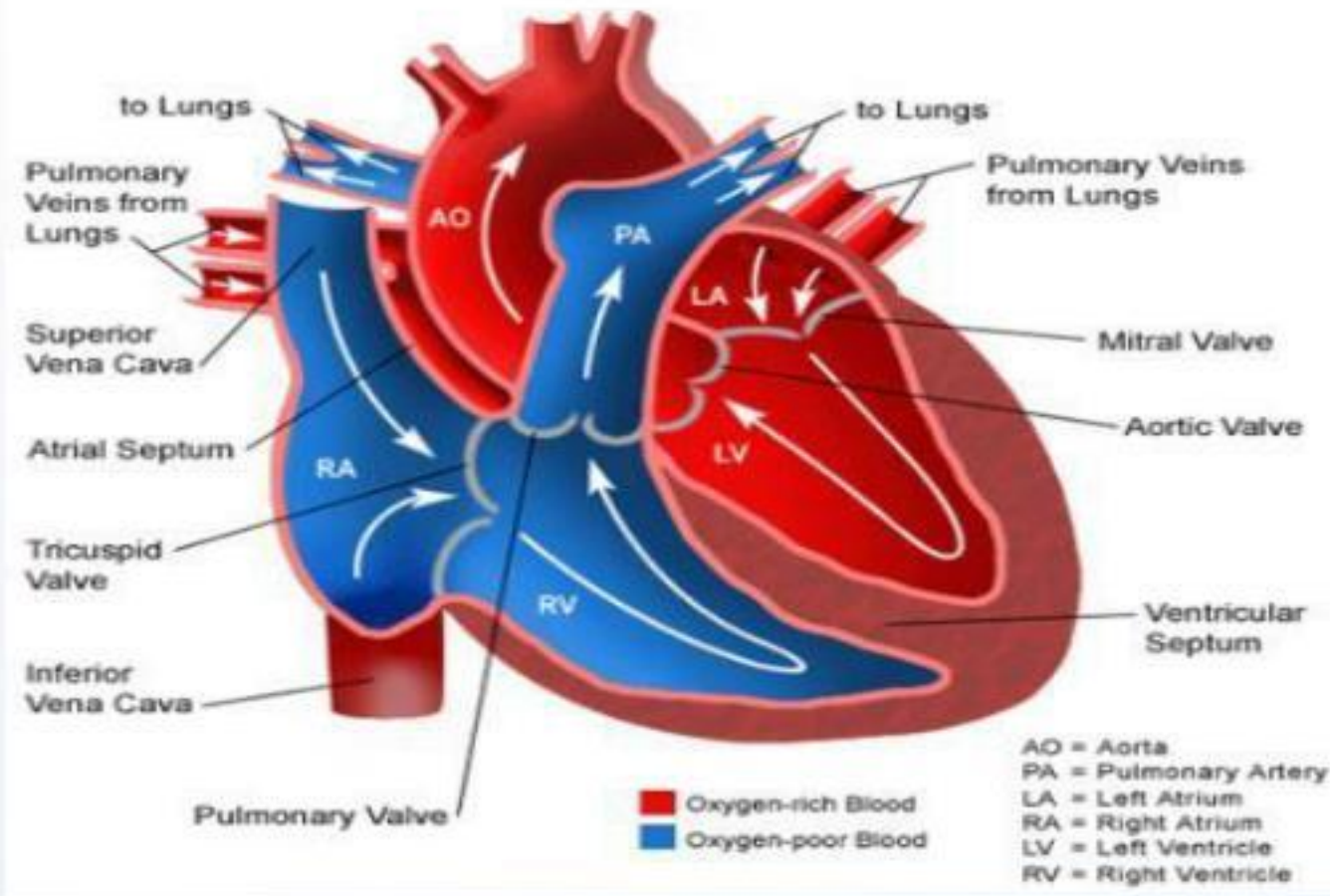


The Heart



Normal Heart



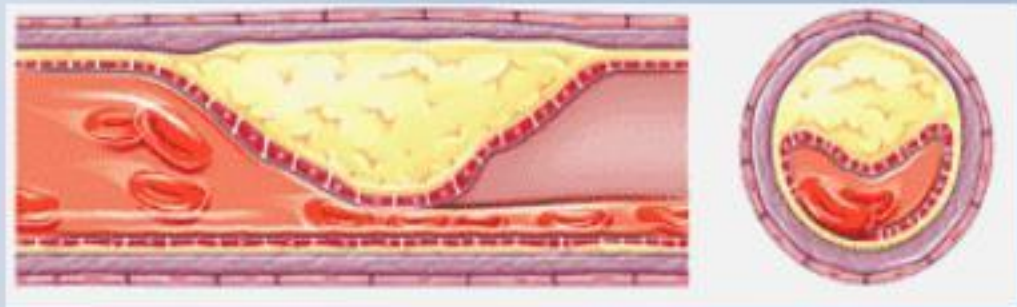
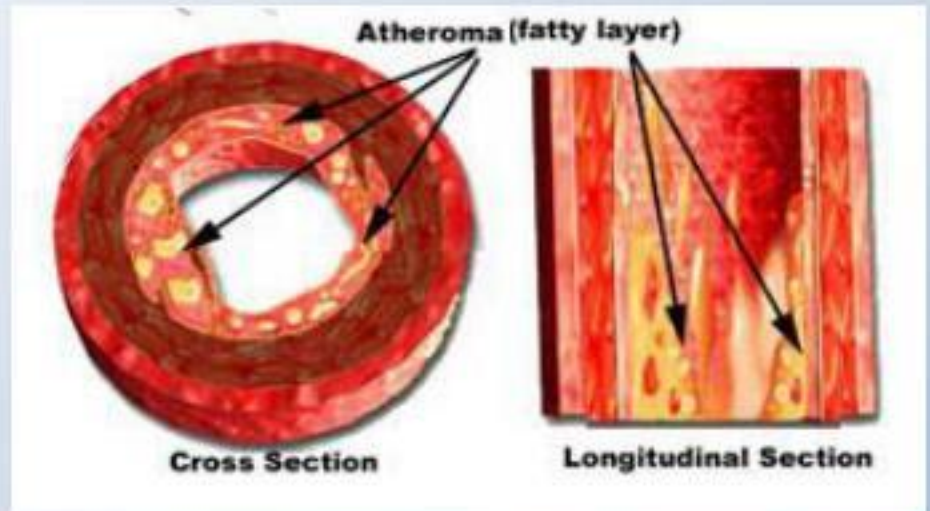
- Label your heart diagram with septum, L & R atria, L & R ventricles, two atrioventricular valves, pulmonary valve and aorta valve.
- Add **blue** and **red** arrows to show flow of oxygenated and deoxygenated blood.

Atheroma

- **Fatty deposits** build up under the endothelium of the artery when it becomes damaged.

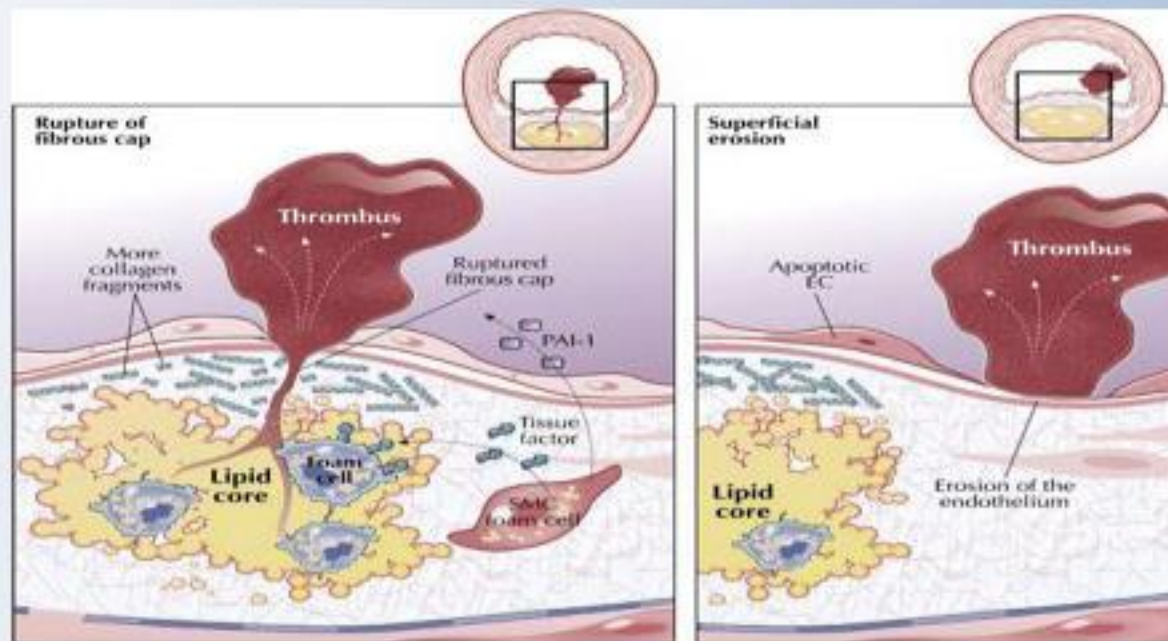
(damage can be caused by uneven blood flow, high blood pressure, chemicals or viral infection.)

- White blood cells collect under the endothelium and absorb fatty materials e.g. LDLs (contain **cholesterol**).



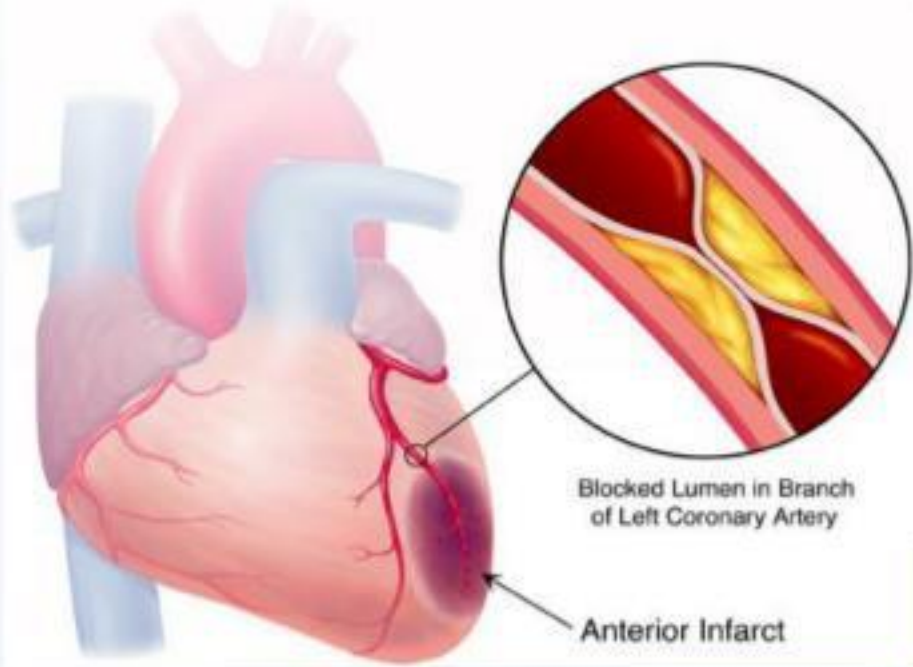
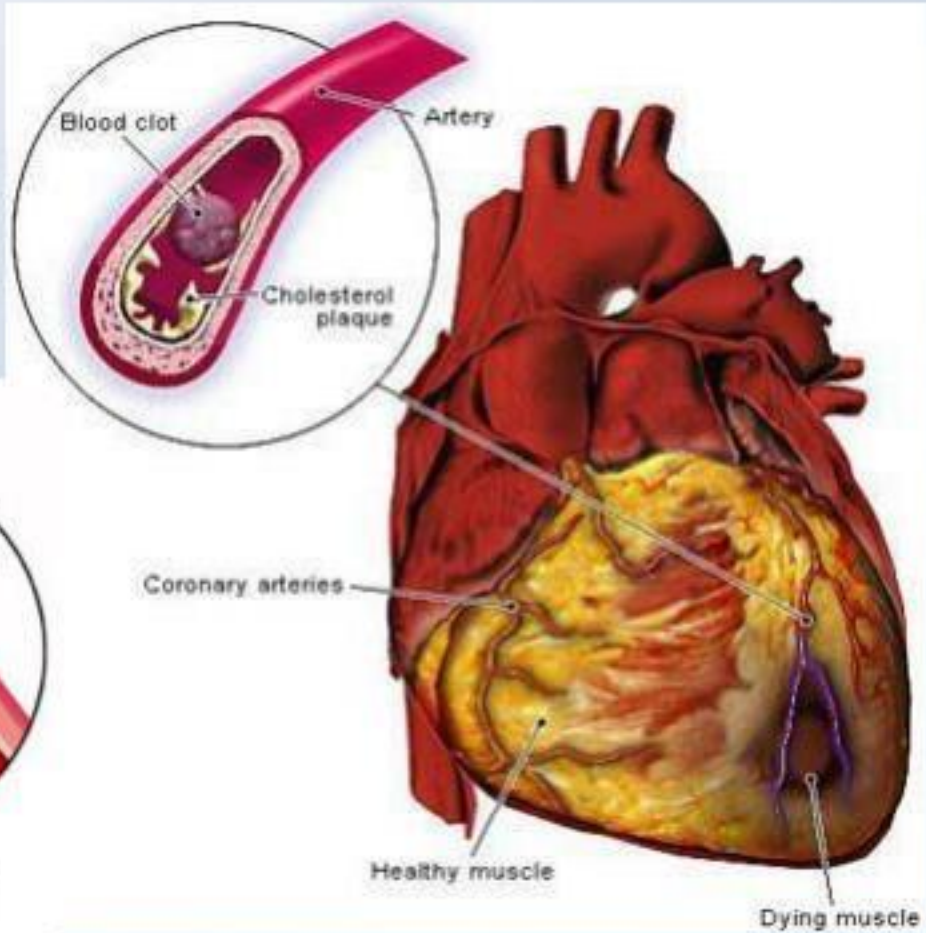
Thrombosis

- As a result of atheroma a lumpy area, called a **plaque**, forms on the artery wall.
- This can lead to a blood clot forming (**thrombosis**). Can completely block the lumen.



Myocardial Infarction

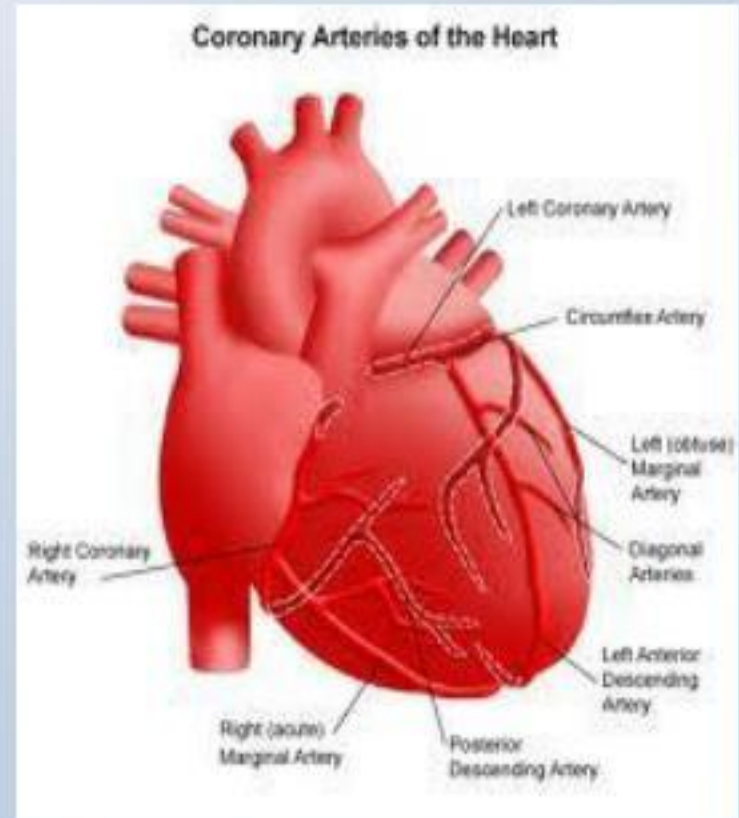
- Muscle can die (infarction).



Coronary Heart Disease

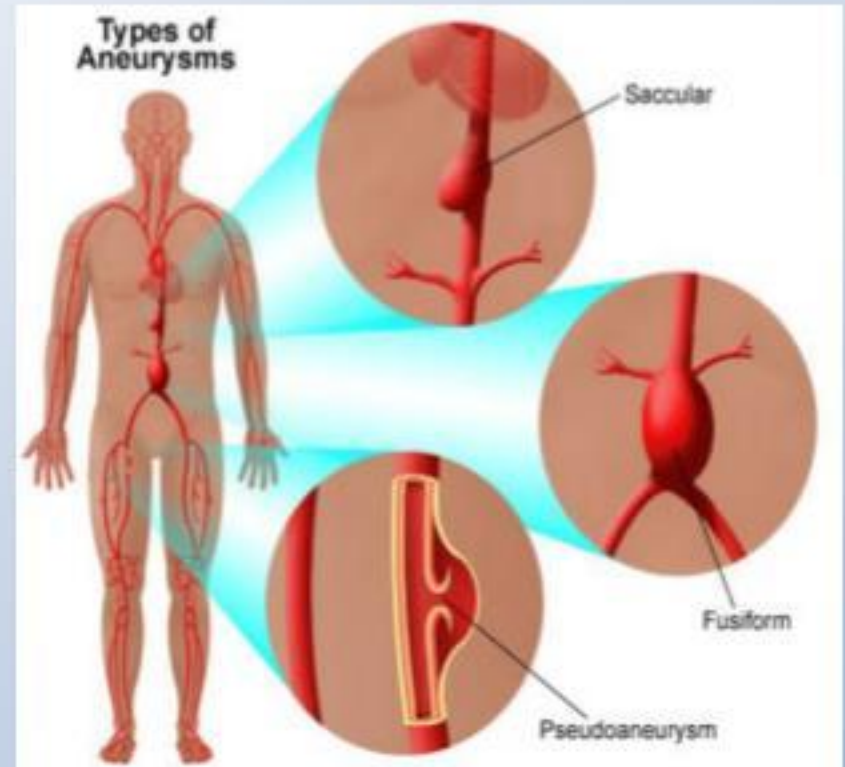
- **Coronary arteries** provide heart muscle with blood carrying oxygen and glucose for respiration.
- If these arteries become blocked (**atheroma**) problems arise.

e.g. **myocardial infarction**



Aneurysm

- The artery wall can bulge in weakened areas.
- This is an **aneurysm**.
- It can burst.
- Aneurysms and thrombosis can form in other parts of body too.



Symptoms of Myocardial Infarction

- Severe pain in chest
- Sick, breathless
- Rapid but weak pulse



- The affected area of muscle will stop working and the heartbeat can be disrupted which leads to uncoordinated contractions : **fibrillation**.
- No pulse detected as not enough force to pump blood into aorta.
- Emergency defibrillation is necessary.
- 1/3 victims die within an hour : need heart compressions and artificial respiration until defibrillater available.