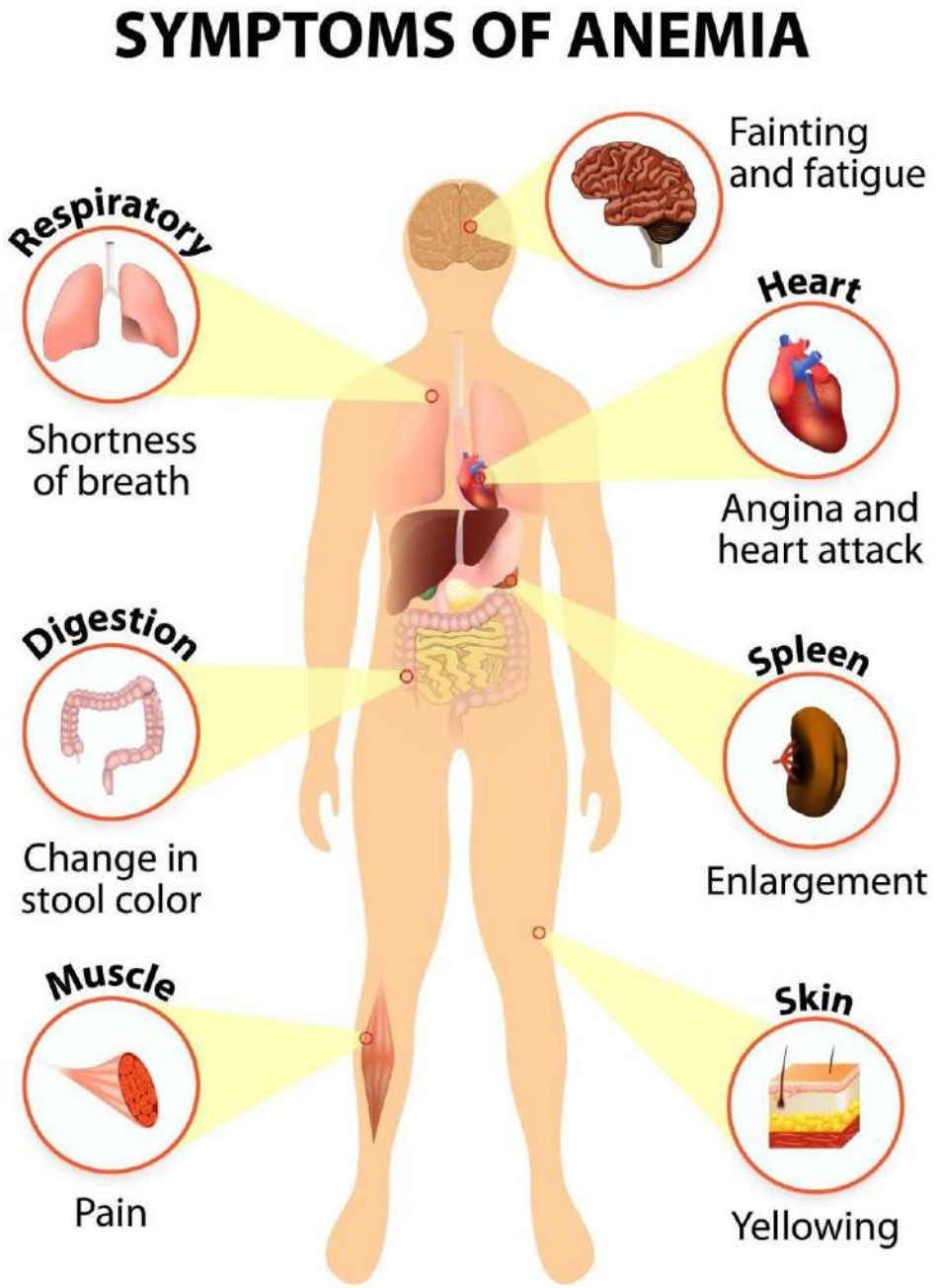
Blood disorders

- Varicose veins
- Anaemia
- Leukaemia
- Septicaemia
- Haemophilia
- Ateriosclerosis
- Atherosclerosis
- Haemorrhoids
- Phlebitis
- Thrombus
- HIV/AIDS
- High/ low BP
- Hepatitis
- Angina
- Haematoma
- Epitaxis
- Intermittent claudication
- Myocardial Infarction (MI)

Anaemia

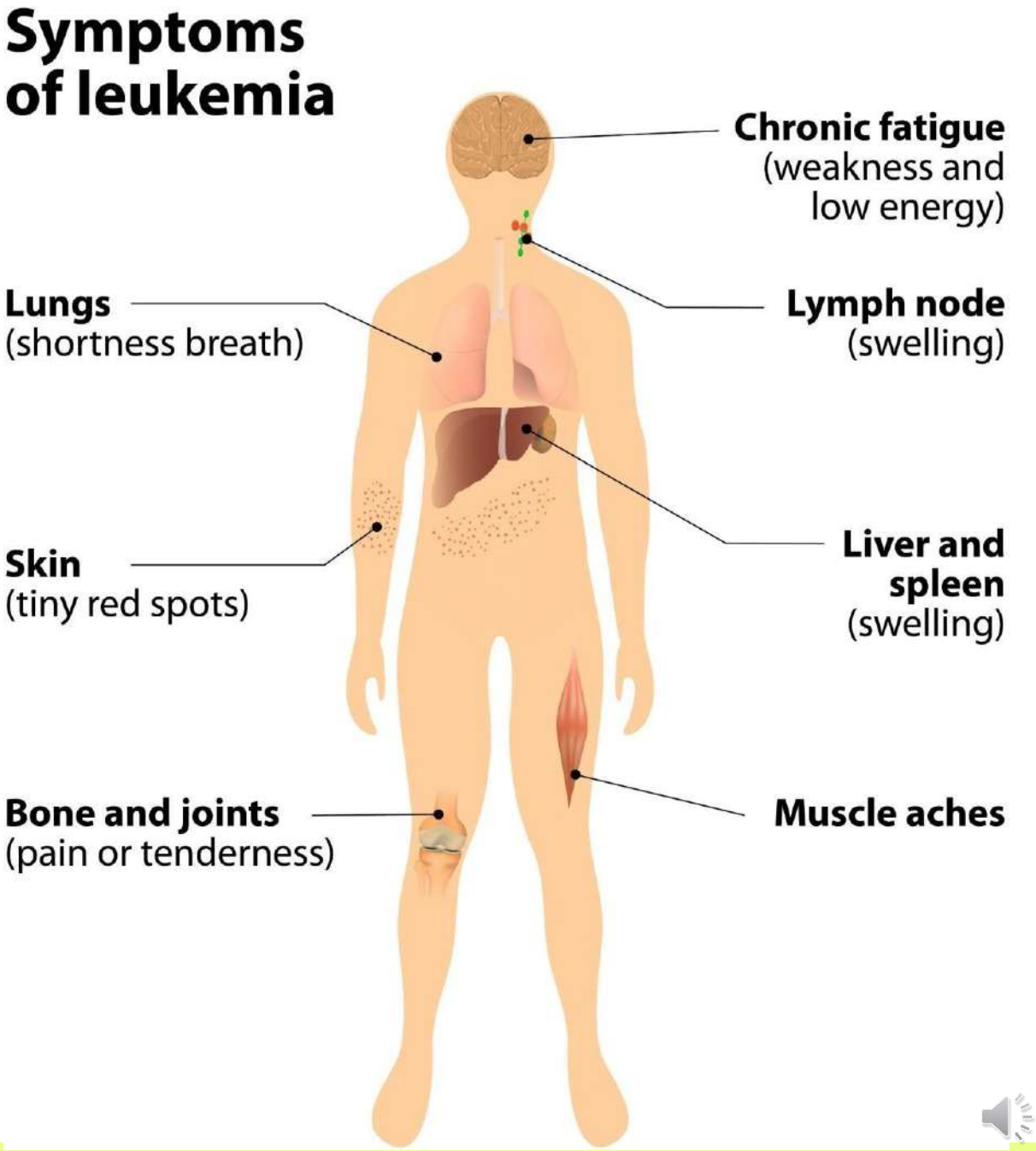
- Decreased number of healthy red blood cells
- **Causes:**
  - Blood loss
  - Faulty RBC production
  - Iron-deficiency anaemia
  - Sickle cell anaemia



Leukaemia

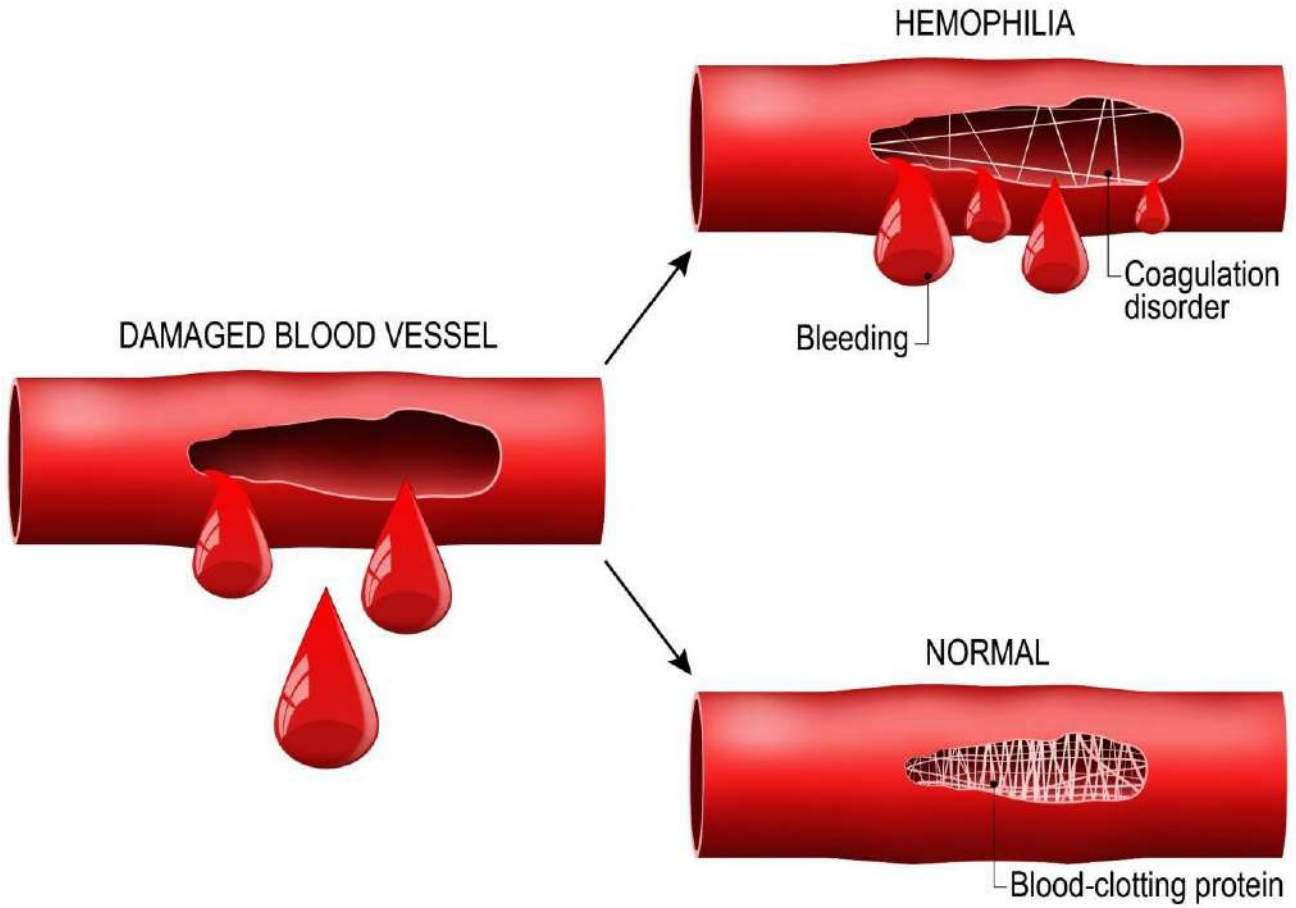
- Cancer of blood cells

- Symptoms:
  - pain in the bones or joints,
  - swollen lymph nodes that usually don't hurt
  - fevers or night sweats,
  - feeling weak or tired,
  - bleeding and bruising easily



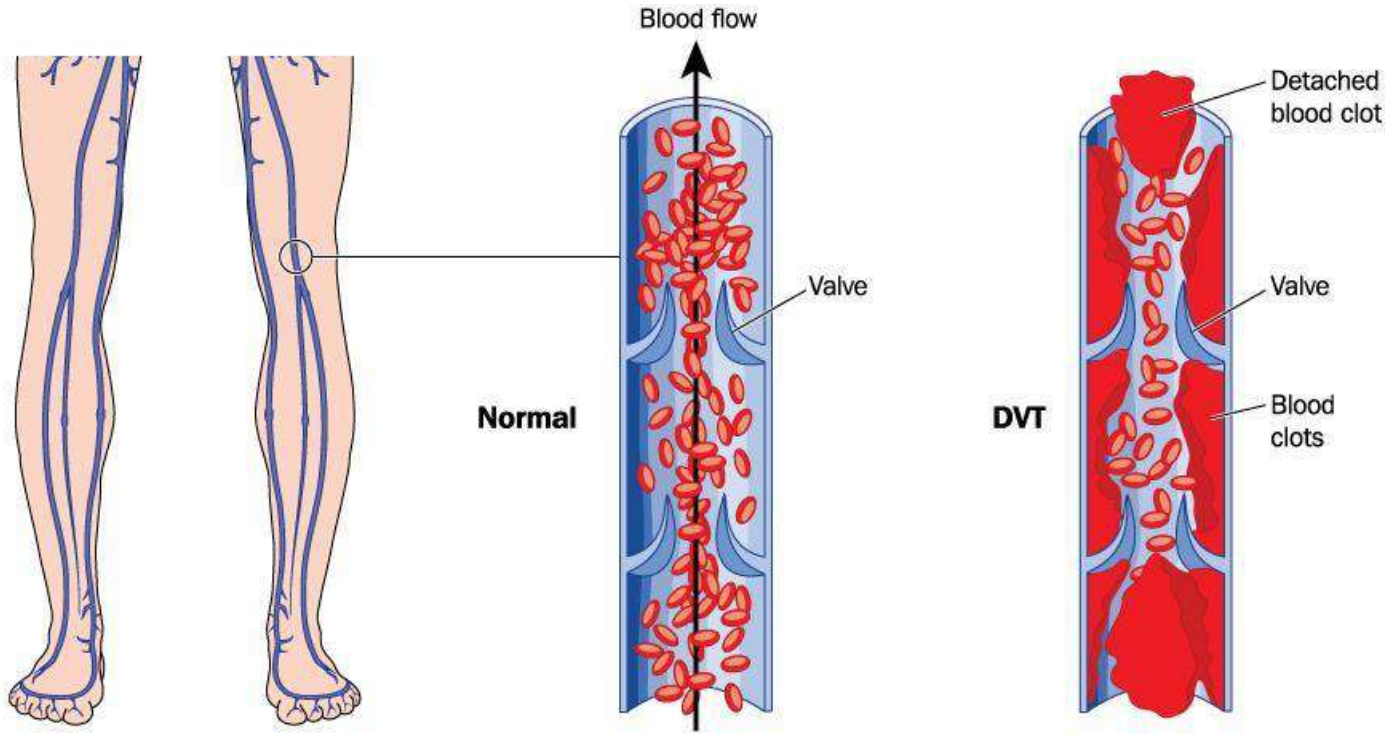
Haemophilia

- Rare condition that affects blood's ability to clot
- Gene mutation
- Males > females
- Excessive bleeding – nose, gums etc., easy bruising, joint pain
- Treatment:
  - replacement of blood clotting factors
  - blood transfusion



DVT

- Blood clot forms in a vein, generally in leg
- Pulmonary embolism can develop
- Symptoms:
  - Swelling in lower leg (one side)
  - Unexplained pain
  - Redness, heat
- Treatment:
  - Medication
  - Thrombolytic drugs
  - Compression stocking
  - Filter



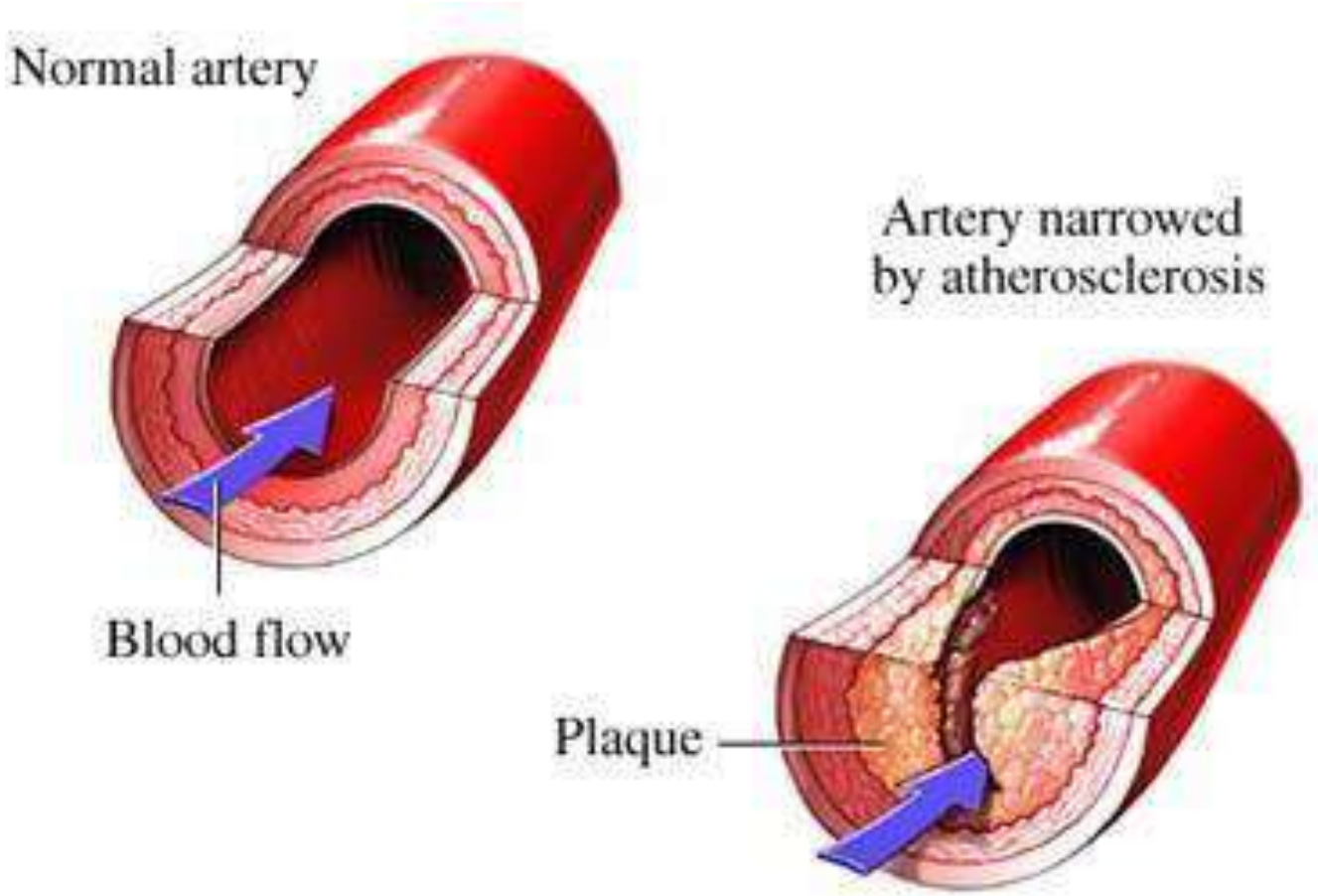


Oedema

- Swelling caused by excess fluid trapped in your body's tissues



Arteriosclerosis



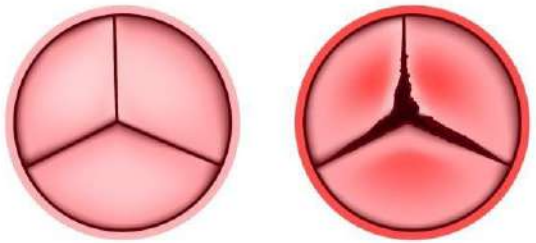
Gangrene/necrosis



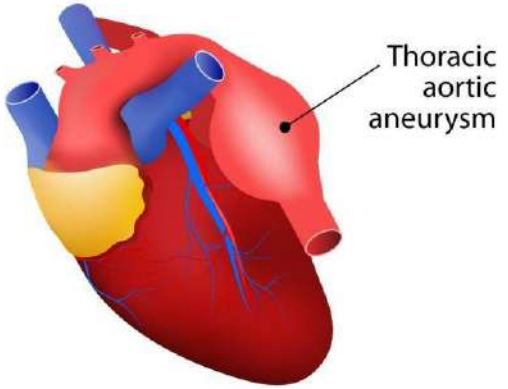
Tachycardia/Bradycardia

- Arrhythmia: abnormal heart rhythm
- Bradycardia: slower rhythm
- Tachycardia: faster rhythm
- Palpitations: sensation of feeling your own heart beating.
- Atrial fibrillation: irregular abnormal heart rhythm that starts in the atria.
- Ventricular fibrillation: fast heart rhythm-cardiac arrest-emergency

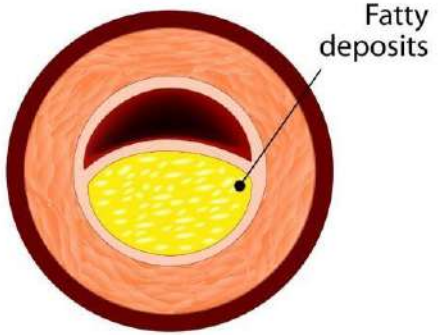
Types of heart disease



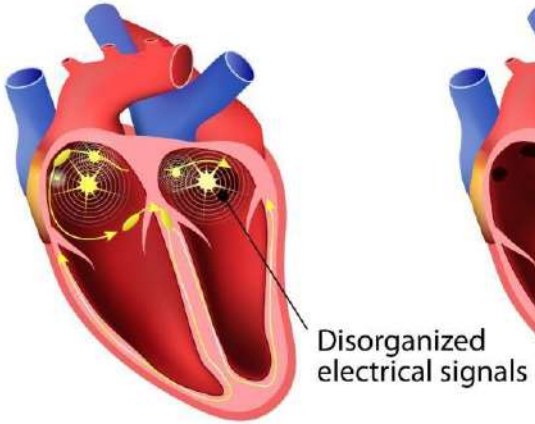
Valve disease



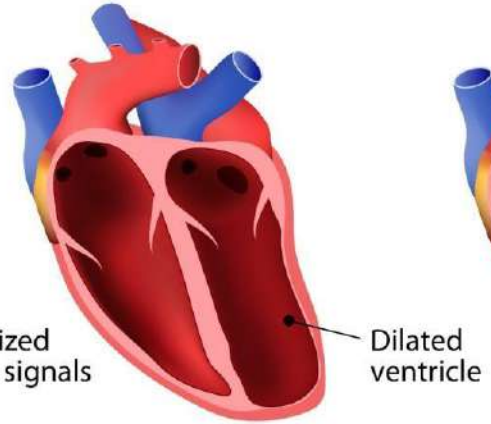
Aneurysm



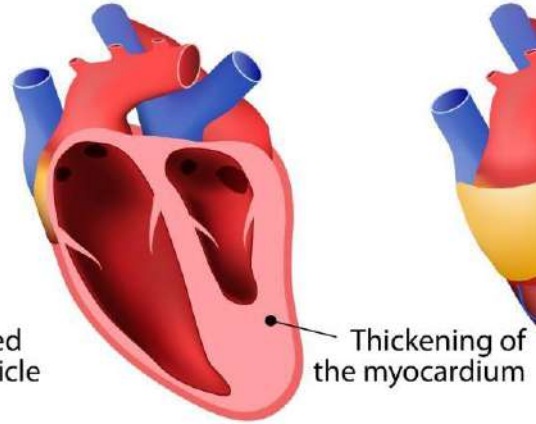
Coronary artery disease



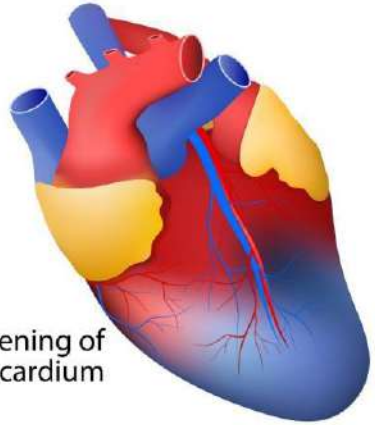
Cardiac arrhythmia



Heart failure

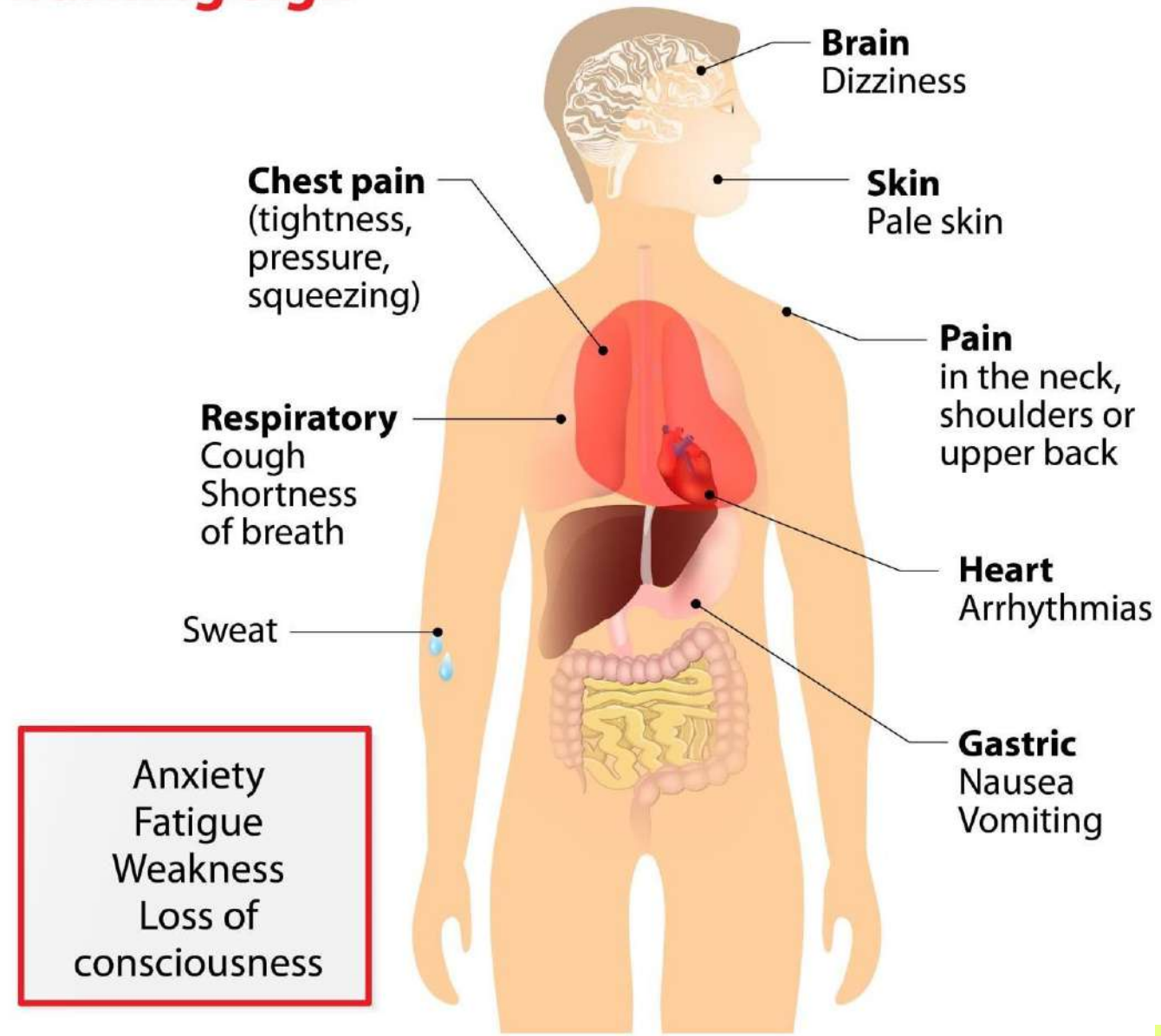


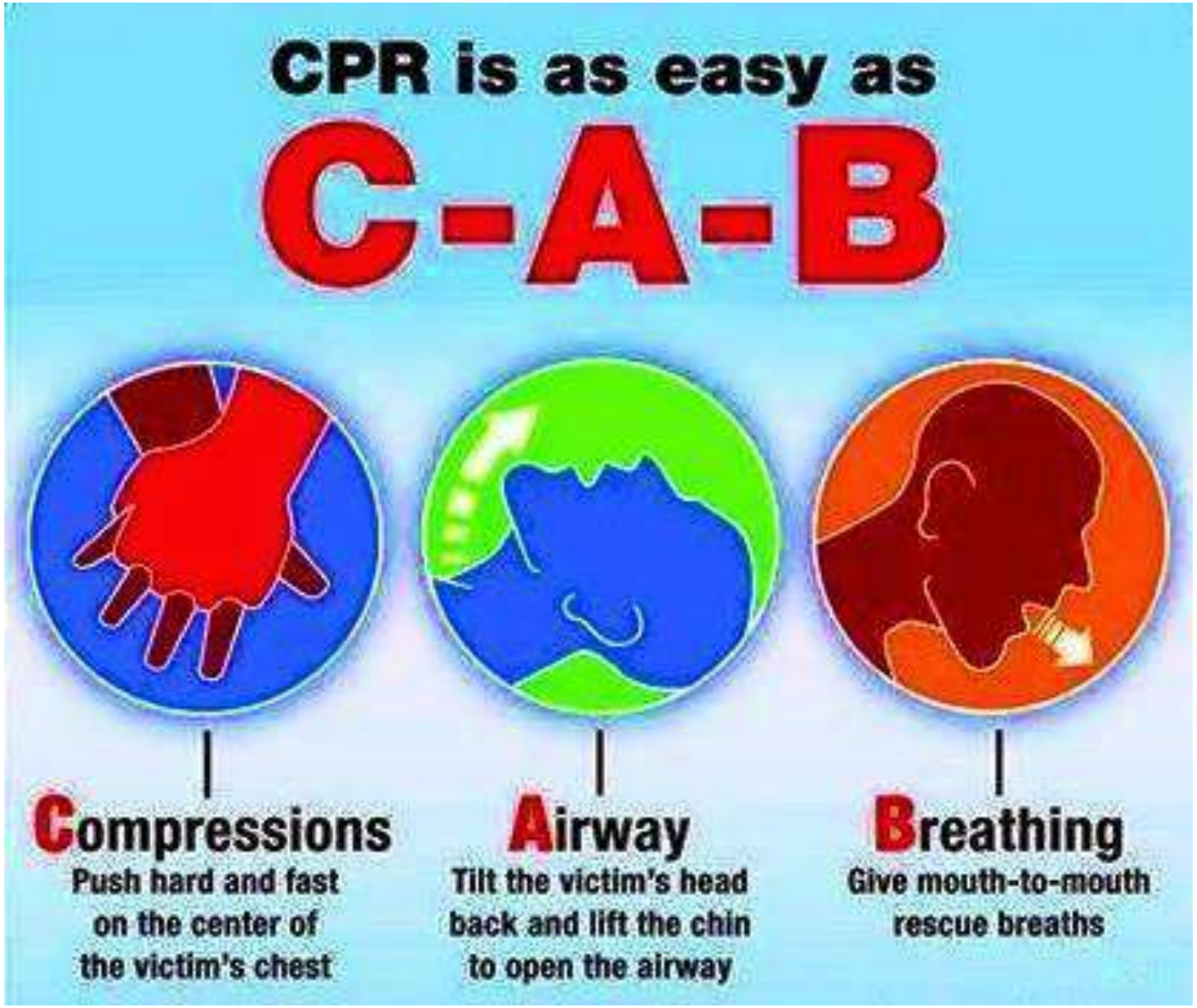
Cardiomyopathy



Pericarditis

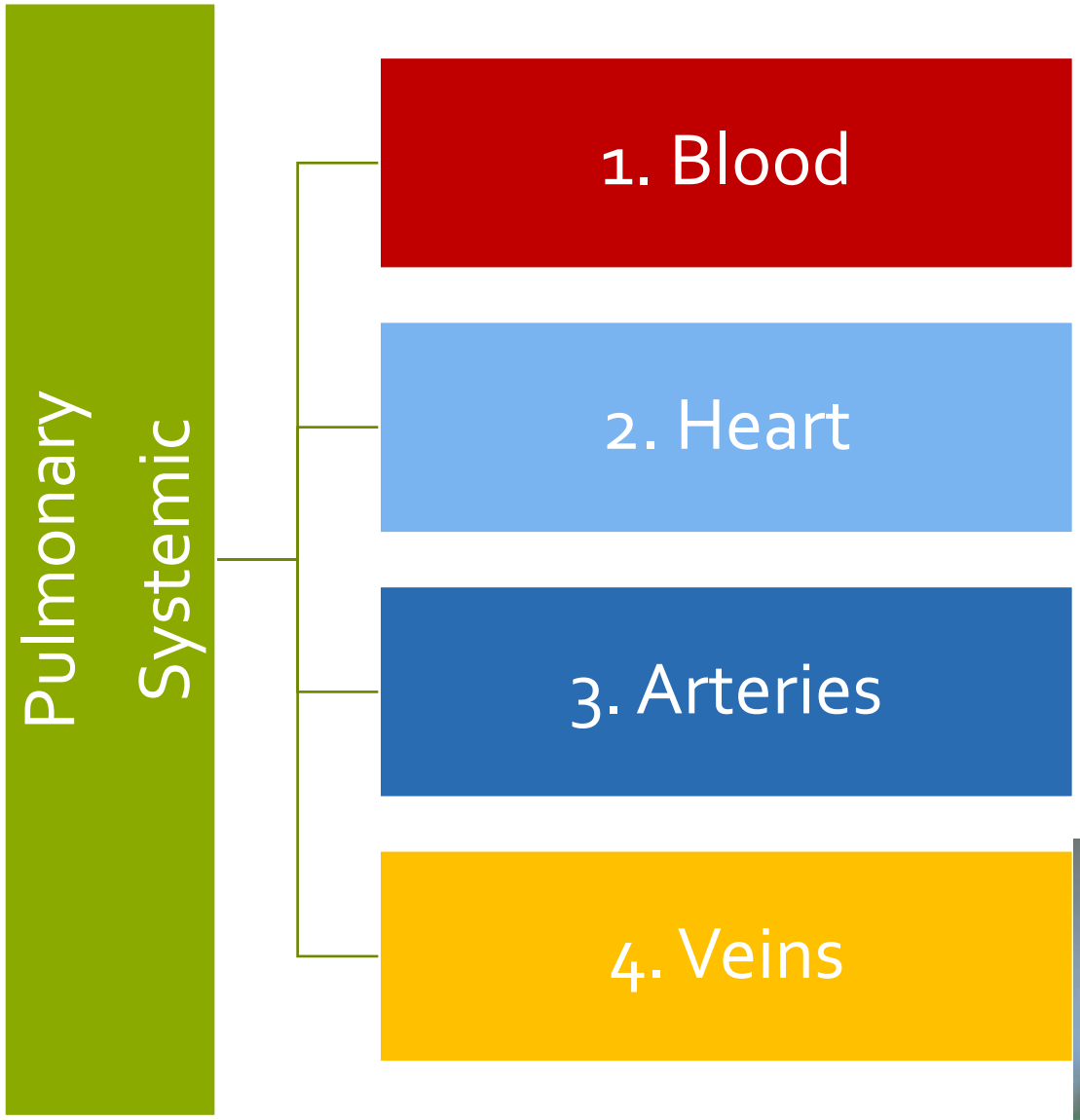
HEART ATTACK
warning sign




CPR is as easy as
C-A-B
Compressions
Push hard and fast on the center of the victim's chest
Airway
Tilt the victim's head back and lift the chin to open the airway
Breathing
Give mouth-to-mouth rescue breaths

Recap

- Blood carries nutrients and O2 to the tissues
- It collects waste and CO2
- The heart is the circulatory pump
- Arteries and veins are the transport mechanism
- Oxygenated blood flows from the heart to the body
- Deoxygenated blood taken to the lungs for gaseous exchange





Interrelationships

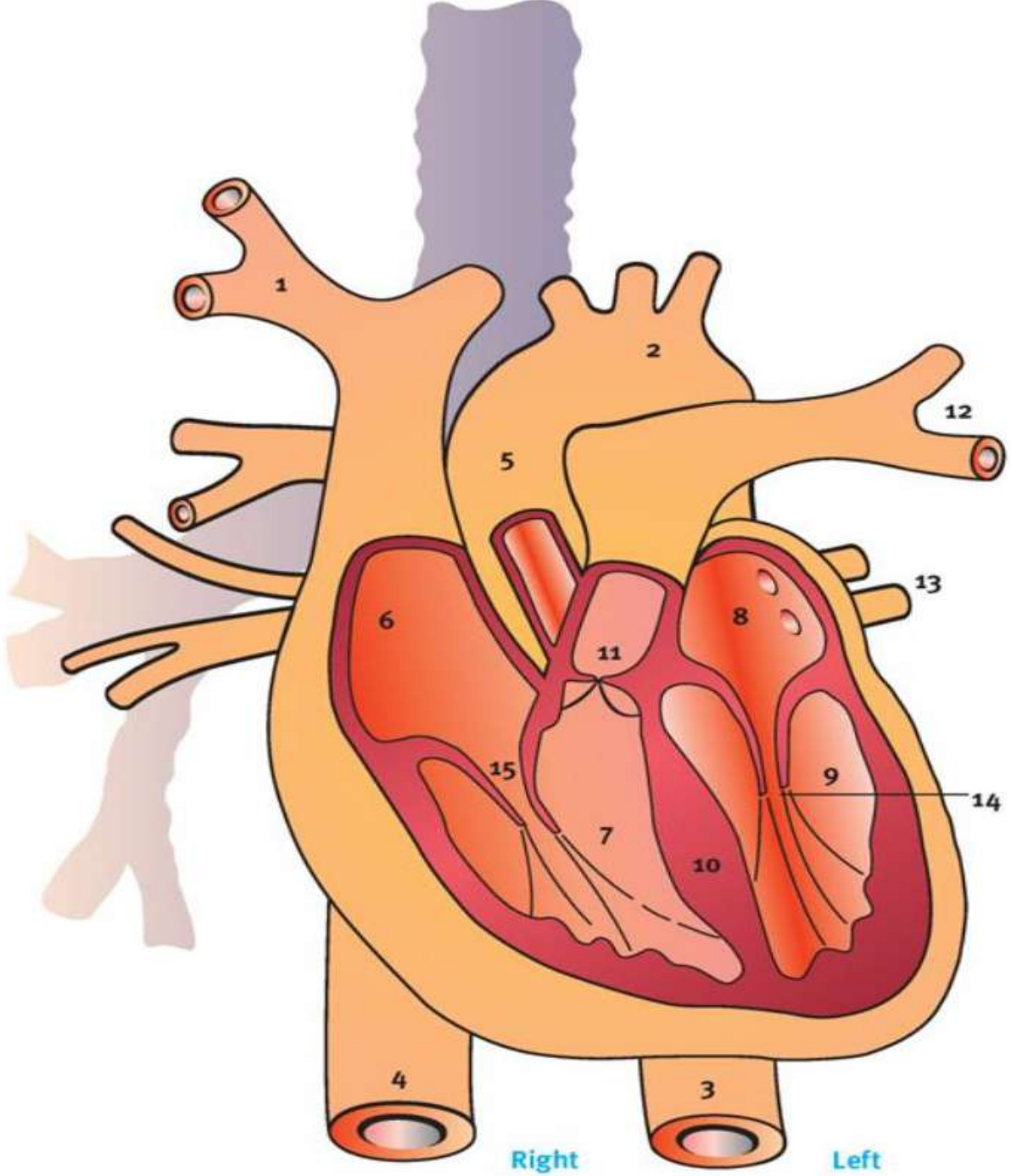
- Respiratory
- Lymphatic
- Endocrine
- Digestive
- Muscular
- Urinary
- Skeletal
- Skin





Appendix





Key

1. Superior vena cava
2. Aortic arch
3. Descending aorta
4. Inferior vena cava
5. Aorta
6. Right atrium
7. Right ventricle
8. Left atrium
9. Left ventricle
10. Septum
11. Pulmonary valve
12. Pulmonary arteries
13. Pulmonary veins
14. Mitral (bicuspid) valve
15. Tricuspid valve

Arteries

- **Function** – carry oxygenated blood from the heart (except pulmonary artery)

- **Structure**
  - Thick walls
  - 3 layers:
    - Outer: Fibrous covering
    - Middle: Muscle & elastic tissue. Allows expansion and contraction
    - Inner: Squamous epithelial tissue
- Large – Small – Arterioles – Capillaries
  - Arterioles stay slightly contracted to maintain blood pressure
  - Capillaries – one cell thick. Carries gas and nutrients via interstital fluid to all tissues

- Did you know? On average, the heart pumps 36,000 litres of blood through the body in 24 hours!

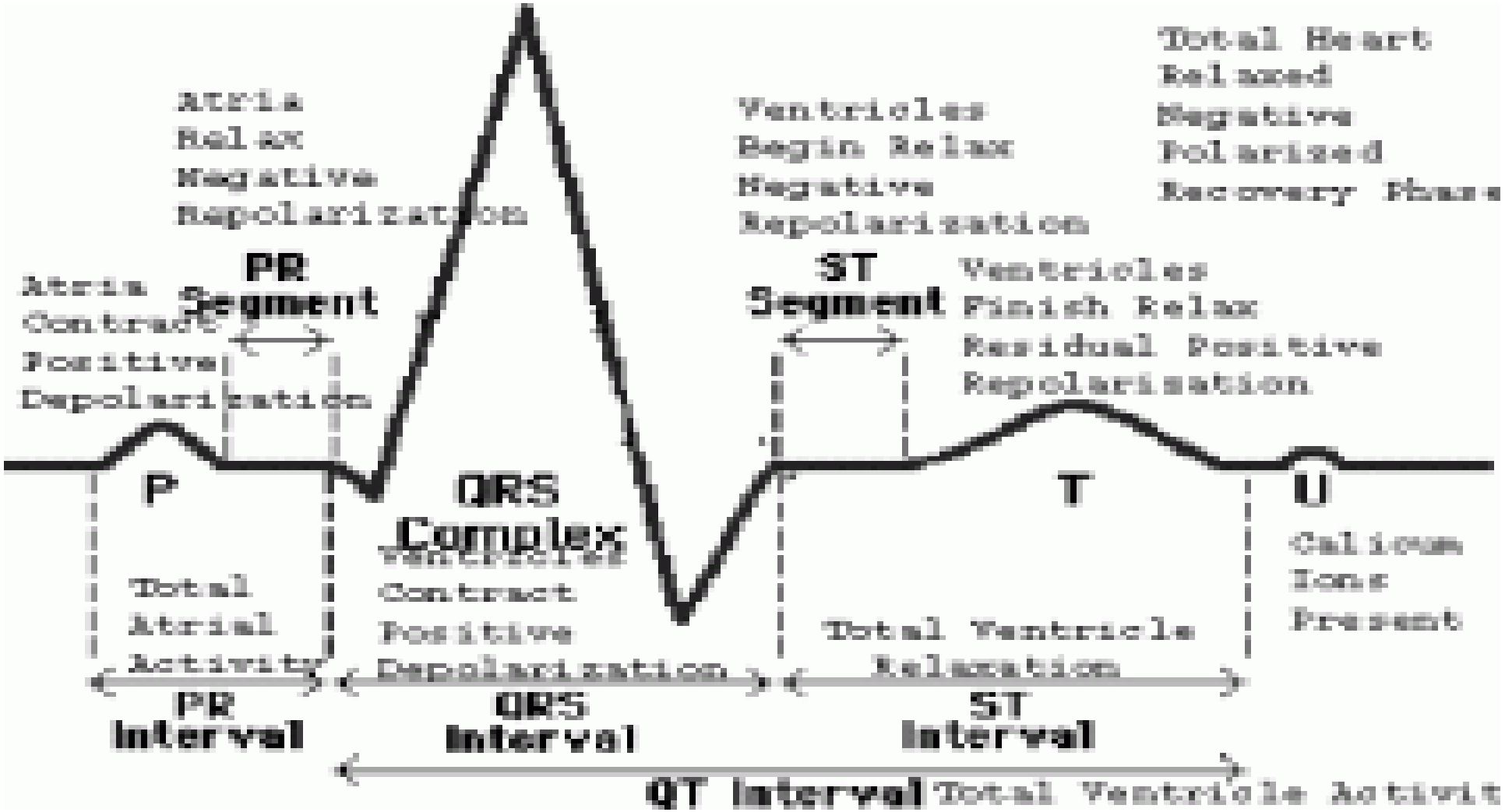


Veins

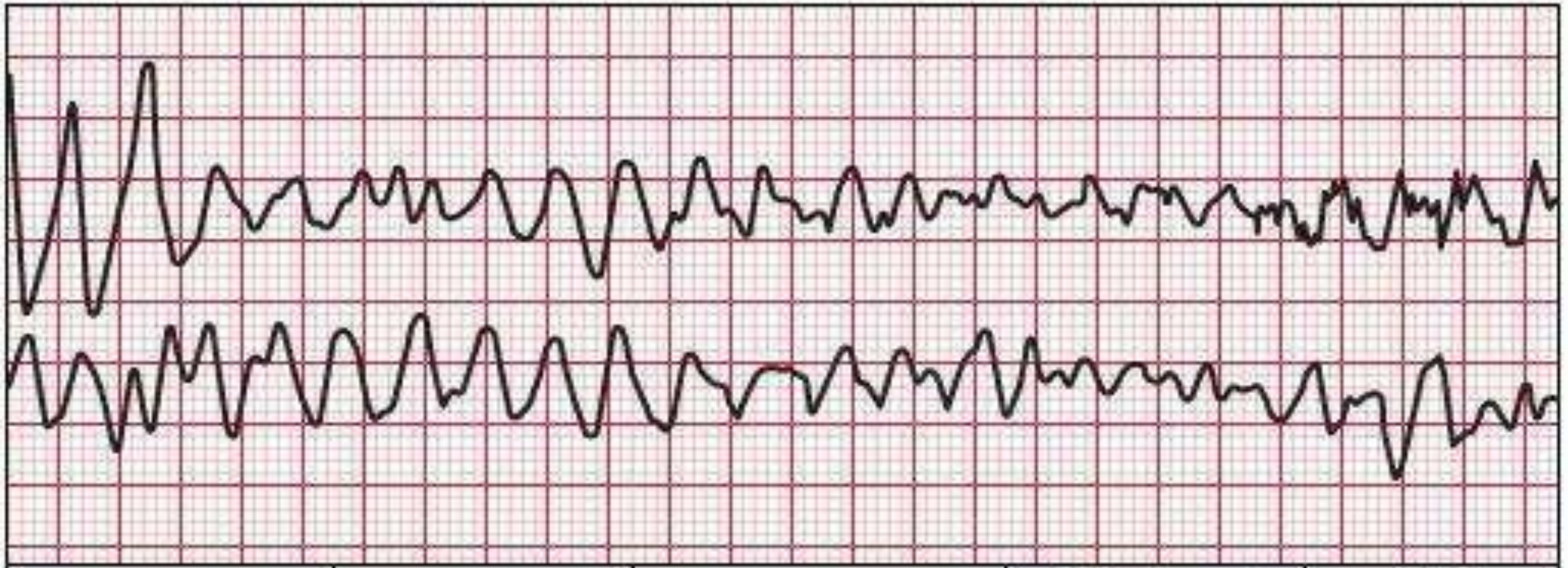
- 3-layered walls, similar in structure to arteries
- Much thinner, larger lumen
- Skeletal muscles push blood through veins
- Valves prevent backflow of blood

Function:

- Systemic veins carry deoxygenated blood back to the heart
- Pulmonary veins carry oxygenated blood to the heart


Total Heart
Relaxed
Negative
Polarized
Recovery Phase
Atria
Relax
Negative
Repolarization
Ventricles
Begin Relax
Negative
Repolarization
PR
Segment
ST
Segment
Ventricles
Finish Relax
Residual Positive
Repolarization
Atria
Contract
Positive
Depolarization
P
QRS
Complex
T
U
Calcium
Ions
Present
Total
Atrial
Activity
Ventricles
Contract
Positive
Depolarization
Total Ventricle
Relaxation
PR
Interval
QRS
Interval
ST
Interval
QT Interval
Total Ventricle Activit

Ventricular Fibrillation



Heart Rate	Rhythm	P Wave	PR interval (in seconds)	QRS (in seconds)
300-600	Extremely irregular	Absent	N/A	Fibrillatory baseline