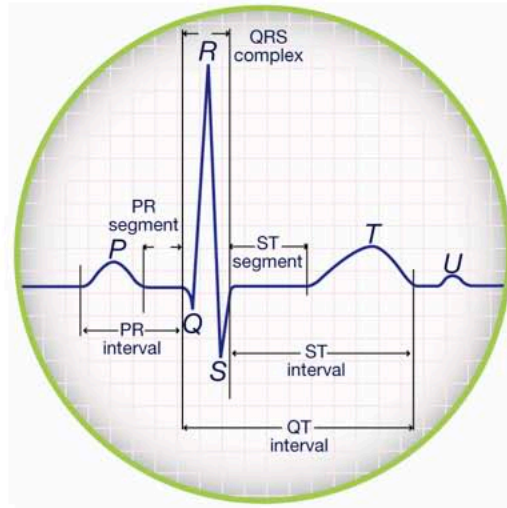


Electrocardiogram (ECG)

An electrocardiogram is a graphical representation of the electrical activity in the heart. It can be further broken down into components which correlate to cardiac action potentials. Alterations in this normal pattern are indicative of abnormal cardiac function or structure.

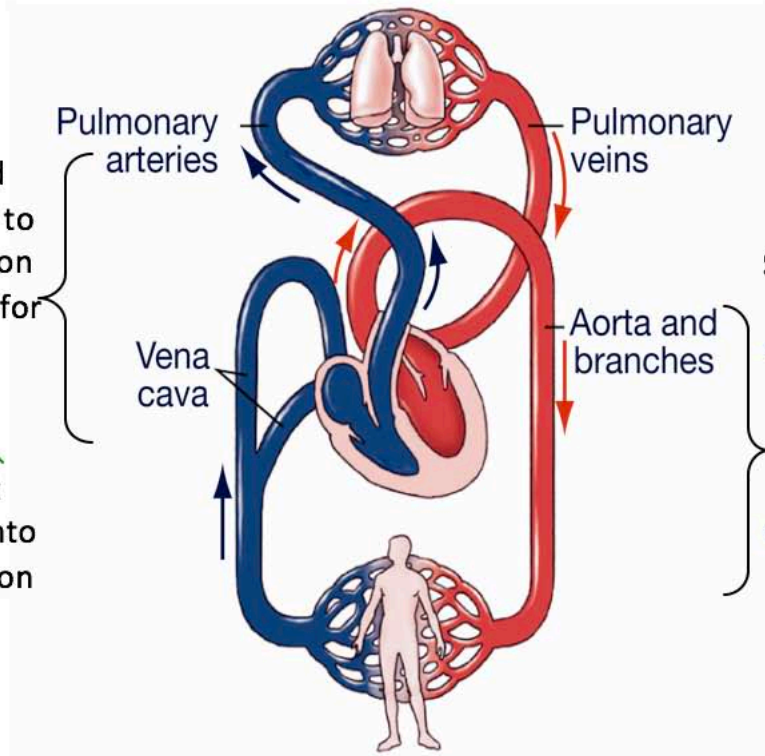


Component	Measurement
P wave	<ul style="list-style-type: none">• The atria are activated by an electrical impulse from the SA node
PR interval	<ul style="list-style-type: none">• Represents the interval (period) from the onset of atrial activation to ventricular activation
QRS complex	<ul style="list-style-type: none">• Activation and duration of the ventricles by the impulse
ST segment	<ul style="list-style-type: none">• Represents the period from the end of ventricular depolarization to the beginning of ventricular repolarization
ST-T wave	<ul style="list-style-type: none">• Represents ventricular repolarization
QT interval	<ul style="list-style-type: none">• Time required for the excitation, contraction, and recovery of the ventricles
T wave	<ul style="list-style-type: none">• Ventricles return to a resting state

Major Circulatory System

Pulmonary Circulation

- Carries deoxygenated blood from the heart to the lungs where carbon dioxide is exchanged for oxygen
- Oxygenated blood is returned to the heart where it is pumped into the systemic circulation

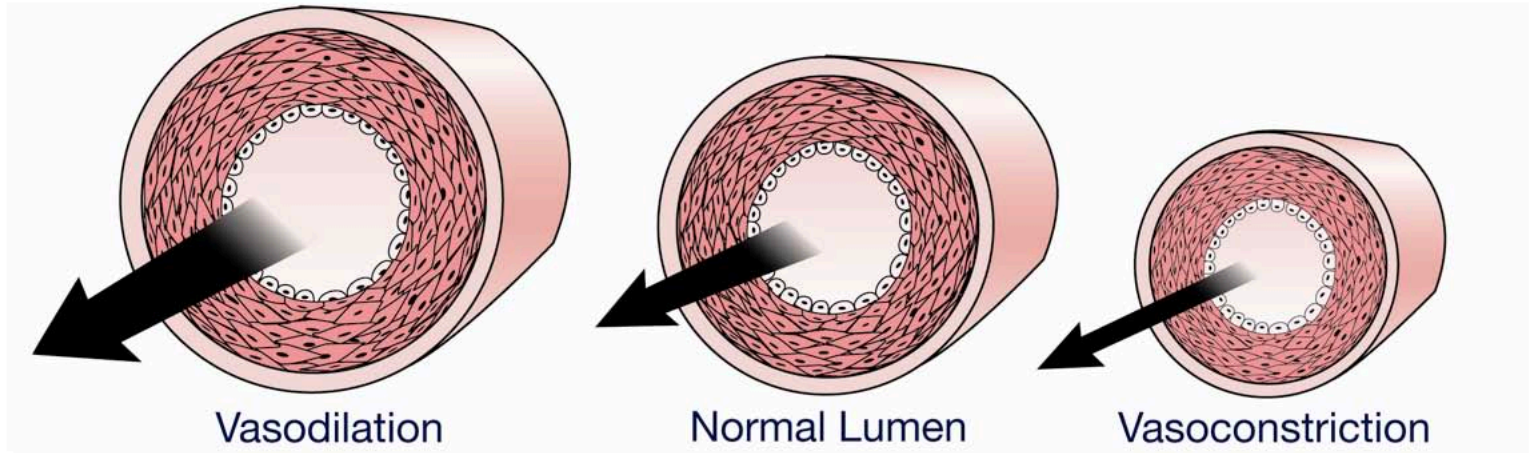


Systemic Circulation

- Carries oxygenated blood from the heart to the body tissues
- Returns deoxygenated blood through the veins back to the heart

Dilation and Constriction of Blood Vessels

Vascular resistance is the resistance to blood flow through the body's blood vessels. The body can accommodate the physiological needs of the body by vasodilation and vasoconstriction.



- Relaxed blood vessel
- Decreased blood flow resistance
- Decreased blood pressure

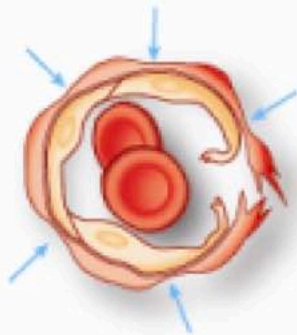
- Constricted blood vessel
- Increased blood flow resistance
- Increased blood pressure

Coagulation ← Hemostasis → Fibrinolysis

Coagulation

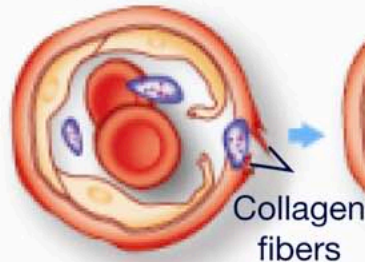
- Hemostasis (stoppage of bleeding) occurs when the constituents in the blood form a clot from damaged vessels
- Disruptions in this process can lead to thrombosis, or undesirable clot formation

Vascular spasms



Platelet plug formation

Injury to vessel lining
exposes collagen
fibers; platelets adhere



Coagulation

