

# Heart chapter 18 summary



**ASSIGN  
BUSTER**

Size of heart? like a clenched fist  
 Heart location? mediastinum of thorax  
 Heart is enclosed in a double sac made of \_\_\_\_\_ parietal outer layer and \_\_\_\_\_ visceral inner layer. Outer Fibrous pericardium and Inner Serous pericardium  
 Pericardial cavity between serous layers contains \_\_\_\_\_ serous fluid, for lubrication  
 Heart wall layers from inside out are \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_ Endocardium

Myocardium, which is reinforced by fibrous skeleton

Epicardium, visceral layer of the serous pericardium

Heart is single or double pump? DOUBLE. It's only single as a fetus. Entering the Right Atrium are the..... superior vena cava, inferior vena cava, and coronary sinus  
 What enters the Left Atrium? 4 pulmonary veins  
 Right Ventricle discharges blood into the \_\_\_\_\_ pulmonary trunk  
 Left Ventricle pumps blood into the \_\_\_\_\_ aorta  
 The Right side of the Heart is the \_\_\_\_\_ circuit pump  
 pulmonary circuit pump.

Oxygen poor blood enters Right Atrium, then right ventricle, through the pulmonary trunk to the lungs, and back to the Left Atrium via Pulmonary Veins

Left side of Heart is the \_\_\_\_\_ circuit pump  
 Systemic circuit pump.

Oxygen Rich blood enters Left Atrium from Lungs flows into Left Ventricle, then into Aorta, which provides supply to all body.

Systemic veins return the oxygen depleted blood to the Right Atrium

Right and Left Coronary arteries branch from the \_\_\_\_\_ Aorta and via their main branches; ant and post interventricular, right marginal, and circumflex arteries Blood delivery to myocardium occurs during \_\_\_\_\_ heart relaxation 2 kinds of Atrioventricular valves are \_\_\_\_\_ and \_\_\_\_\_ tricuspids and mitral Tricuspid valves do what? prevent back flow into atria when ventricles are contracting Mitral valves do what? prevent back flow into atria when ventricles are contracting Pulmonary and Aortic valves or Semilunar valves do what? prevent back flow into the ventricles when the ventricles are relaxing Cardiac muscle structure description branching striated mostly uni nucleus cells contain myofibrils that have sarcomeres

Adjacent cardiac cells are connected by \_\_\_\_\_ Intercalated discs containing desmosomes and gap junctions. Myocardium behaves as a functional \_\_\_\_\_ because of electrical coupling provided by gap junctions syncytium Membrane depolarization of contractile \_\_\_\_\_ causes opening of sodium channels and sodium entry myocytes Depolarization also opens slow \_\_\_\_\_ channels calcium Calcium entry \_\_\_\_\_ period of depolarization, and creates a \_\_\_\_\_ on the line graph prolongs depolarization

plateau line graph

Compared to skeletal muscle, cardiac muscle has a prolonged \_\_\_\_\_ refractory period that prevents \_\_\_\_\_ tetany Cardiac muscle has

abundant \_\_\_\_\_ and depends almost entirely on \_\_\_\_\_ to make ATP mitochondria

Aerobic respiration

True or False?

Certain non-contractile cardiac muscle cells exhibit automaticity and rhythmicity and can independently initiate action potentials.

True What cells compose intrinsic conduction system of heart? non contractile cardiac muscle cells that exhibit automaticity, which means an automatic response pattern or habit, and rhythmicity that can independently initiate APs Normal heart sounds arise from turbulent blood flow during the closing of heart valves. Abnormal heart sounds are called \_\_\_\_\_, and usually reflect problems with \_\_\_\_\_ murmurs reflect valve problems During mid-to-late diastole... Ventricles fill, Atria contract. Ventricular systole consists of the... isovolumetric contraction phase and the ventricular ejection phase During early diastole.. the ventricles are relaxed and are closed chambers until the atrial pressure exceeds the ventricular pressure, forcing the AV valves open. Normal heart rate is \_\_\_\_\_, and a cardiac cycle lasts \_\_\_\_\_ 75 beats per minute, and

cardiac cycle lasts 0.8 seconds Pressure changes promote what? blood flow and valve opening and closing Cardiac output is? the amount of blood pumped out by EACH Ventricle in 1 minute Stroke volume is? About 70 ml, it is the difference between end diastolic volume and end systolic volume.

Anything that influences heart rate or blood volume, hence stroke volume

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depending on how much cardiac muscle stretches due to venous return.

Activation of sympathetic nervous system increases \_\_\_\_\_ and \_\_\_\_\_ heart rate and contractility. Parasympathetic activation decreases \_\_\_\_\_ but has little effect on \_\_\_\_\_. decreases heart rate, little effect on contractility. Chemical regulation of heart is effected by \_\_\_\_\_ and \_\_\_\_\_. Hormones, like epinephrine and thyroxine, and ions, like potassium and calcium.

Ion imbalances impair heart activity

Congestive heart failure occurs when heart can't pump enough to provide normal body circulation needs. Heart begins as a simple \_\_\_\_\_ tube. Mesodermal. Heart starts pumping by what week? 4th gestational week.

Fetal heart has \_\_\_\_\_ number of lung bypasses. 2.

foramen ovale

and

Ductus arteriosus

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