Cardiac Cycle - Systole

Systole is the stage of the cardiac cycle associated with the heart pushing blood out to the lungs and the rest of the body. It picks up where diastole leaves off, with the ventricles filled with blood. The signal that began at the sinoatrial node now travels to the atrioventricular (AV) node, located in between the atria and the ventricles. It travels through the bundle of His, down the path in between the ventricles, and stimulates the Purkinje fibers that distribute electrical signal throughout the ventricular muscle. This causes ventricle contraction, pushing blood out of the ventricles. First, the tricuspid valve (between the right atrium and ventricle) and the mitral valve (between the left atrium and ventricle) must be closed to prevent backflow into the atria during ventricular contraction. Next, the pulmonary valve (from the right ventricle to the pulmonary artery) and the aortic valve (from the left ventricle to the aorta) must open to allow blood to flow through. The pulmonary artery takes blood to the lungs to become oxygenated, and the aorta sends the oxygenated blood out to the body.

PLAY PICMONIC

Characteristics

AV Node

AViator-Nose

The signal starts in diastole and reaches the AV node at the start of systole. The AV node sits at the junction of the atria and ventricles.

AV Node Conducts Signal to Bundle of His

AViator-Nose to Bundle of Hissing-snakes

The AV node conducts the signal to the bundle of His, which runs down the path in between the two ventricles.

Bundle of His Signals Purkinje Fibers to Contract Ventricles

Bundle of Hissing-snakes Shocks Pear-king to Contract Vents

The bundle of His signals the Purkinje fibers to contract the ventricles. The Purkinje fibers distribute electrical signals throughout the ventricles.

Tricuspid Valve Closes

Tricycle-cupid-valve is Closed

The tricuspid valve between the right atrium and ventricle closes to prevent backflow into the atrium.

Pulmonary Valve Opens

Valve Opens to Lungs

The pulmonary valve opens to allow blood to flow from the right ventricle to the lungs for oxygen saturation.

Mitral Valve Closes

Mitt-troll stuck in Valve

The mitral valve between the left atrium and ventricle is closed to prevent backflow into the atrium during ventricular contraction.

Aortic Valve Opens

A-orca Valve is Open

The aortic valve opens to allow oxygenated blood to flow from the left ventricle to the aorta and out to systemic circulation.