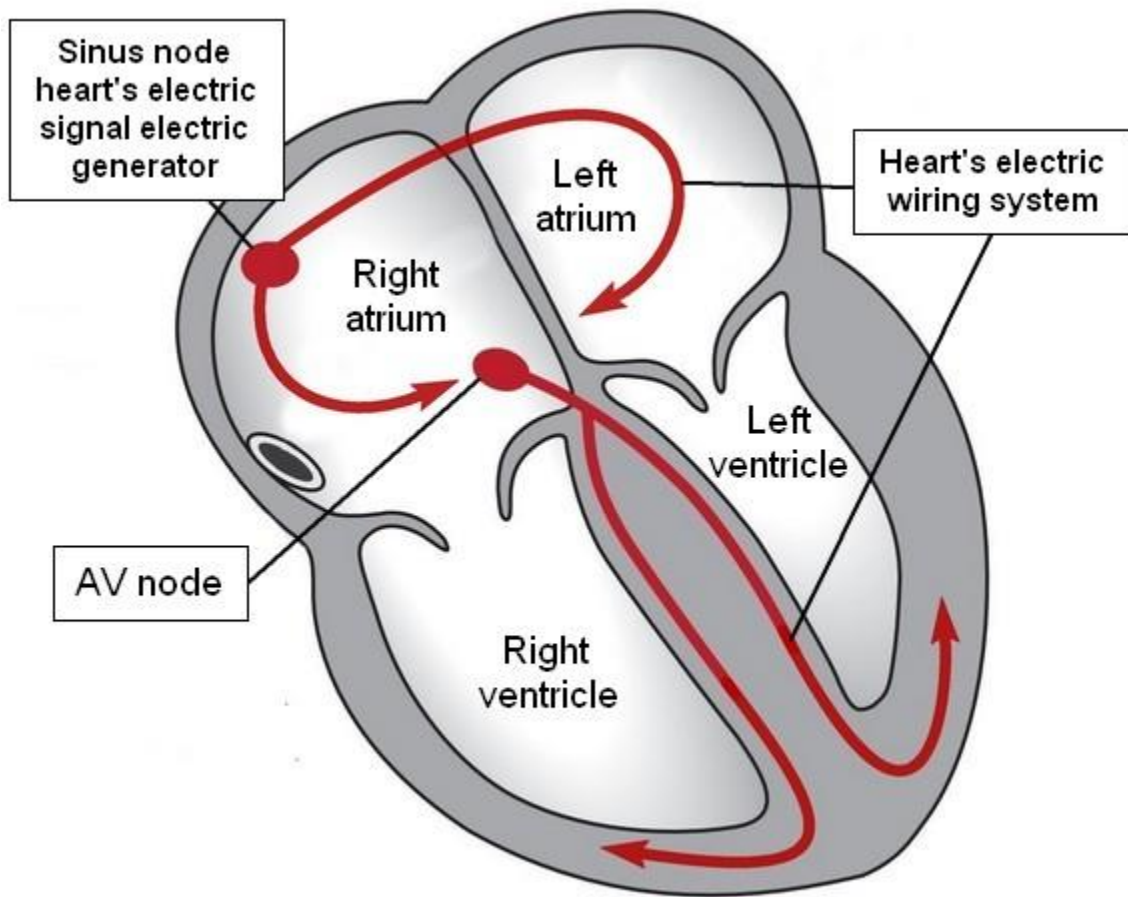


Electrical Components of the Heart

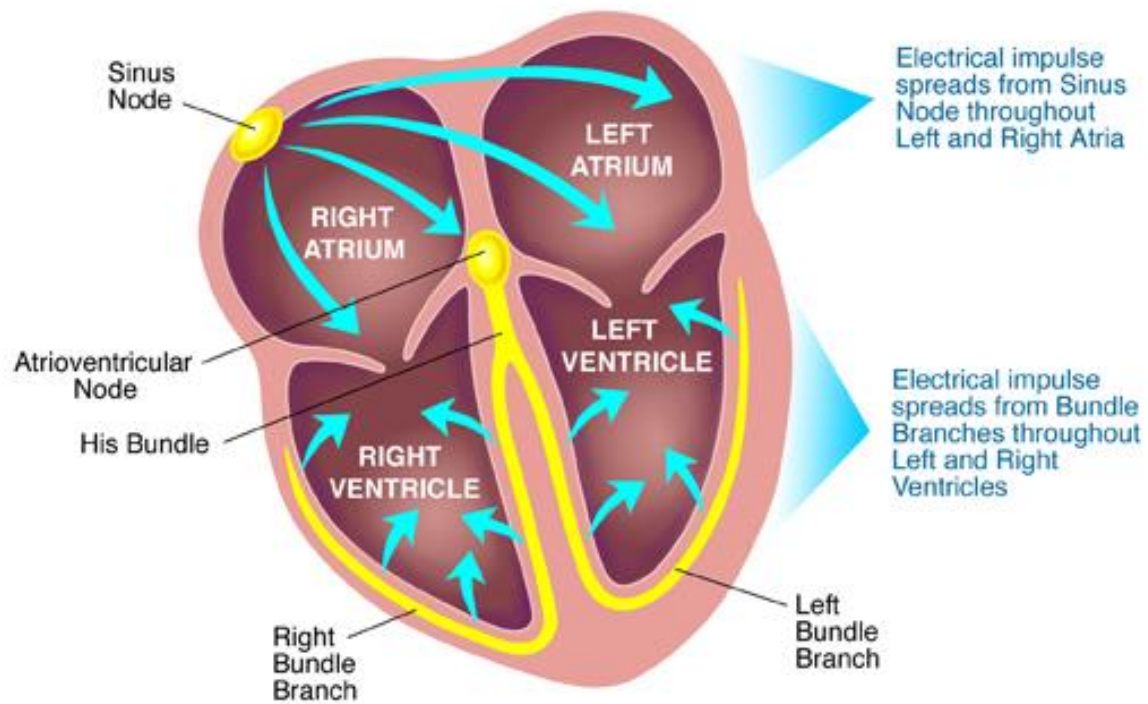
1. **Sinoatrial (SA) Node:** Often called the heart's natural pacemaker, the SA node is located in the right atrium. It generates electrical impulses that initiate each heartbeat.
2. **Atrioventricular (AV) Node:** Located between the atria and ventricles, the AV node acts as a gatekeeper, slowing down the electrical signal before it enters the ventricles. This delay ensures the atria have time to contract and empty their blood into the ventricles.
3. **Bundle of His:** This pathway of fibers conducts the electrical impulses from the AV node to the ventricles.
4. **Right and Left Bundle Branches:** These branches carry the electrical signal through the right and left ventricles.
5. **Purkinje Fibers:** These fibers distribute the electrical impulse throughout the ventricles, causing them to contract and pump blood to the lungs and the rest of the body.

How the Heart Beats

1. **Impulse Generation:** The SA node generates an electrical impulse.
2. **Atrial Contraction:** The impulse spreads through the atria, causing them to contract and push blood into the ventricles.
3. **Impulse Delay:** The impulse reaches the AV node, where it is delayed briefly.
4. **Ventricular Contraction:** The impulse travels through the Bundle of His, right and left bundle branches, and Purkinje fibers, causing the ventricles to contract and pump blood out of the heart



Electrical components of the heart



Electrical acomponents and activity of the heart