

Electrical Anatomy of the Heart



FIGURE 1
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Bachmann's Bundle
LA

KHANACADEMY

ELECTRICAL SYSTEM OF THE HEART

Internodal Tracts

Atrioventricular Node

KHANACADEMY

RV

LV

L anterior fascicle

R bundle



Structures

- SA Node
- Bachmann's Bundle
- Internodal pathways
 - Anterior
 - Medial
 - Posterior
- AV Node
- Bundle of His
- Bundle Branches
- Purkinje Fibers



SA Node

- Fires at a rate of 60-100 beats per minute
- Natural pacemaker of the heart
- Housed in the right atrium



Bachmann's Bundle

- Pathway from right atrium to left atrium



Internodal Pathways

- 3 pathways that connect the SA node to the AV node
 - Anterior
 - Medial
 - Posterior



AV Node

- Fires at a rate of 40-60 beats per minute
- Delays transmission of the electrical impulse, allowing the ventricles to fill with blood and keep blood flowing in the right direction
- Only connection between the atria and ventricles
- Serves as backup pacemaker if the SA node fails



Bundle of His

- Fires at a rate of 40-60 beats per minute
- Carries impulse from AV node to ventricles



Bundle Branches

- Fires at a rate of 20-40 beats per minute
- Carries the impulse from the Bundle of His to right and left ventricles



Purkinje Fibers

- Fires at a rate of 15-20 beats per minute
- Carries the impulse to the individual ventricle cells for a strong contraction



Vocabulary

- Automaticity
- Depolarization
- Ectopic beat