

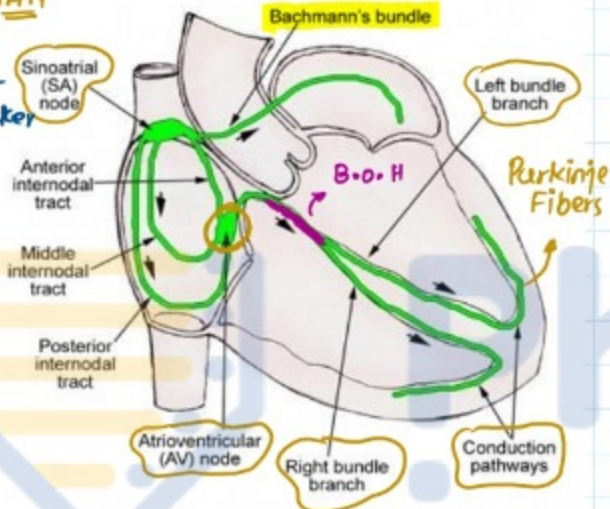
# Mechanism of Heart Excitation and Control

Heart of Heart

Electrical system of the heart

SAN

Natural + Pacemaker



• Own Conductive System

• Influenced by sympathetic & para-sympathetic nervous system.

SA Node  
• Upper, lateral side of RA  
• Bundle of HIS

AV Node  
• 0.15 sec stay  
• Second pacemaker

• SA Node (Martin Fluke)  
• Purkinje Fibers (1839 J. E Purkinje)

→ Tachy-cardia (Speed / H.R ↑↑)  
→ Brady-cardia (Speed / H.R ↓↓)

- STEP - I → SA Node Activity, Atrial Contraction begins
- STEP - II → Stimulus from SA to AV (Atrial Contraction)
- STEP - III → Delay at AV node, Allows ventricles to fill completely
- STEP - IV → AV-node → Bundle of HIS → Purkinje Fibers
- STEP - V → Ventricular Contraction

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**ELECTRO-CARDIO-GRAM** → Non-Invasive medical device

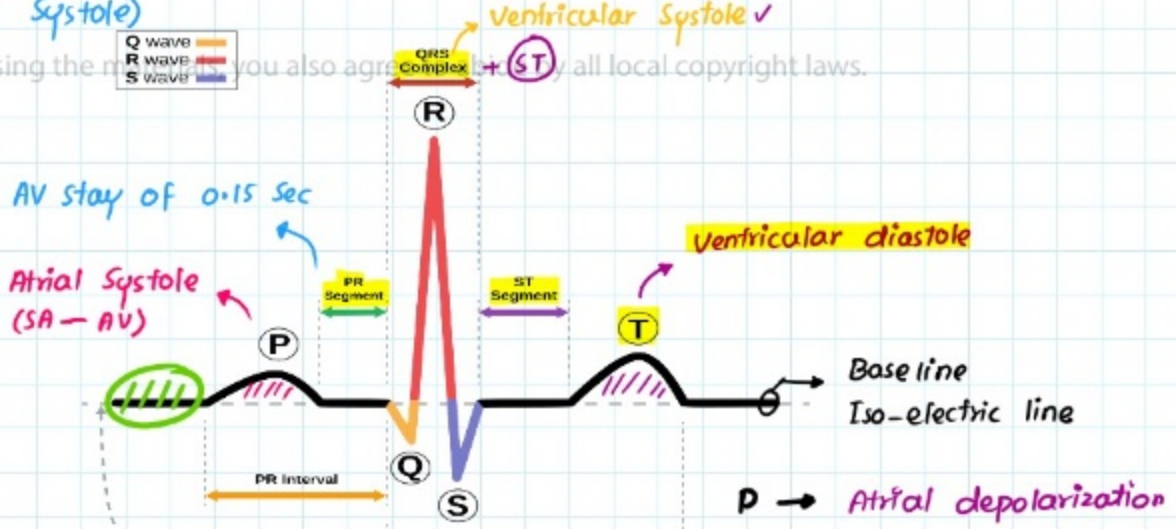
Used to observe electrical conductivity of Heart

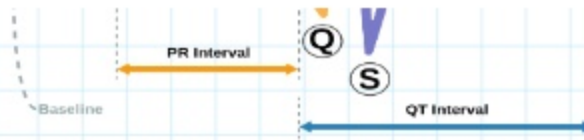
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TP Interval (T wave + Distance)  
(Ventricular Systole)

ECG → Heart  
EEG → Brain

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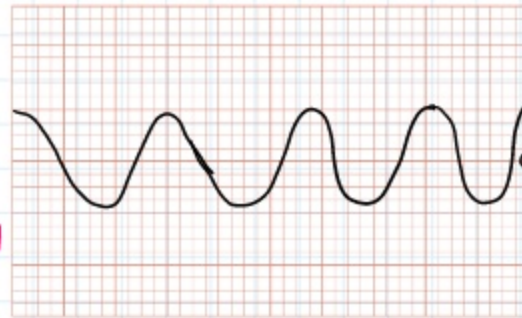




P → Atrial depolarization  
 QRS → Ventricular depolarization  
 T → Ventricular repolarization

ECG Gives information of

- Arrhythmias
- Myocardial infarction
- Atrial enlargement
- Ventricular enlargement
- Bundle Branches Blockage
- Ventricular Fibrillation



→ Iso-electric line

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