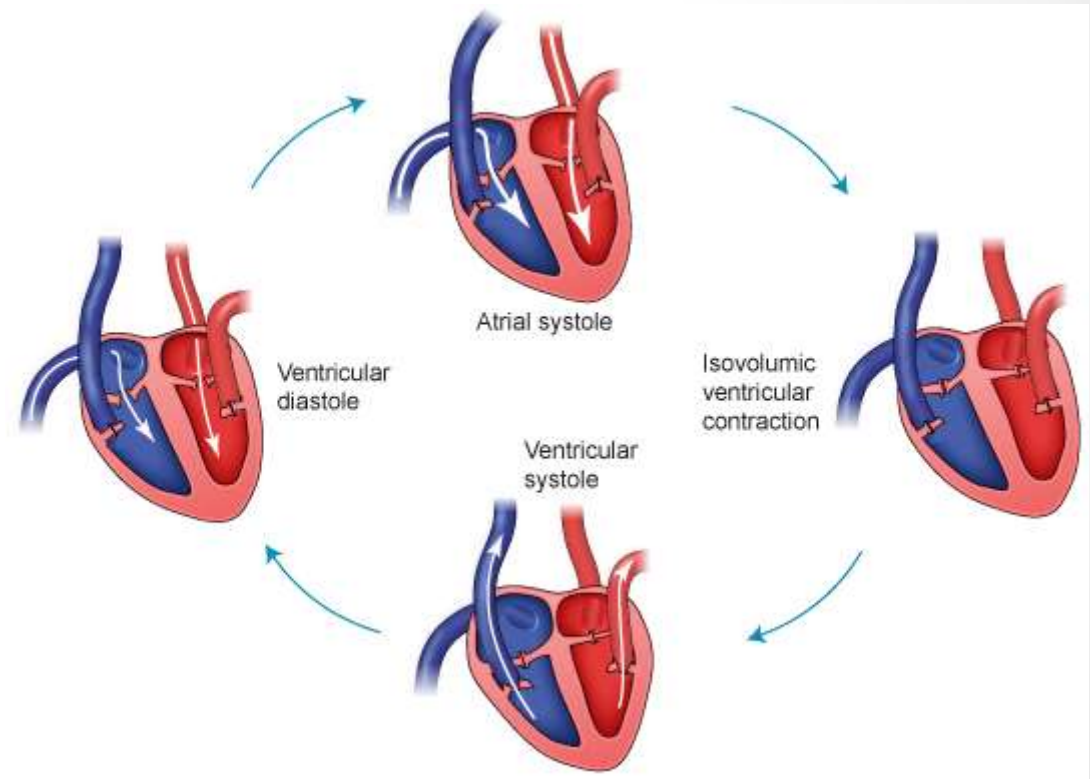


Heart Physiology

EQ: Where does the lub dub sound of a heart beat originate?

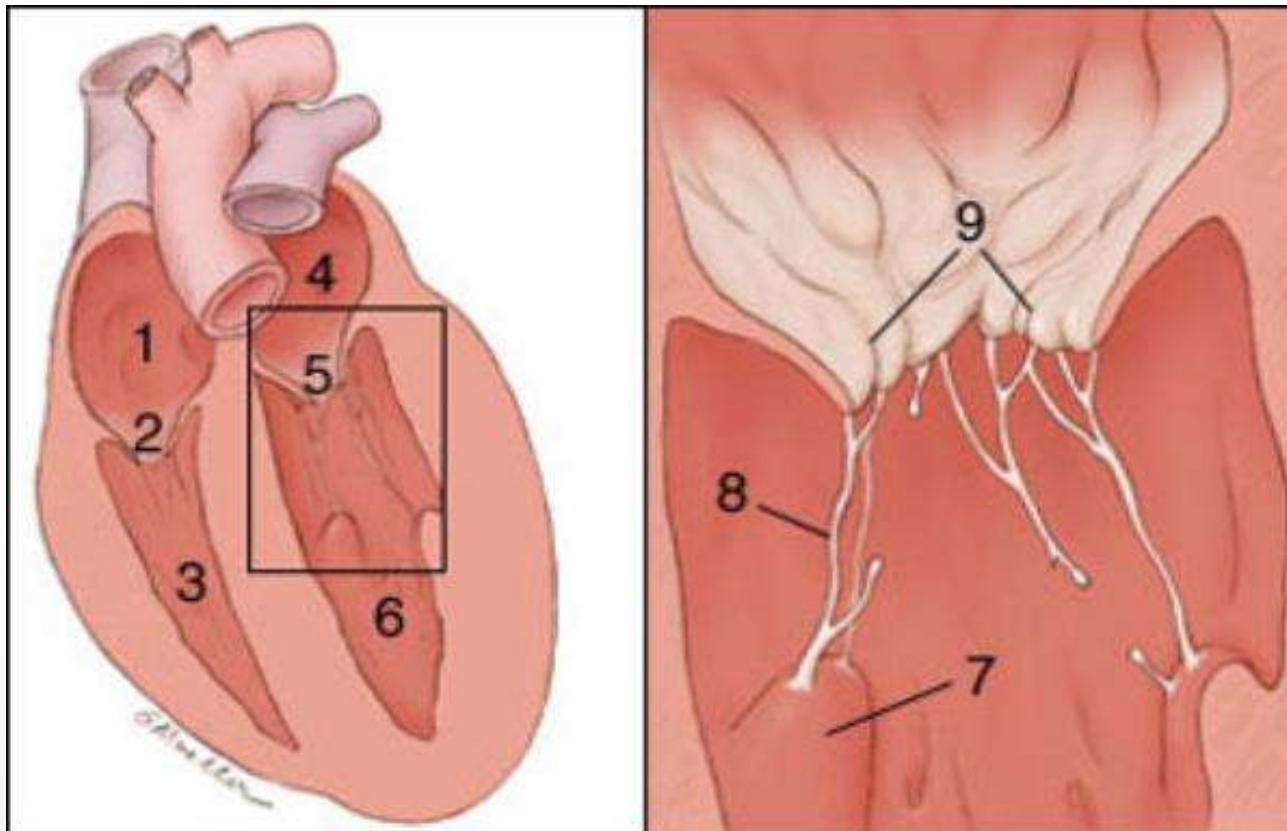
Cardiac Cycle

- A **cardiac cycle** is one complete heartbeat
- When a heart chamber contracts it is called **systole**
- When a chamber is relaxing it is called **diastole**

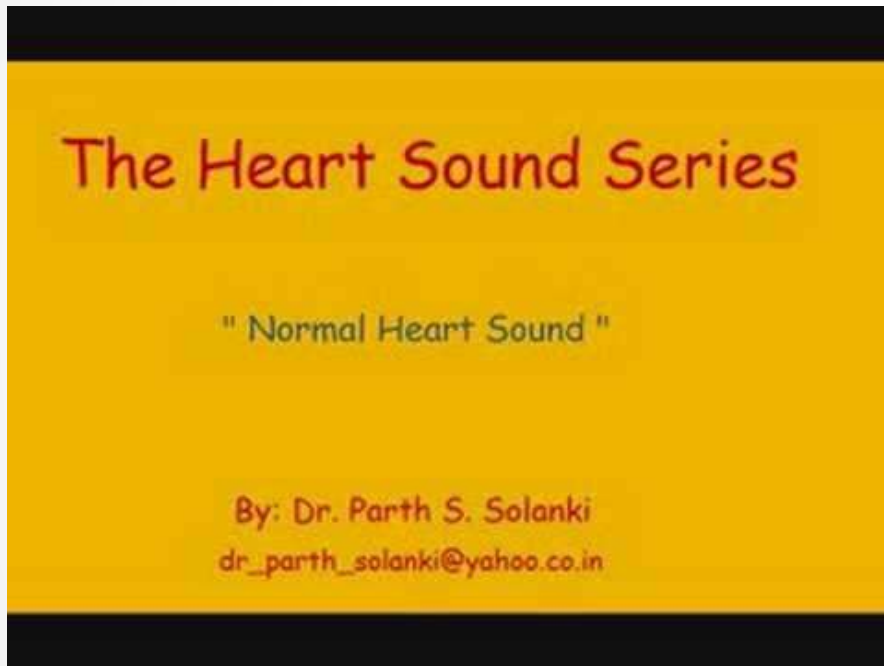


The **cusps** (flaps) of the bicuspid and tricuspid valves are anchored to the ventricle walls by fibrous “cords” called **chordae tendineae**, which attach to the wall by **papillary muscles**.

This prevents the valves from being pushed up into the atria during ventricular systole.



Heart Sounds - Opening and Closing of Valves, "Lub Dub"



Making a Heart Beat – Cardiac Conduction

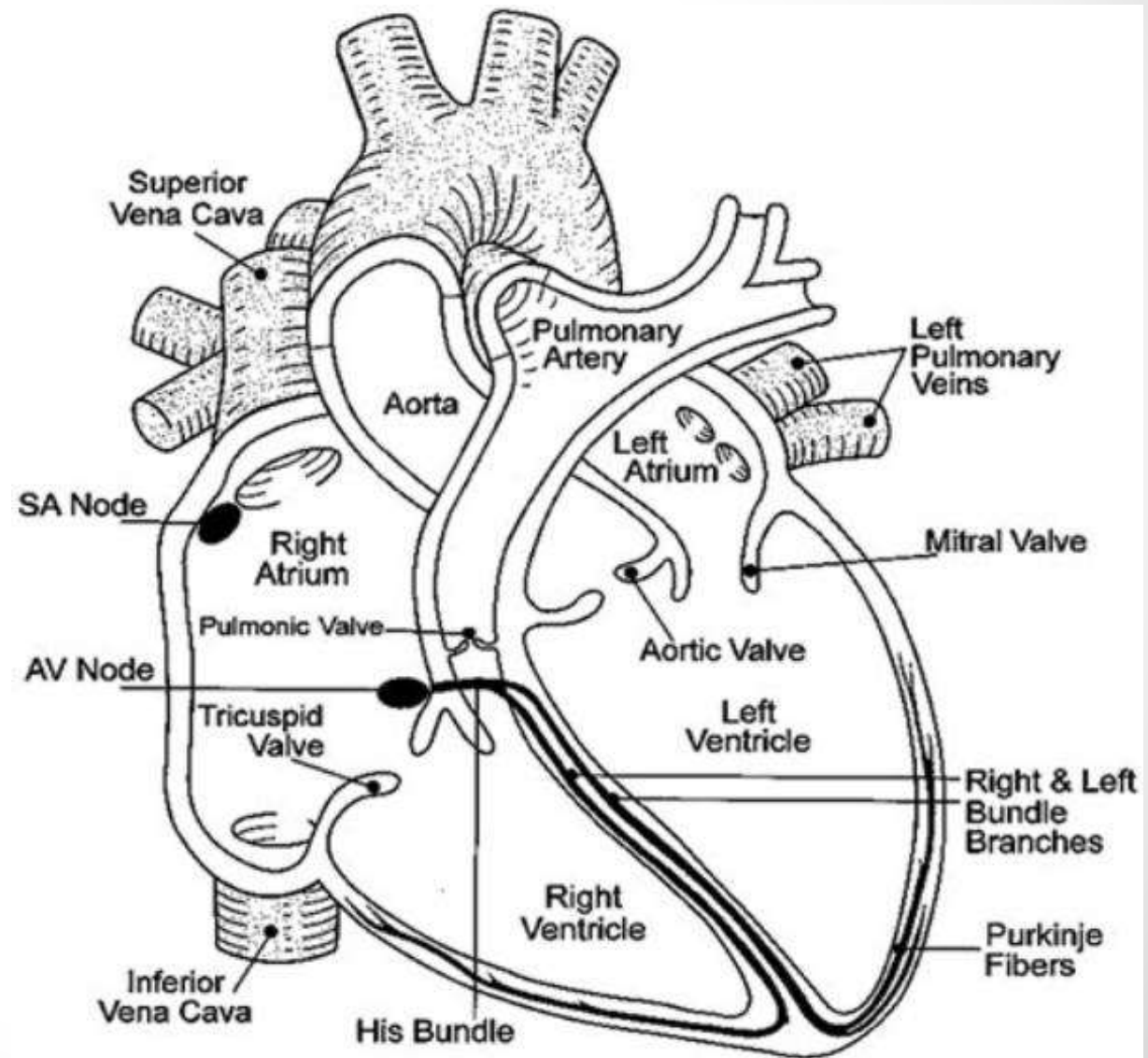
S-A Node

A-V Node

A-V Bundle (Bundle of His)

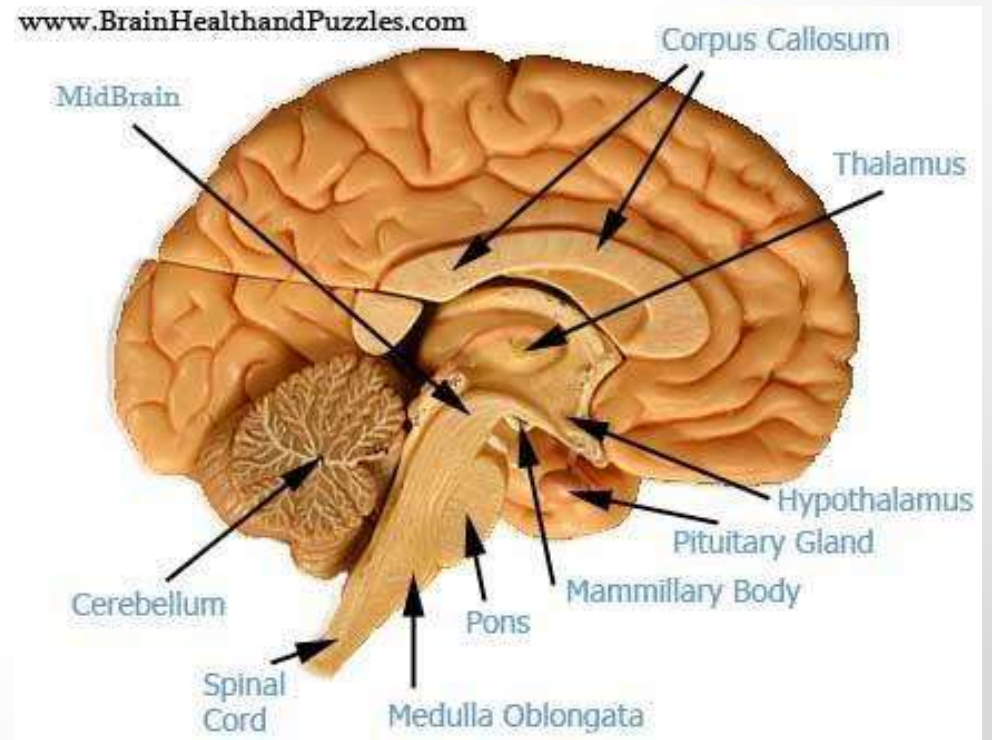
Bundle Branches

Purkinje Fibers



Regulation of Cardiac Cycle

controlled by the **cardiac center** within the **medulla oblongata**.

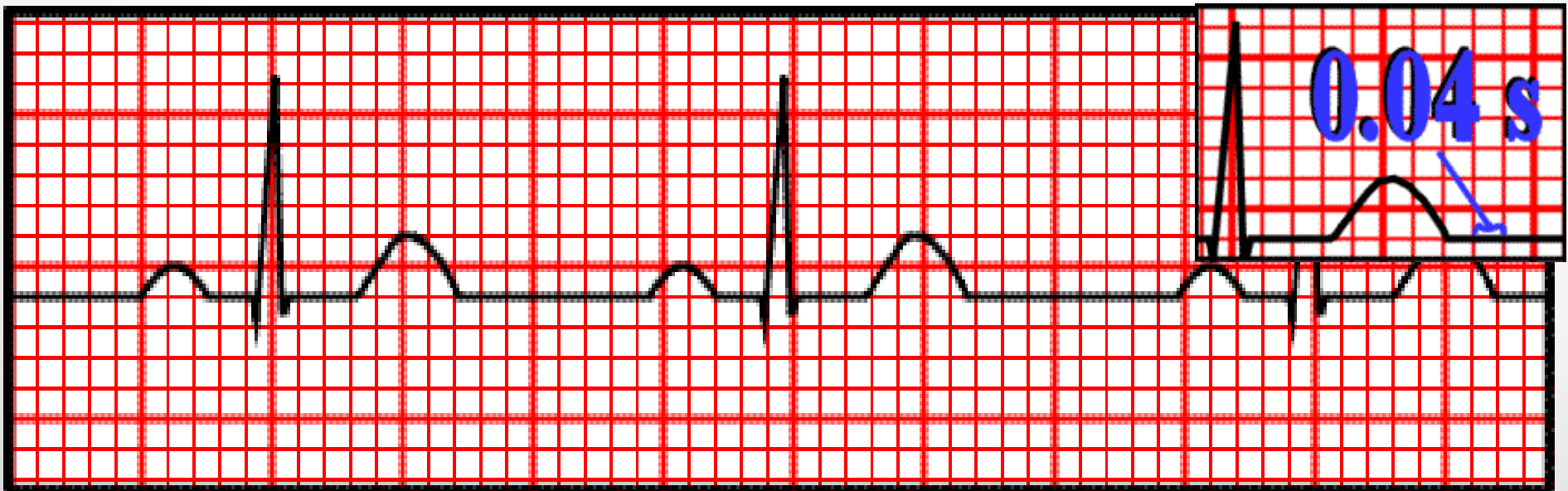


Interpreting ECGs

An **ECG** is printed on paper covered with a grid of squares.

The width of a single small square on ECG paper represents 0.04 seconds.

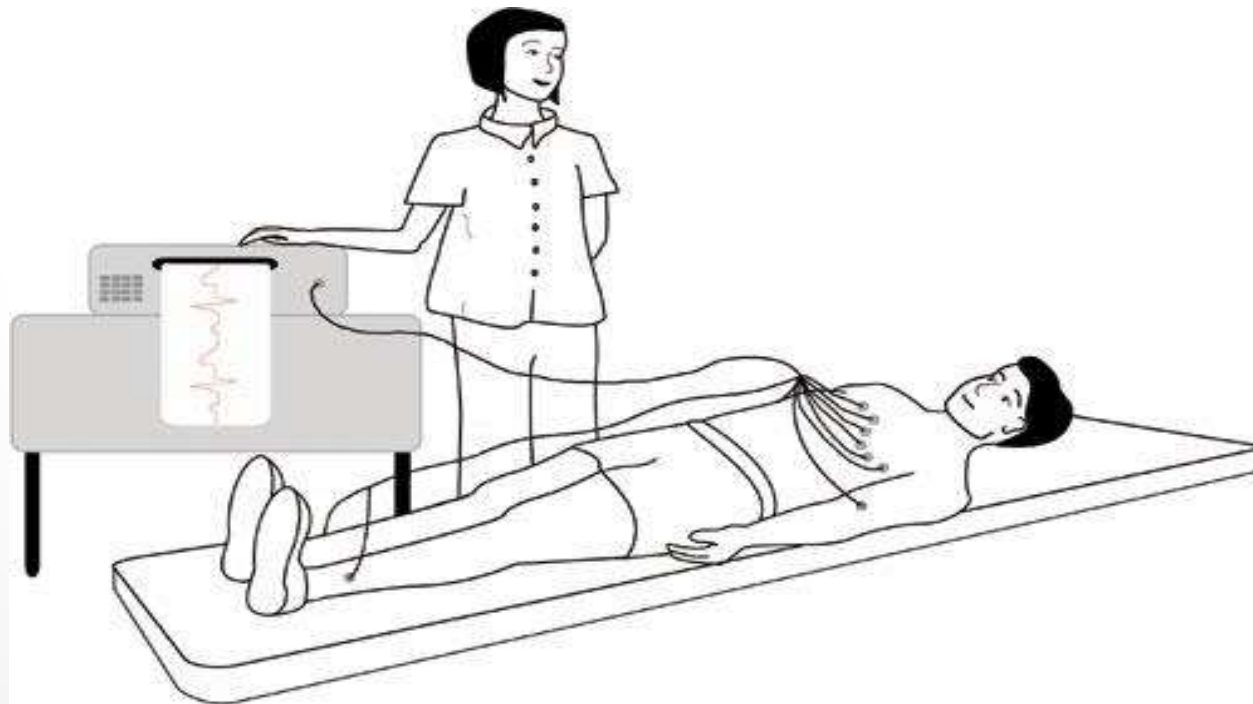
A common length of an ECG printout is 6 seconds; this is known as a "six second strip."

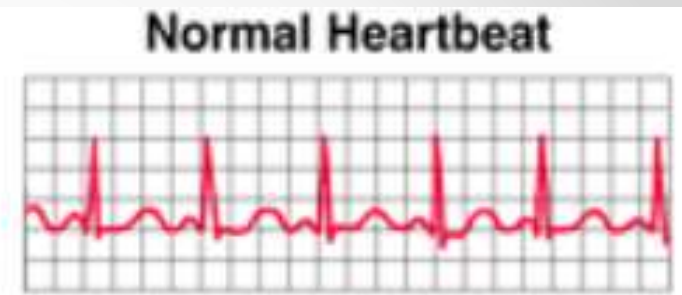
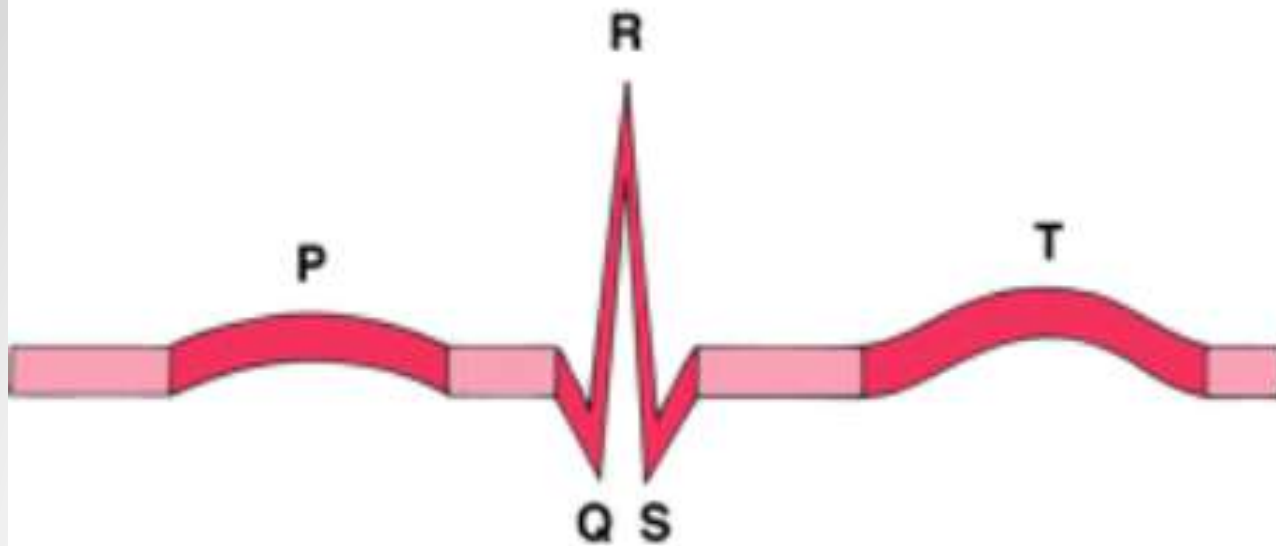


SADS

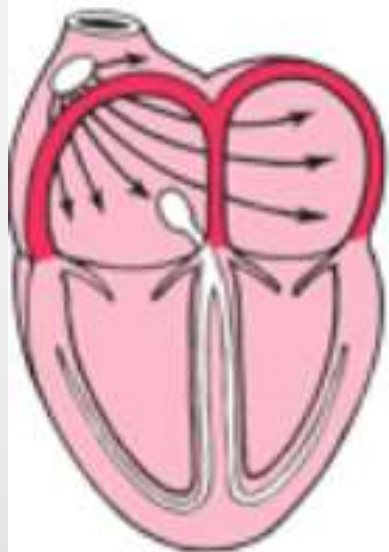
(Sudden Arrhythmia Death Syndromes or Sudden Adult Death Syndrome)

Routine ECG Screening may help prevent deaths in young people



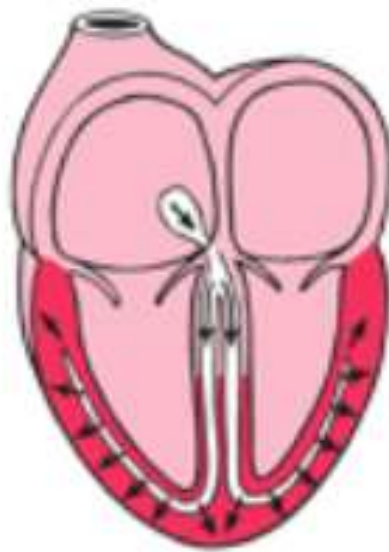


P Wave



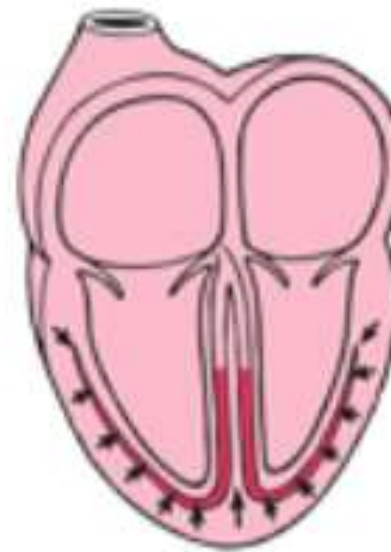
Activation of the atria

QRS Complex



Activation of the ventricles

T Wave

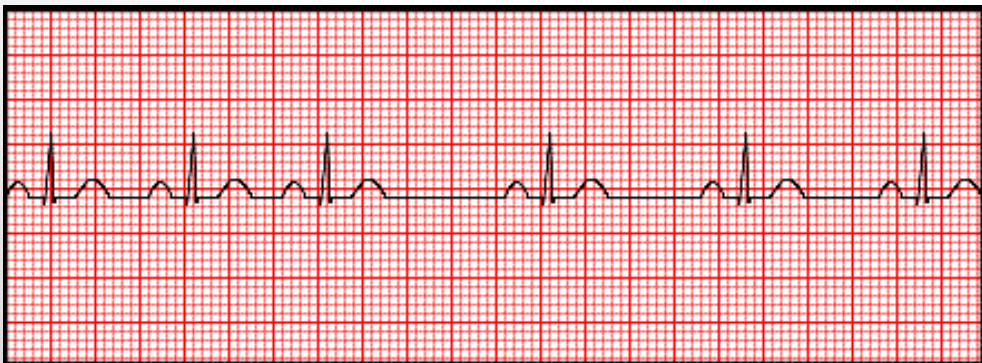
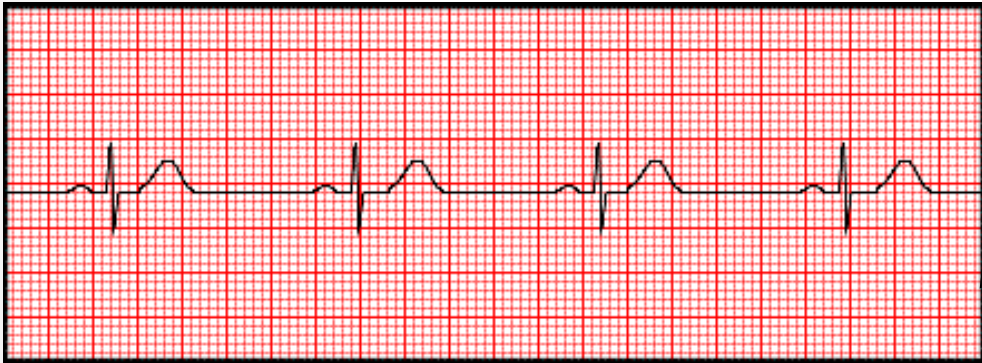


Recovery wave

Analyze an ECG

Each one of the figures represents an ECG pattern displaying three types of abnormal rhythms:

Tachycardia,
Bradycardia, and
Arrhythmia.



Defibrillator

common treatment for
life-threatening
cardiac arrhythmia

