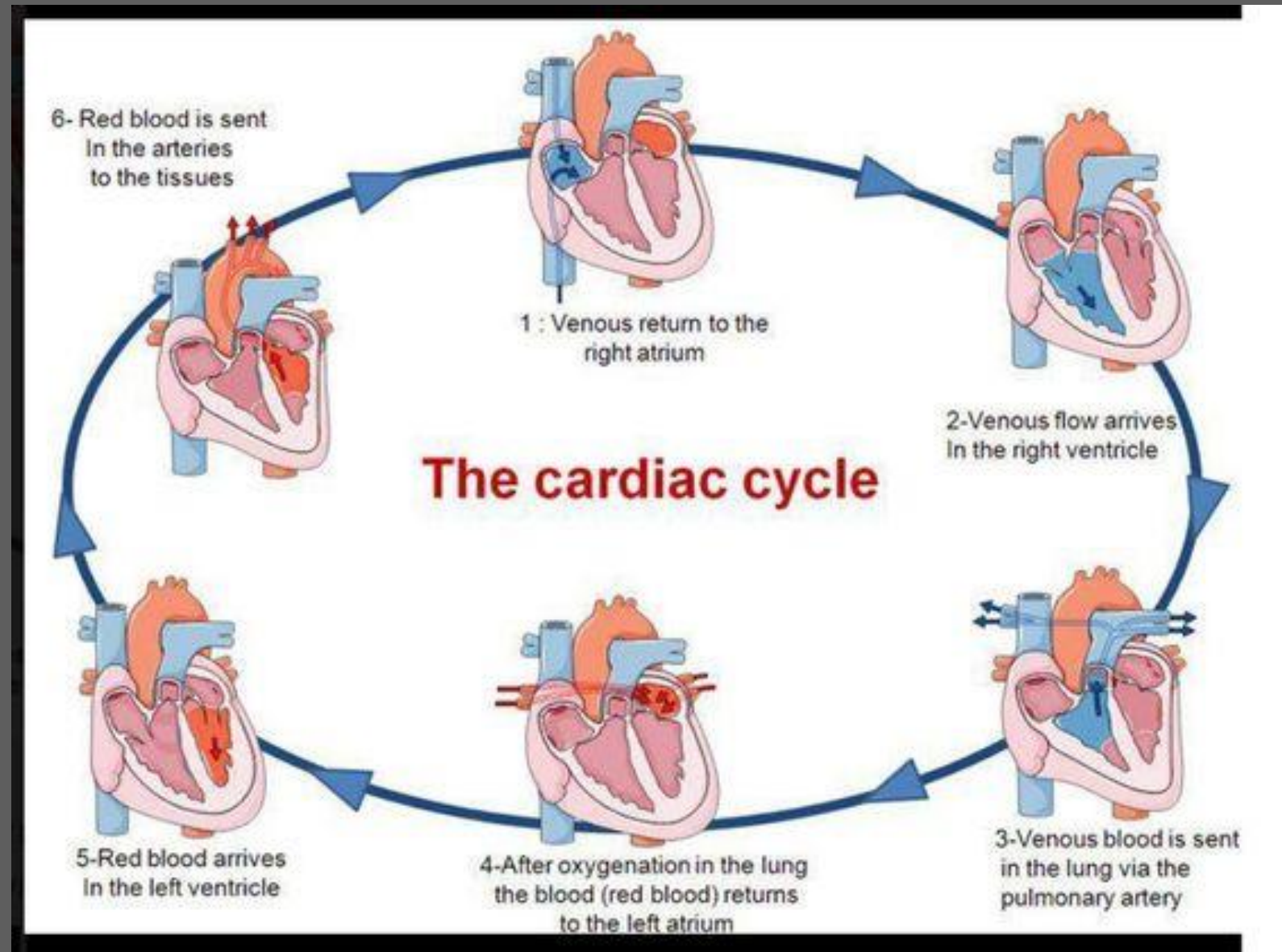


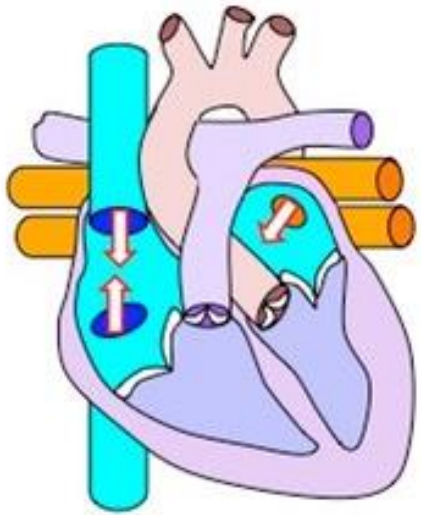
THE CARDIAC CYCLE

U3:L4

The cardiac cycle is **one complete heartbeat.**

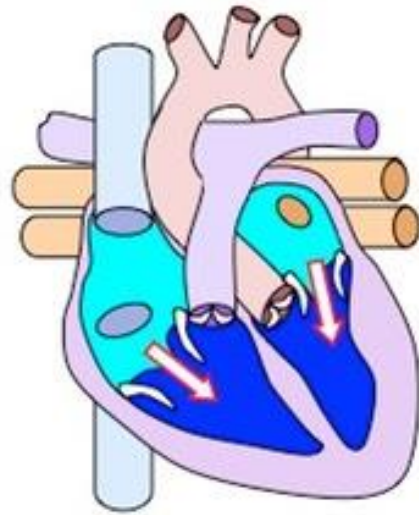


Atrial Diastole



All heart muscle in relaxation
All heart valves are closed
Blood returning to atria

Atrial Systole



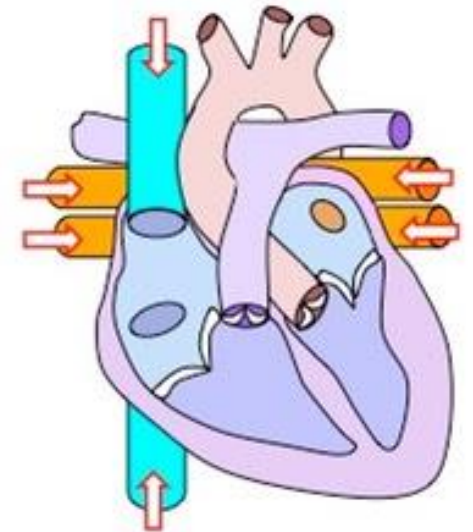
Atria in contraction
AV valves are open
Blood to ventricles

Ventricular Systole



Ventricles in contraction
Semilunar valves are open
Blood passing to arteries

Ventricular Diastole



All heart muscle in relaxation
All heart valves are closed
Blood returning to atria

A heartbeat is one of the most recognizable sounds – how would you **say** the sound of your heartbeat?



“onomatopoeia”



LUB DUB

Pulmonary
(P)

Tricuspid
(T)

Aortic (A)

Mitral (M)

RV

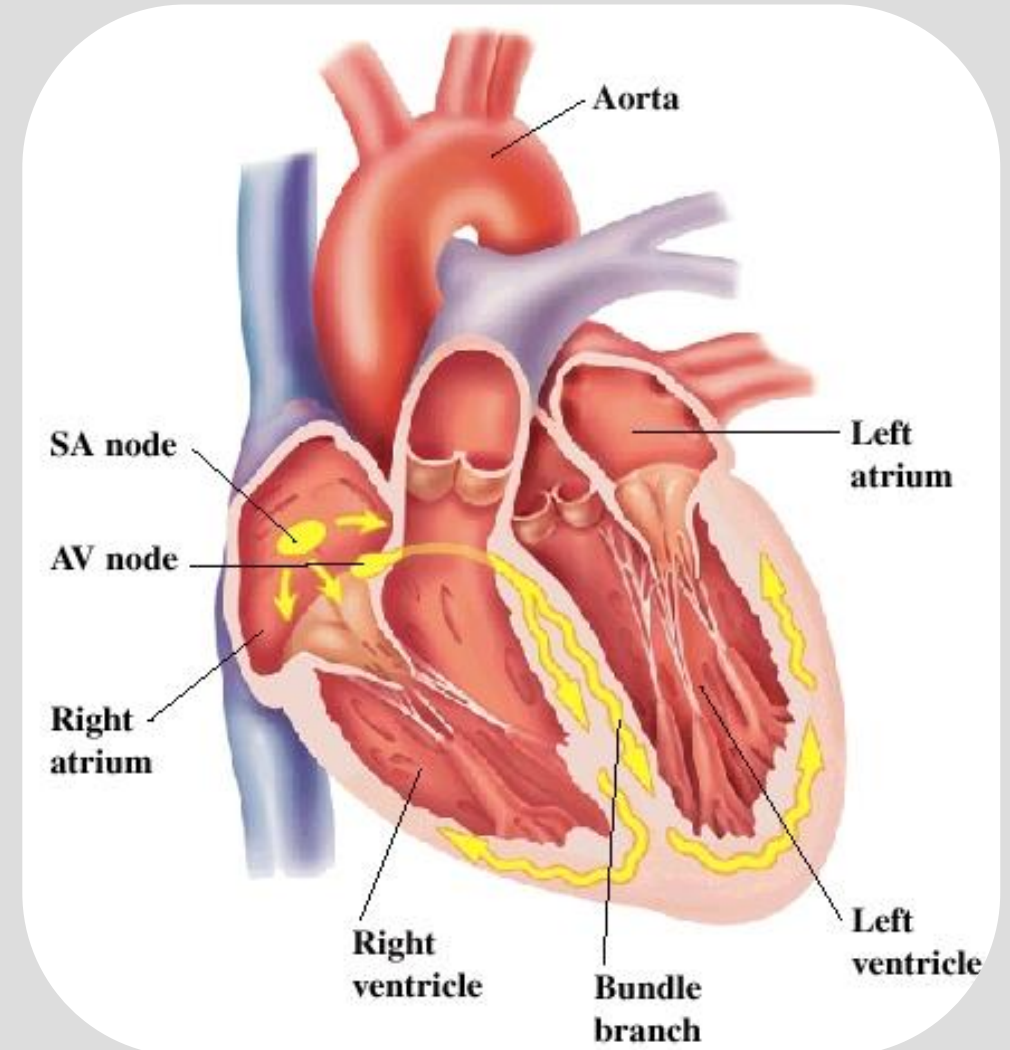
LV



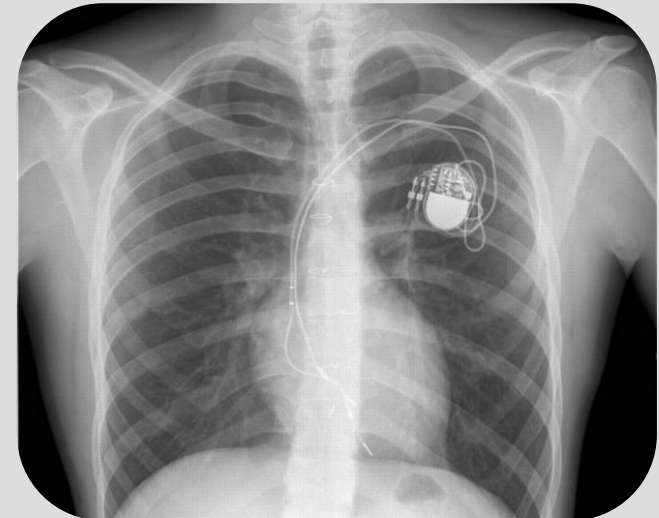
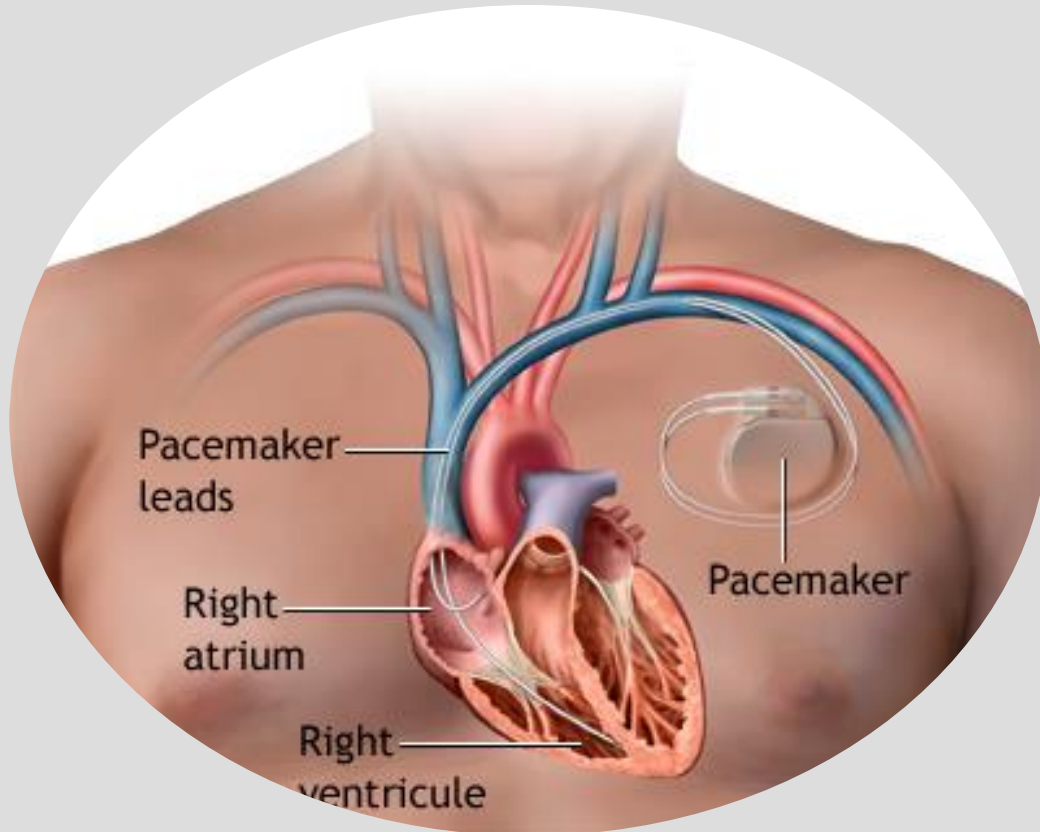
Your heartbeat is controlled by nerves and hormones

NERVES are **white fibers** which transmit **impulses of sensation** to the brain or spinal cord, and impulses from these to the muscles and organs.

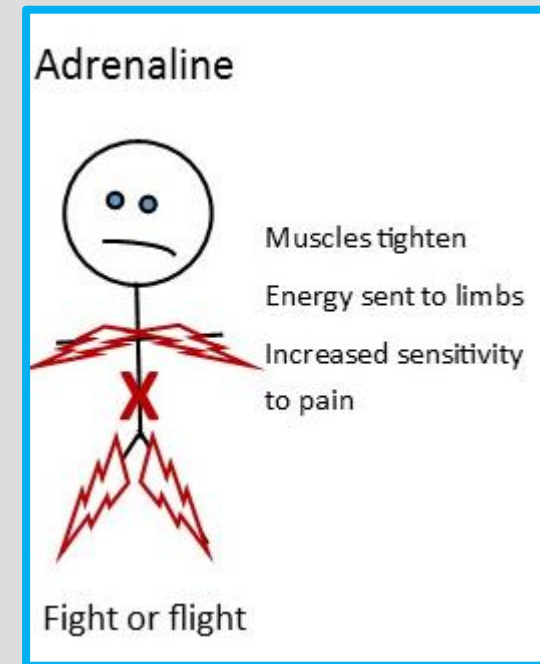
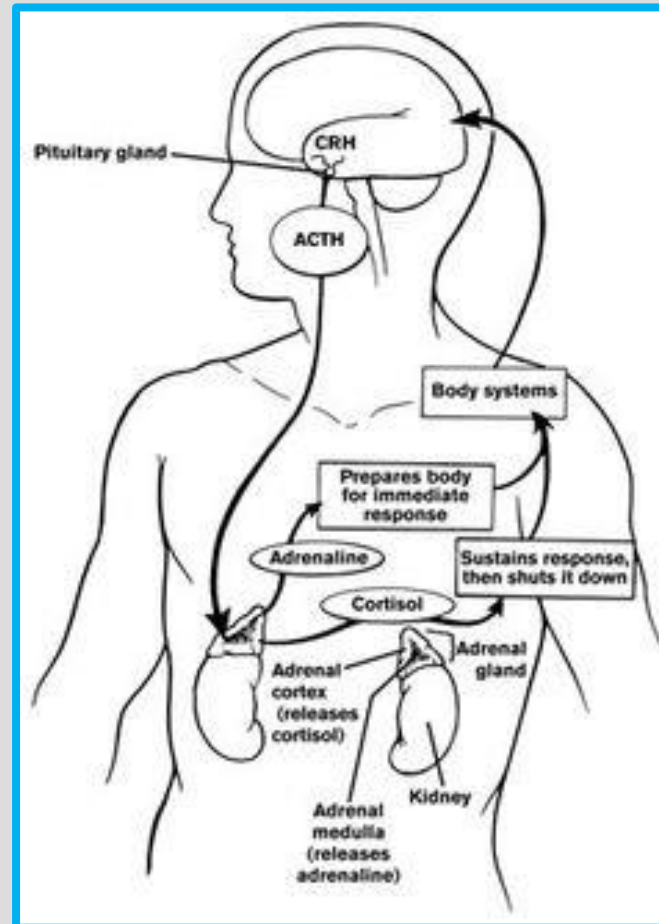
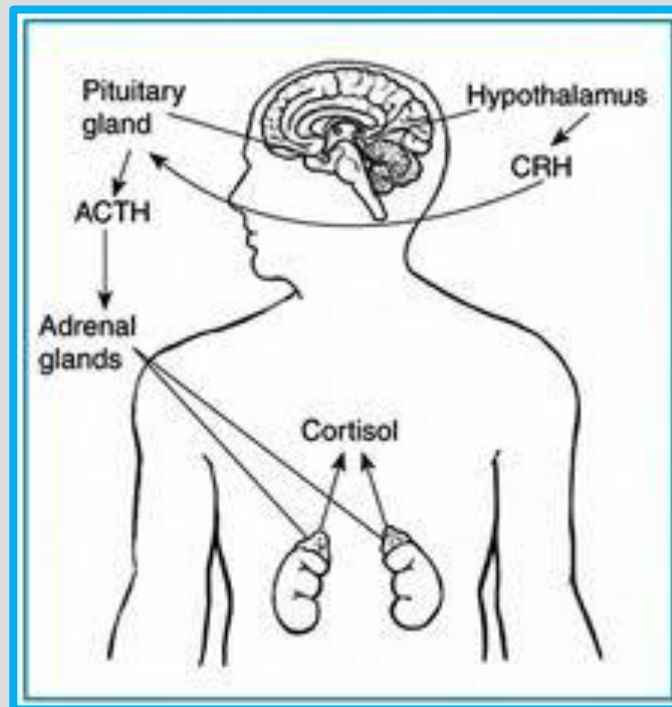
In the heart, the **AV and SA nodes** send signals to the fibers in the ventricles.



The SA node is also called the PACEMAKER



Hormones such as **ADRENALINE** increase the heart rate in times of stress, fear or anxiety.



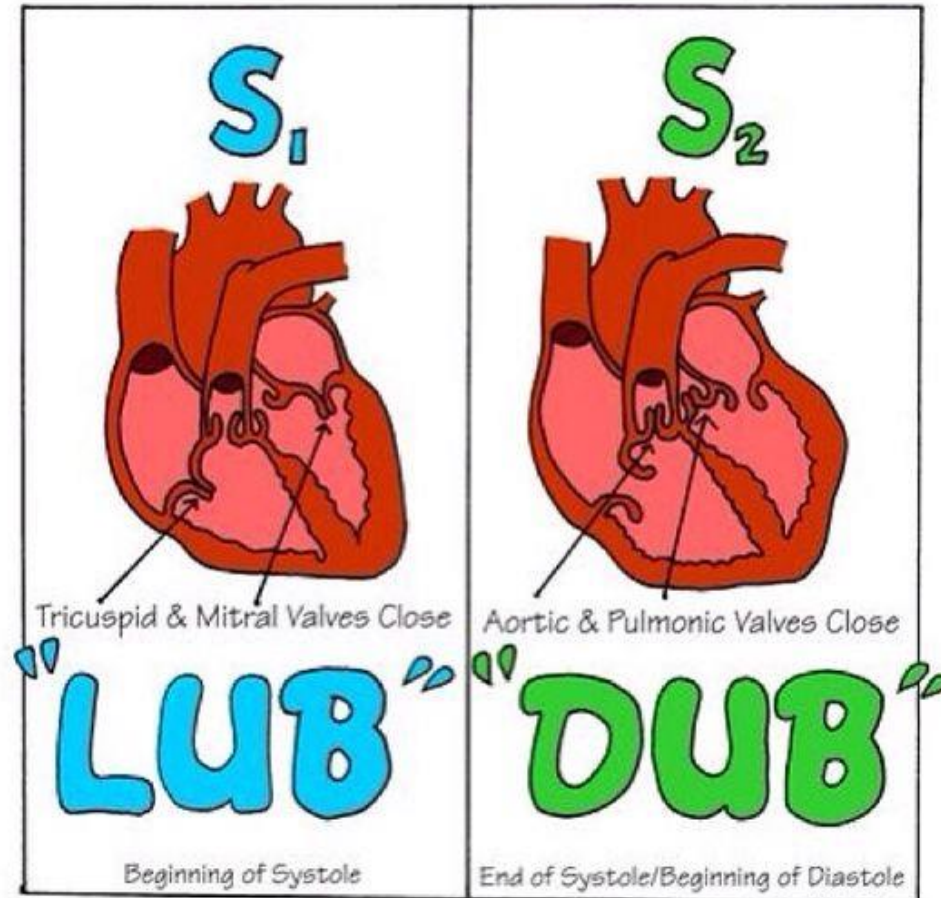
AKA EPINEPHRINE!



HEART SOUNDS

DIASTOLE

- Heart relaxation
- Causes AV valve to close
- LUB



SYSTOLE

- Heart contraction
- Causes semilunar valve to close
- DUBB

HEART MURMUR

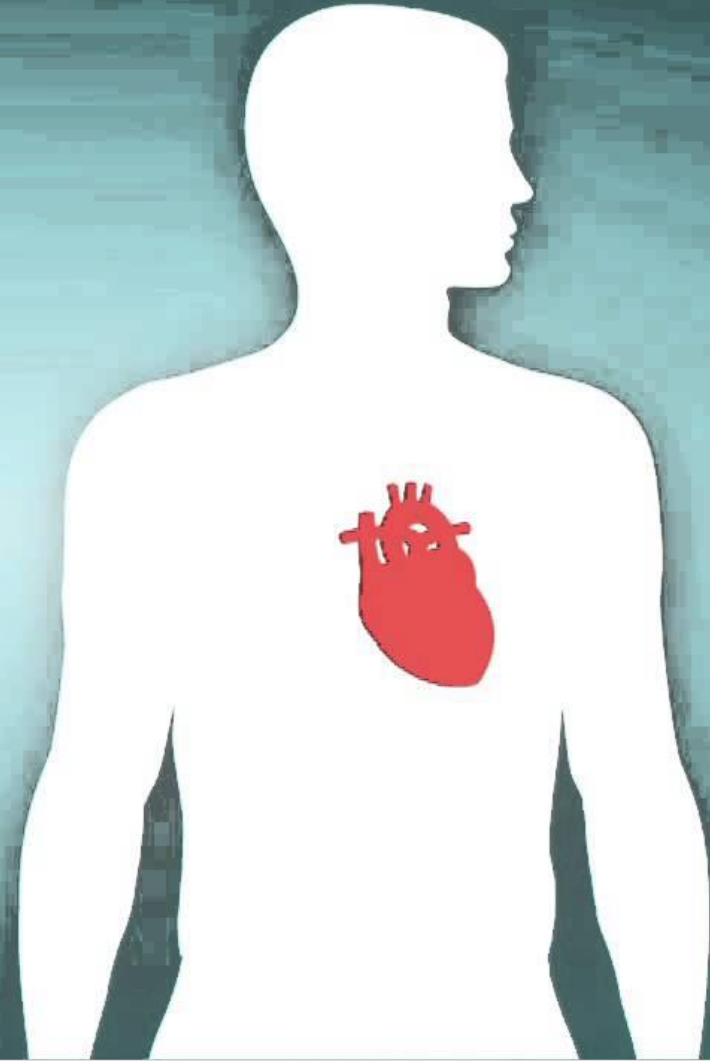
A VALVE THAT IS NOT
FUNCTIONING PROPERLY
USUALLY CAUSES A NOISE
CALLED A MURMUR



When the healthcare provider can
hear the blood moving

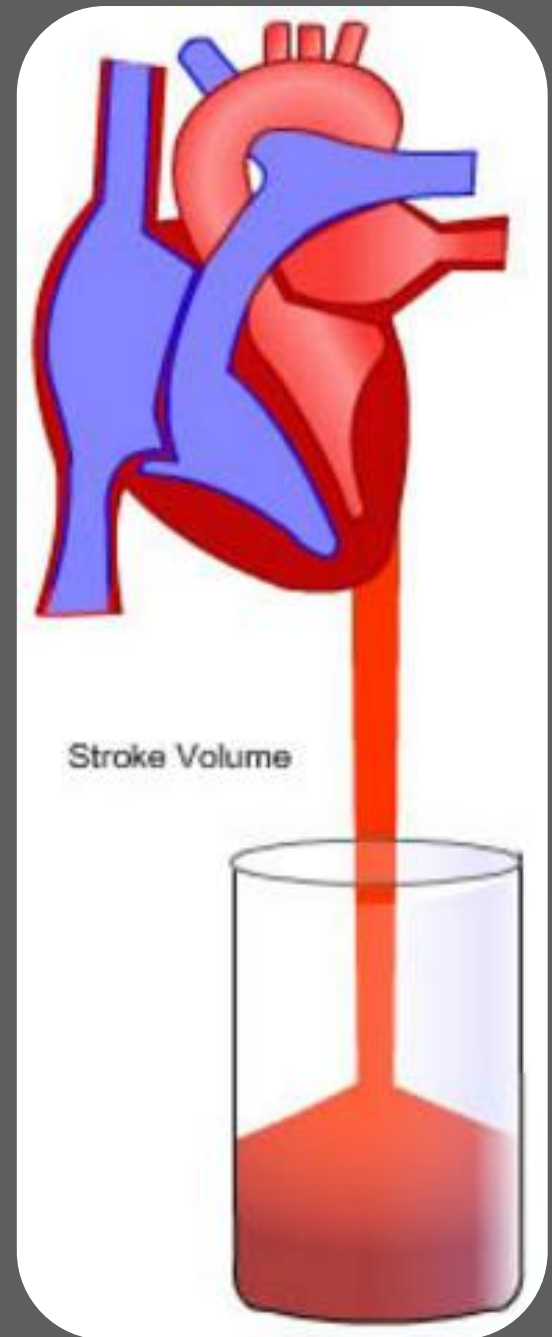
from **one chamber** 
to the next

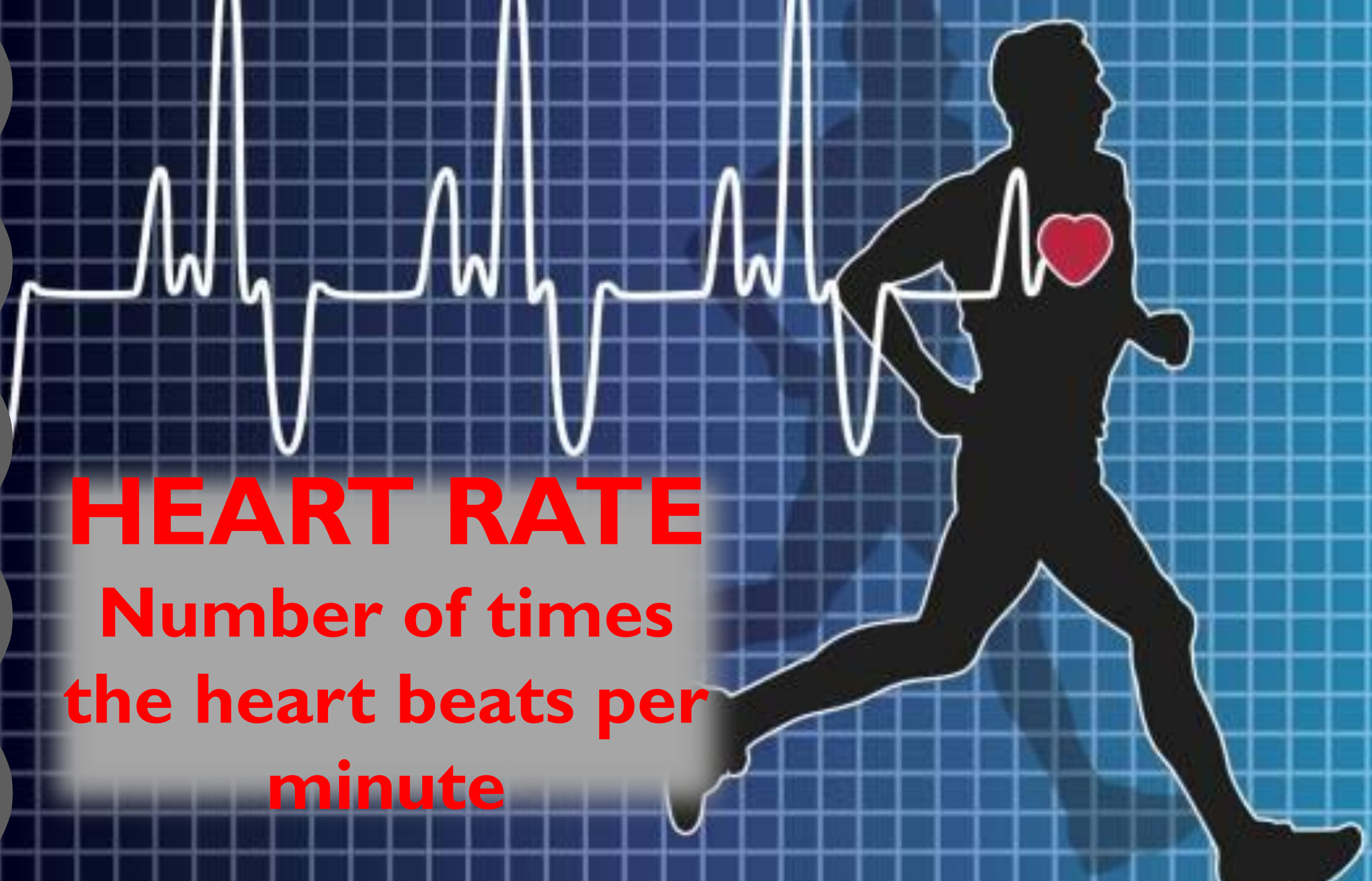
it is called a
heart murmur.



STROKE VOLUME

The amount of blood
pumped with each
heartbeat



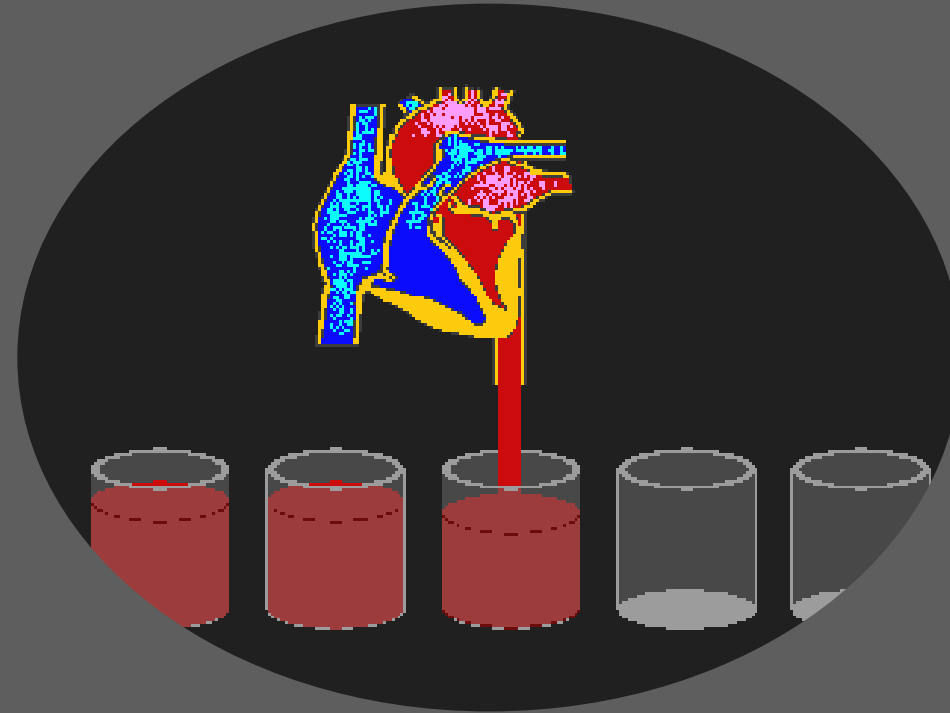


HEART RATE

Number of times
the heart beats per
minute

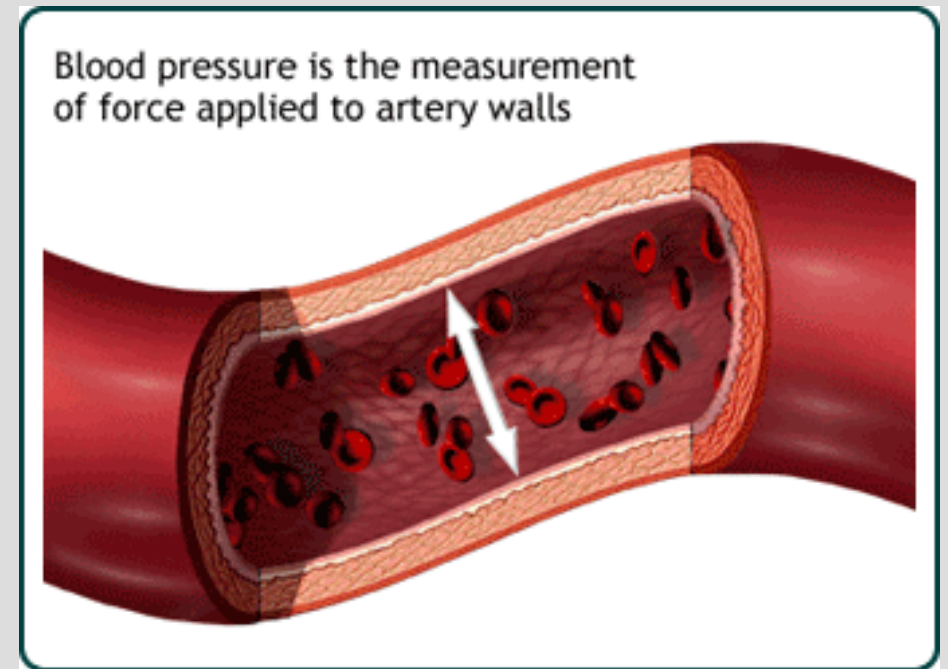
CARDIAC OUTPUT

- Amount of blood that flows from each side of the heart per minute
 - Stroke volume x Heart rate
 - Average 5L/minute
- Affected by size, activity, fitness



BLOOD PRESSURE

- Measured in **arteries**
- Affected by cardiac output (artery resistance)
 - Measured with a **sphygmomanometer**



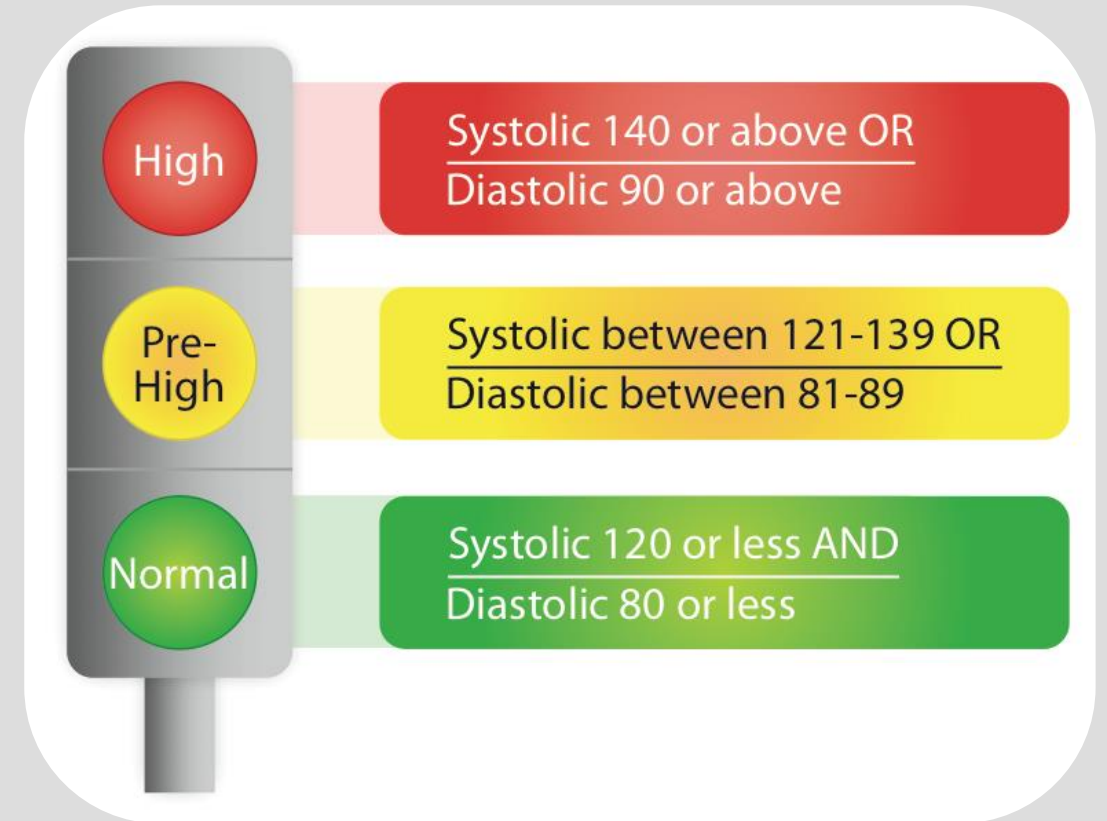
Blood pressure gives two readings...

1. SYSTOLIC

- Ventricular contraction
 - 120 mm Hg

2. DIASTOLIC

- Ventricular relaxation
 - 80 mm Hg



FACTORS AFFECTING BLOOD PRESSURE

- Age
- Weight
- Exercise
- Habits (smoking)
- Diet (salt)
- Stress





**INCREASE
OR
DECREASE
IN BLOOD
PRESSURE?**



**INCREASE
OR
DECREASE
IN BLOOD
PRESSURE?**



**INCREASE
OR
DECREASE
IN BLOOD
PRESSURE?**



**INCREASE
OR
DECREASE
IN BLOOD
PRESSURE?**



**INCREASE
OR
DECREASE
IN BLOOD
PRESSURE?**

The logo features the text "PULSE LAB" in a bold, dark grey, sans-serif font. The text is centered within a light grey, scalloped-edged circular shape. This shape is set against a solid blue background, which has a dark grey vertical bar on the far left side.

**PULSE
LAB**