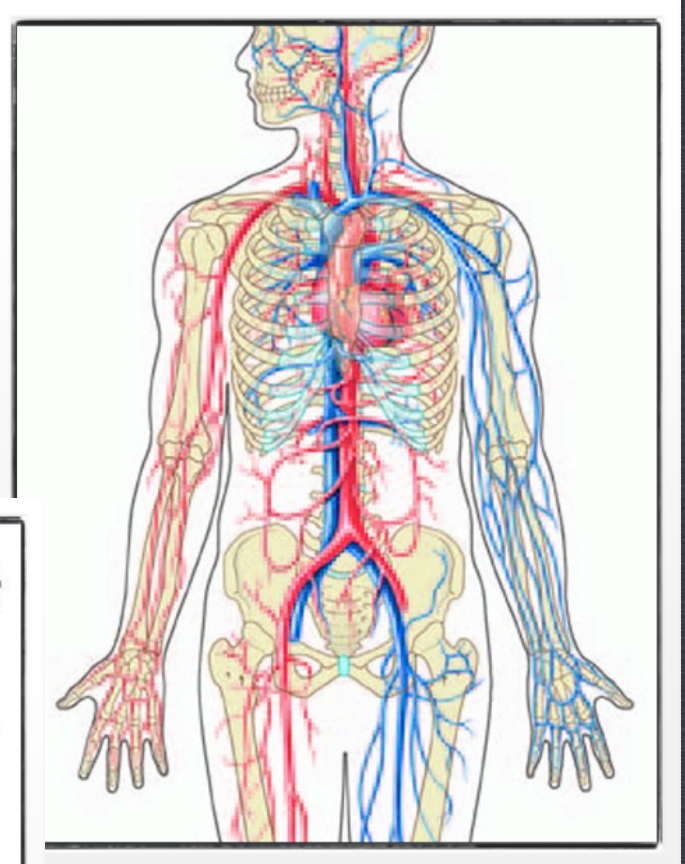
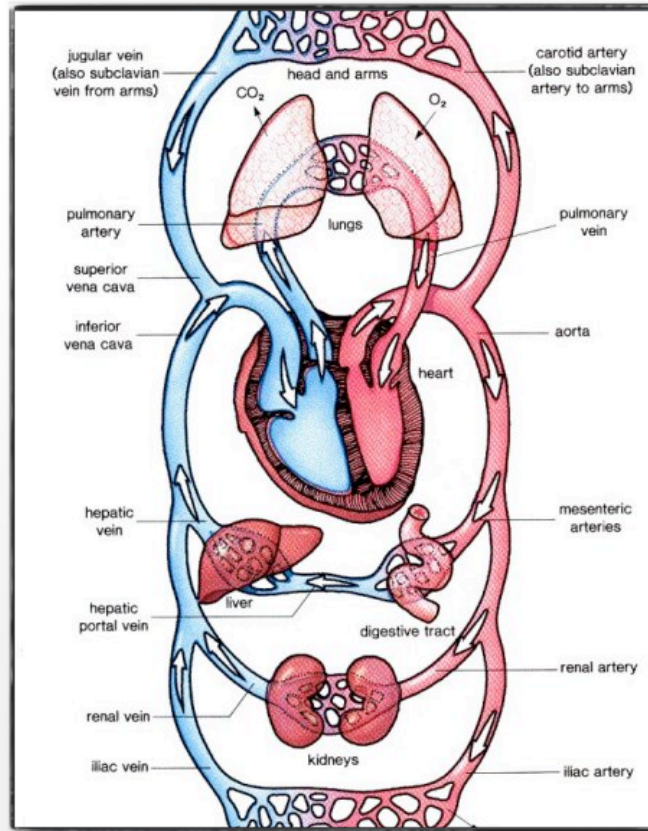


ARTIFICIAL HEART VALVE DESIGN

YOUR CHANCE TO BE A BIOMEDICAL ENGINEER

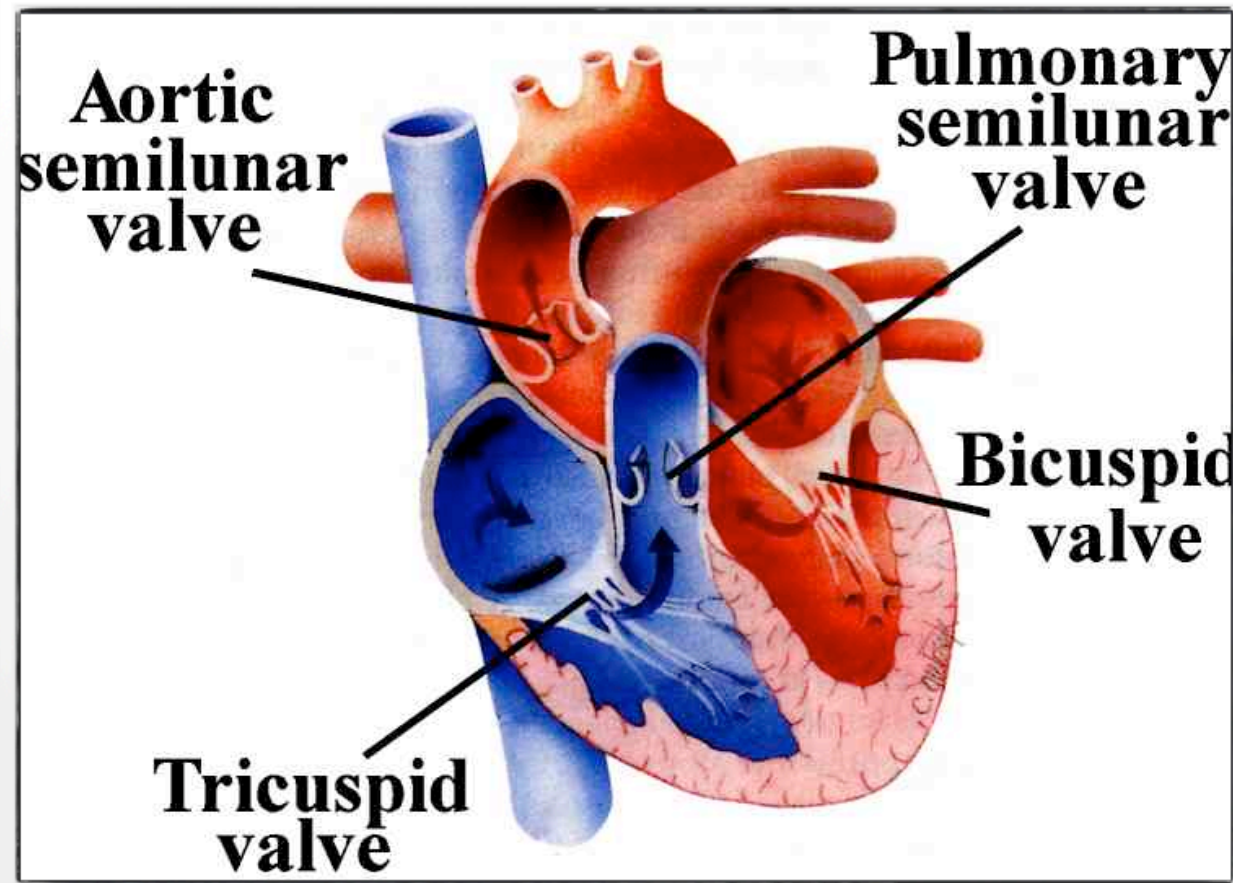
CIRCULATORY SYSTEM

VIDEO



WHAT IS A HEART VALVE?

- Heart Valve Video



WHAT DOES A HEART VALVE DO?

- Maintain the one direction flow of blood through the heart
- Heart valves allow blood to flow through in a forward direction, but does not let any blood through in the opposite direction

WHY DOES A HEART VALVE START LEAKING?

- Muscle tissue in the heart can be damaged from heart attacks, rheumatic fever, or an infection of the heart valve tissue
- Years of high blood pressure and/or years of heavy alcohol drinking can cause the tissue of the heart valve to stretch.
- Heart valves do not close completely when the tissue is stretched.

PROBLEMS WITH LEAKING HEART VALVES - SYMPTOMS

- The patient's heart valve allows blood to flow in the wrong direction
- The heart works less efficiently and can lead to following symptoms:
 - Shortness of breath
 - Fatigue
 - Swollen feet or ankles
 - Chest pain
 - Feeling faint or dizzy

WHY THOSE SYMPTOMS?

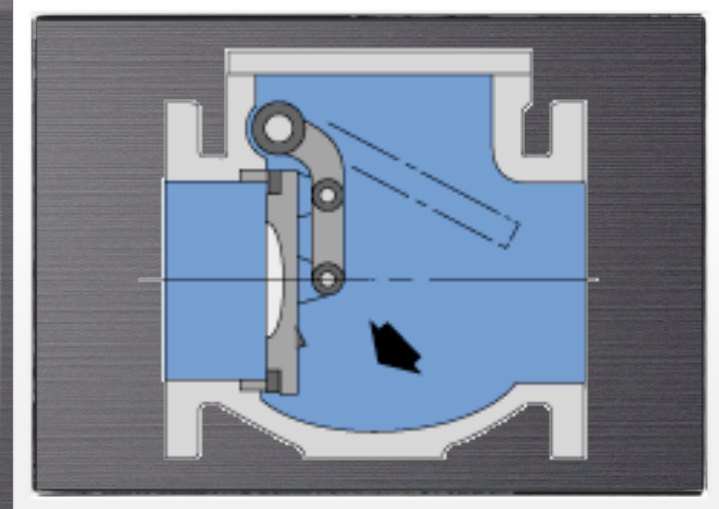
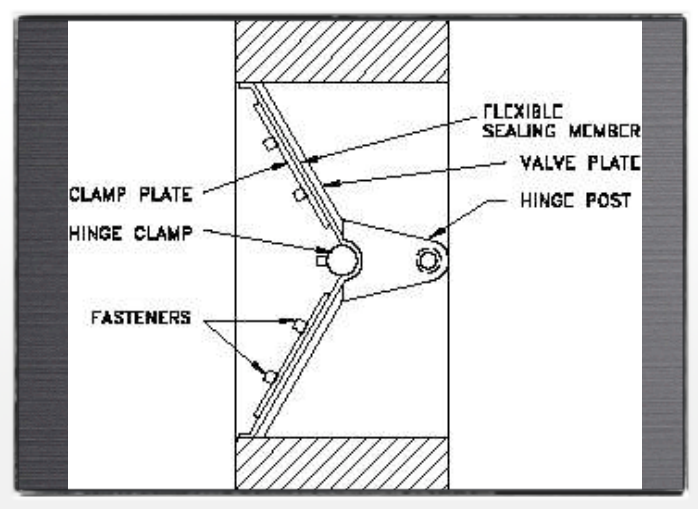
- Diseased Mitral Valve (valve regulating blood from the lungs) can actually let a tiny bit of blood back towards the lungs.
- The heart has to work much harder to deliver blood to the body.
- Long periods of the heart being overworked can cause the beginning of heart failure (i.e. shortness of breath, fatigue)
- Swollen feet and ankles is caused from general poor circulation.

HEART VALVE REPLACEMENT

- When symptoms become very serious, patients need a new heart valve.
- A new heart valve will help patient live normal life again!
- 3 heart valve replacement videos - if you easily get queasy, then beware!







LET'S BRAINSTORM
MORE IDEAS ON THE
WHITE BOARD!