

Heart valve surgery

Function of heart valves

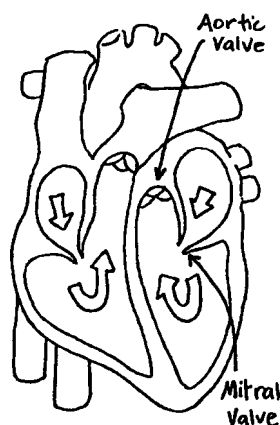
Heart valves control the direction of blood flow through the four chambers of the heart (two atrium and two ventricles).

The valves act like one-way doors and stop blood from running backwards.

Blood that has been pumped around the body returns to the heart by large veins and flows through the right chambers of the heart and then into the lungs to pick up oxygen. The blood re-enters the heart and is pumped through the left chambers to the aorta artery and on to the rest of the body. This one-way blood flow through the heart and lungs is controlled by a system of valves.

Heart valve disease

Some people are born with damaged valves that may be fixed at birth or later in life. Infection or other disease can also damage valves.



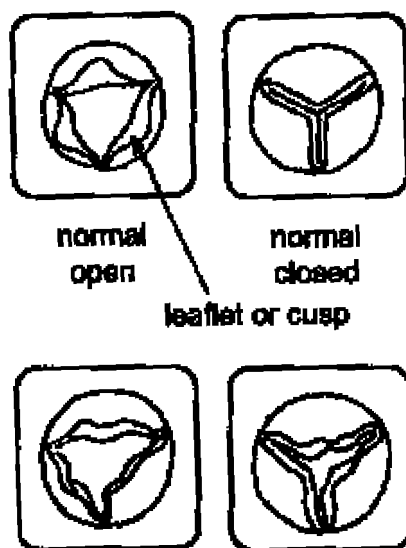
Rheumatic fever is another cause of valve damage and can cause a valve to stiffen over time, stopping it from opening and closing properly.

A damaged valve that limits forward flow of blood by narrow-

ing is called a stenotic valve.

A valve that does not close properly allowing blood to flow backward is called an incompetent or regurgitant valve. Often both conditions are present when a valve is damaged.

When a heart valve is damaged, the heart has to work



harder to pump blood around the body. The overworked heart may begin to fail causing symptoms such as shortness of breath, pains, tiredness and build up of fluid in the body. When this happens the valve needs to be repaired or replaced.

Heart valve surgery

Valve replacement

If it is not possible to repair a valve, it is removed and a new valve is sewn into the remaining valve tissue.

There are several different types of replacement valves available but they usually fall into two groups. Your surgeon will discuss which group is appropriate for you.

1. Biological tissue valves use

human or animal tissue. Often after a few months you will not need to take anti-clotting drugs.

2. Mechanical valves are made from plastic and metal. Mechanical valves last longer, however because they are not made from natural tissue it is necessary to take anti clotting drugs for life to prevent clots from forming on them.

Valve repair

Some valves become tight and stiff when the leaflets (cusps) are scarred or stick together at the edges. The valve may be repaired by cutting these areas or by opening them with a balloon.

If the cusps are stretched and weakened the valve may not close properly allowing blood to leak backward. In time the valve can become enlarged.

Valves can be repaired by cutting away extra cusp tissue and sewing the edges together, or by shortening the cords that act like hinges. Sometimes a prosthetic ring may be inserted to strengthen and narrow the valve.

The advantage of a valve repair operation is that your own valve tissues are used.

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