

**EXPERT
ADVICE**

**Learn More
About Heart
Valves**

The heart's four chambers:

The upper two are the right and left atria. The lower two are the right and left ventricles. Blood is pumped through the chambers, aided by four heart valves. The valves open and close to let the blood flow in only one direction.

What are the four heart valves?

- The **tricuspid** valve is between the right atrium and right ventricle.
- The **pulmonary** or pulmonary valve is between the right ventricle and the pulmonary artery.
- The **mitral** valve is between the left atrium and left ventricle.
- The **aortic** valve is between the left ventricle and the aorta.
- Each valve has a set of flaps (also called leaflets or cusps). When working properly, the heart valves open and close fully.

Source:
American Heart Association

Learn and Live.

HEART VALVE DISEASE

A Closer Look

BY MARIA OLDHAM



The four heart valves are located at the exit of the four heart chambers, and they control one-way blood flow through the heart. Healthy valves pump blood to the heart, lungs and other parts of the body. Heart valve disease occurs when the valves are not functioning as they should. This can mean they are leaking, not opening, or that they lack a necessary part. According to a Mayo Clinic study published online in *The Lancet*, researchers estimate that about 5 million adult Americans have moderate or severe heart valve disease as a consequence of aging.

TYPES OF HEART VALVE PROBLEMS

Heart valves that aren't functioning as they should will have one of three basic kinds of problems:

- **Atresia** is the lack of an opening for blood to pass through the heart valve. It can be congenital or develop later in life.
- **Stenosis** occurs when blood is prevented from flowing through the valve as the result of the thickening, stiffening or fusing together of the valve's flaps.
- **Regurgitation** or backflow occurs when a valve does not close tightly and blood

leaks back into the heart chamber instead of flowing forward through the heart or into an artery.

Mitral valve prolapse is the most common among heart valve diseases. It occurs when the flaps of the mitral valve—located between your heart's upper chamber and lower chamber on the left side—collapse back into the left atrium during the heart's contraction. Mitral valve prolapse affects 1 to 2% of the population. Unlike many other heart conditions, it is frequently diagnosed in younger women (ages 14-30), with the risk decreasing with age.

Symptoms of heart valve disease will vary based on the condition and the valve involved. For instance, aortic stenosis may cause shortness of breath during exertion, syncope (fainting spells) or angina pectoris (heart-related chest pain), while aortic regurgitation can occur for many years without having many symptoms at all. Symptoms of aortic regurgitation include orthopnea (breathlessness while lying down), paroxysmal nocturnal dyspnea (severe shortness of breath during the night), and sweating, in addition to the symptoms of aortic stenosis. Other heart valve disease symptoms may include fatigue, leg swelling and overall fluid retention.

As is the case with many heart diseases, heart valve disease affects men and women differently. While it is just as common in both sexes, valve disease is often misdiagnosed in women. Women may overlook symptoms, which puts them at risk for heart failure or an early death. Elderly women also need special attention with heart valve disease because of their advanced age and smaller hearts. ♥

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