



Valvular diseases

1. Does ageing always have an effect on heart valves not opening and closing as they should?

As we age, our valves go through a natural deterioration or "wear and tear" process.

The most common age related valve problems usually affect the left sided heart valves – the aortic valve and mitral valve.

The aortic valve can thicken and harden due to a gradual build-up of calcium which results in the aortic valve not opening fully (aortic stenosis). It is estimated that between 2-9% of elderly people have aortic stenosis.

Mitral regurgitation (leaky mitral valve) increases in frequency with age due to a number of factors : (1) natural deterioration of the valve, or (2) the development of other conditions that affect the support structure of the valve leaflets, resulting in failure to close properly. These conditions such as heart attacks, abnormality of the heart muscle, high blood pressure, atrial fibrillation (irregular heart rhythm) are also more common with age.

2. Is it better to operate on a narrow/tight valve or be on blood thinners indefinitely?

If the valve is severely tight and causing symptoms such as breathlessness, heart failure (accumulation of fluid in the lungs, legs or abdomen), fatigue or the heart muscle to weaken, then intervention to the valve is recommended. This is generally in the form of surgery. The most common narrow valve problem is aortic stenosis. In older and higher risk patients, a minimally invasive procedure called TAVI (Transcatheter Aortic Valve Implantation) is available as an option.

Blood thinners such as aspirin are only beneficial in blocked arteries (such as in a heart attack), and do not have the same beneficial effect on narrow valves. If surgery is deemed too high risk, medications like diuretics to treat fluid build up are usually prescribed.

3. Why does rheumatic fever contribute to valvular diseases?

Rheumatic fever is caused by a bacteria called Group A streptococcus that usually presents as a "strep throat" infection. Recurrent untreated infections result in inflammation and scarring of the layers of the heart due to an autoimmune reaction. This most commonly affects the mitral and aortic valves, resulting in valve thickening and narrowing. Rheumatic heart disease is the most common form of valvular heart disease in developing countries, however is uncommon in developed countries due to the treatment of rheumatic fever/infection with antibiotics.



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4. How does good oral health contribute to avoiding infections in your heart valve?

Infection of the heart valve is called infective endocarditis. This is an uncommon but serious and potentially life-threatening condition most commonly caused by bacteria found in the mouth. Poor oral health can result in tooth plaque and gingivitis which result in bleeding gums. When the gums bleed during brushing, flossing or during dental procedures, bacteria can enter the blood stream and infect the heart valves or other parts of the body. Therefore good oral hygiene is important in preventing infective endocarditis.

5. Why is pregnancy a contraindication for women with valvular diseases?

Many women with valvular disease can deliver healthy babies. However this should be done in close conjunction with a cardiologist and high risk pregnancy obstetrician.

Pregnancy increases the total body blood volume by up to 50% and requires the heart to work harder and faster. In a patient with valve problems, the heart may not be able to compensate for these changes, which result in complications and affect the health of mother and baby.

The risk of complications depends on the type and severity of the valve condition. Leaky valves are generally better tolerated than narrow valves. And most women with only mild forms of valvular disease will likely have an uneventful pregnancy, except mitral stenosis where even mild narrowing can result in complications. Sometimes heart surgery is recommended before you try and conceive particularly if your valve disease affects the mitral or aortic valve.

Women with mechanical heart valves must have close specialist involvement due to the complexity of managing blood thinners. This group of women are at higher risk of clots forming on their mechanical valves which can be life threatening. Blood thinners can put the developing baby at risk.

Close follow up with your cardiologist will likely entail monitoring with frequent assessments and echocardiograms. Where possible, delivery should be planned with a team approach involving a foetal/maternal specialist, obstetrician and anaesthetist as labour and delivery can further stress the heart.

6. The main sign of valvular disease is a heart murmur, but you can have a heart murmur without having valvular disease. Why? Can you please explain this?

Heart murmurs are whooshing sounds caused by the rapid flow of blood across the heart valves. A murmur can either be "innocent" and not associated with cardiac abnormalities, or related to a valve problem. Most murmurs fall in the "innocent" category.

An innocent murmur occurs when blood flows more rapidly through a normal heart, creating a "flow murmur". These conditions include fever, anaemia, pregnancy, overactive thyroid. Innocent murmurs are also common during childhood and adolescence.

In older patients, the aortic valve leaflets can stiffen without causing a narrowing of the valve, and cause a short "flow murmur" due to turbulent blood flow. However, the valve still functions normally.