



Aortic stenosis

About your aortic valve

Your aortic valve is one of four valves in your heart. Its job is to stop the blood falling back into the heart (specifically, into the left ventricle) after each heartbeat.

The aortic valve is around the size of a 50p piece and is made up of three leaflets arranged so that they meet in the middle and look a bit like a Mercedes sign. They are as thin as cling film.

Usually, your aortic valve lasts a lifetime. However, things can happen to it that may mean you need to have treatment or surgery.

Aortic stenosis

Aortic stenosis (narrowing) is when the leaflets become thickened and stiff so that the flow of blood out of your heart becomes more and more obstructed. This makes your heart work harder, especially when you exercise.

If aortic stenosis causes symptoms, your valve will need to be replaced – this is called aortic valve replacement (AVR). Occasionally, even if there are no symptoms, you may still need surgery. This might be the case if you're having another heart operation (such as a coronary artery bypass graft), or if you have an exercise test that shows a problem.

The treatment you're offered will depend on your symptoms, how serious your condition is, how well you are, and what the risks are for you during and after treatments. Your surgeon will talk with you about what the risks are and explain why they are recommending a particular procedure for you.

If you need a new artificial valve, it will be either a mechanical valve or a tissue valve.

Your valve can be replaced in three ways.

- 1 Conventional aortic valve replacement.** This involves an open-heart operation called a complete median sternotomy and is the main way aortic valves are replaced. Your breastbone (sternum) is divided along its length so your surgeon can get to your heart. Your valve is then replaced. You'll be under general anaesthesia (asleep and feel no pain) for this operation.
- 2 Minimal access aortic valve replacement.** This is when a surgeon gets to your heart through a smaller incision (cut), by dividing only the top part of the sternum, or a small cut to the right side of the breastbone. Your valve is then replaced. You'll be under general anaesthesia. As yet, there's no evidence (proof) to show which of these approaches (conventional or minimal) is the better or safer approach.
- 3 Transcatheter aortic valve implantation (TAVI)** is a completely different way of getting the new valve to your heart. The artificial valve is inserted into the artery at the top of your leg and negotiated back along the artery to your heart. It is then expanded to fit within your own thickened aortic valve. If the artery at the top of your leg isn't suitable, the valve can be inserted through a small incision below your left breast. The procedure can be done under general anaesthesia or local anaesthesia.

TAVI isn't as invasive as conventional surgery, and recovery is quicker so you can go home earlier. However, the long-term results from this procedure aren't known. Because of this, TAVI is only recommended as an alternative if you're not well enough to have conventional surgery.