

Cardiothoracic Surgery

Aortic valve repair surgery: the Ozaki procedure

What is an aortic valve repair

Aortic valve repair is a type of open heart surgery used to treat problems with the heart's aortic valve.

The aortic valve controls the flow of blood out from the heart to the rest of the body.

This type of aortic valve repair involves removing damaged valve segments (leaflets) and replacing them with some of your own heart tissue or some from the heart of an animal.

When is it necessary to repair the aortic valve?

The aortic valve may need to be repaired for two reasons:

- **the valve has become narrowed (aortic stenosis)** - the opening of the valve becomes smaller, obstructing the flow of blood out of the heart
- **the valve is leaky (aortic regurgitation)** - the valve allows blood to flow back through into the heart

The problems can get worse over time and in severe cases can lead to life-threatening problems such as heart failure, if left untreated.

There are no medicines to treat aortic valve problems, so repairing (or replacing) the valve will be recommended if you're at risk of serious complications, but are otherwise well enough to have surgery.

What is the Ozaki procedure?

The Ozaki procedure is a relatively new procedure which was first carried out in Japan.

It involves creating new valve segments (leaflets) from either your own pericardium (the covering of the heart) or bovine pericardium (the covering surrounding a cow's heart)

Specialist equipment is used to measure the diseased part of the valve; these measurements are used to cut replacement tissue to the exact size. The strips of tissue are sewn precisely into place which allows the valve to function in its normal way.



Patient Information



Ozaki procedure showing 3 leaflets of pericardium being sewn individually into place

Risks of an aortic valve repair

Aortic valve repair is a big operation and, like any type of surgery, carries a risk of complications. These complications are similar to conventional valve replacement.

Some of the main risks of an aortic valve replacement include:

- infection
- blood clots
- strokes
- a temporarily irregular heartbeat (arrhythmia)
- reduced kidney function for a few days

The risk of dying from an aortic valve replacement is around 1-3%, although this risk is much smaller than that of leaving severe aortic valve problems untreated.

Most people who survive surgery have a life-expectancy close to normal.

Patients who undergo the repair operation will need monitoring with echo tests for a number of years after surgery.

What are the benefits of the Ozaki operation?

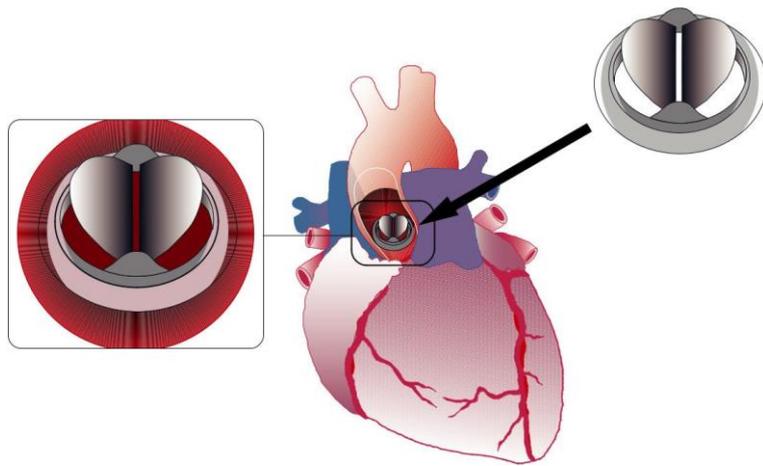
There are a number of benefits to this procedure when compared to valve replacement including:

- No need to take lifelong anticoagulant drug therapy which can have side effects and lifestyle limitations when taken long term
- Evidence from Japan shows that this type of repair typically lasts longer than replacing the valve completely (particularly for younger patients under 60). Most biological implants made from animal tissue need to be replaced after 8 to 15 years.

Alternatives to aortic valve repair

The alternative to the Ozaki procedure is to replace the whole of the diseased aortic valve with either a tissue or a mechanical valve. This involves a similar procedure but instead of repairing the valve, the whole valve is completely replaced.

Patient Information



Standard aortic valve replacement with a mechanical (metal) or tissue valve (biological)

What is my recovery expected to be like?

Further information about general recovery after heart surgery can be found in the booklets you have been given called "Information for those undergoing heart surgery" (HIC/LFT/145/06) and "Heart surgery changed my life" (BHF HIS12/0316).

When will I have a follow-up appointment?

You will be seen in clinic at 6-8 weeks after your operation and then followed-up long term in the heart valve surveillance clinic. In this clinic you will be assessed by nurse practitioners and will undergo an echo examination of the heart to ensure that the repaired aortic valve is working properly.

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