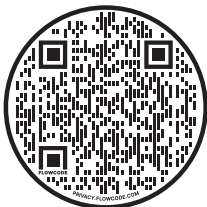




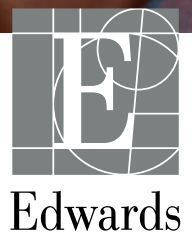
My voice.
My surgery.
My future.

Looking ahead to surgery:
aortic stenosis.



If you are having a heart valve replacement procedure (also known as aortic valve replacement) to treat aortic stenosis, this guide has all the information you'll need to know before, during and after your surgery.

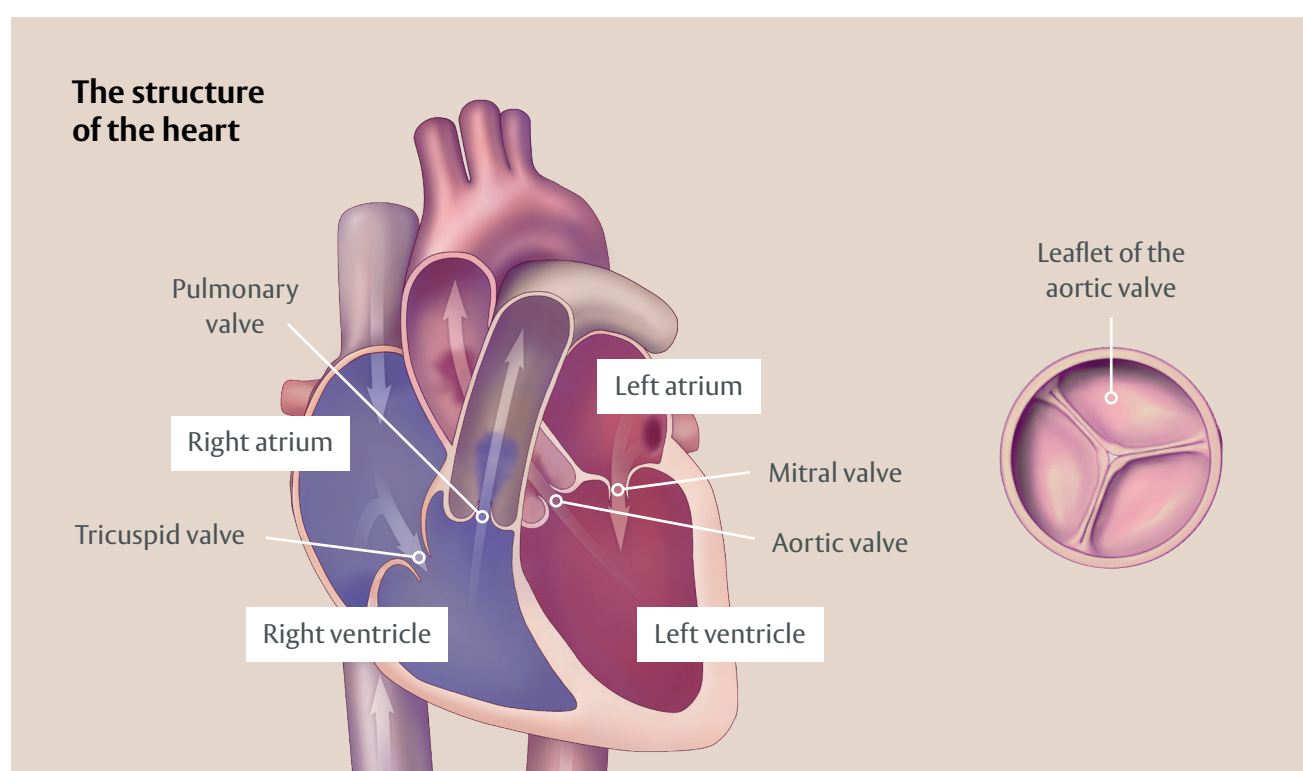
Visit our patient website [Edwards.com](https://www.edwards.com) to learn more about aortic stenosis



What is a heart valve replacement?



Heart valves act like doors that control the flow of blood out from the heart to the rest of the body.¹ You have been referred for a heart valve replacement because the opening of your heart valve, specifically the aortic valve, has narrowed making it difficult for blood to flow out of the heart.² This condition is called aortic stenosis.



During a heart valve replacement, your surgeon will remove the heart valve that is no longer working well and put in a new one made from special synthetic materials or tissue from animals.^{2,3}

You have been referred for a procedure called surgical aortic valve replacement. This can be done in two ways: either through traditional open-heart surgery or via a minimally invasive procedure that makes a smaller cut through the chest, using a technique similar to keyhole surgery.^{4,5} The operation you have will depend on the heart valve you choose, together with your heart team, as well as things like your age and how at risk you are for surgery.⁶

It's a good idea to get involved in choosing your first heart valve, as it may impact your future treatment options. Your medical team is here to talk you through the options and help you make the best decision for you.

Remember, this is a joint decision and your thoughts and preferences are important.

What valve is right for me?



When choosing a heart valve, it's important to know that not all heart valves are the same. Your new heart valve will either be a tissue or a mechanical valve. This table outlines some points you and your healthcare team may want to think about when choosing the best valve for you:

	Tissue valve	Mechanical valve
What is the valve made out of?	Animal tissue, usually from pigs or cows ³	Materials such as titanium and carbon ³
How long will the valve last?	Approximately 10–20 years, depending on the type of valve and your health and lifestyle ⁷	Usually lasts a lifetime ⁷
Will I need to be on long-term blood-thinner medication?	No ⁶	Yes, mechanical valves need lifelong use of a blood thinner, which prevents blood clotting ⁶
Do I need to make any lifestyle changes?	No	Yes, taking a blood thinner means regular monitoring, avoiding contact sports, using soft-bristled toothbrushes and taking extra care with sharp objects to reduce the risk of bleeding ⁸
Do I need to consider my diet?	You might need to reduce your calcium intake ⁹	Keep the amounts of foods high in vitamin K (leafy greens like kale, brussels sprouts, or broccoli) consistent in your diet ⁸
Will I be able to hear my replacement valve?	No	You may hear some clicking sounds as your valve opens and closes ¹⁰
What are the risks if I am planning on becoming pregnant in the future?	No known pregnancy complication risk ⁶	High pregnancy complication risk ⁶


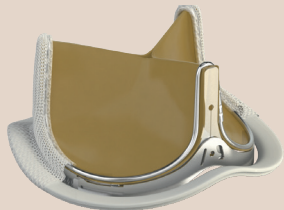
Your future.



What is an advanced tissue valve?

Build-up of calcium on the leaflets is the main reason a tissue valve may break down¹¹ and means you could need a second operation to replace the tissue valve. Advanced tissue valves contain specially-treated tissue designed to limit calcium build-up, which is expected to make the tissue valve more durable.¹²

For over 40 years, Edwards Lifesciences has been pioneering the development of advanced tissue valves.¹³ Edwards Lifesciences has developed RESILIA tissue,* which has been treated with a special preservation technology shown to reduce calcium build-up compared to previous generation tissue valves.^{12,14} All products shown below are manufactured by Edwards Lifesciences and are an example of how tissue valves have evolved.

	 Previous generation: Carpentier-Edwards PERIMOUNT Magna Ease valve¹⁵	 Latest generation: INSPIRIS RESILIA valve¹⁴
Long-term blood thinner not required	✓	✓
Includes RESILIA tissue technology to reduce calcium build-up	✗	✓
Designed to assist with potential future valve replacements	✗	✓

Who might benefit from an advanced tissue valve?^{6,8}

- Frequent travellers
- Sports enthusiasts
- Physically-demanding career professionals (e.g. construction, military)
- Women hoping to start a family

*No clinical data are available that evaluate the long-term impact of RESILIA tissue in patients. Additional clinical data for up to 10 years of follow-up are being collected to monitor the long-term safety and performance of RESILIA tissue.

Before your surgery



How can I prepare?

Whilst you are waiting for your surgery, it's important to get as healthy as you can.

There are several things you can do:¹⁶

- If you smoke, try to cut down or quit. It can be hard, so don't be afraid to ask for help.
- If you are overweight, losing weight can help you get healthier before surgery. Your doctor or nurse can offer advice.
- Keep physically active, as far as your condition allows. Your doctor should provide you with some advice.
- Visit your dentist to make sure that your teeth and gums are healthy as it helps to minimise the chance of infection during surgery.

Once you know the date of your operation, it's important to plan your return home as you won't be able to do everything on your own in the first couple of weeks. Try to get a family member or a friend to be with you during this period. If you are alone, talk to your doctor or nurse to help you arrange some help.¹⁶

Assessments

Before your surgery you will have several assessments to make sure you are as healthy as possible. You may have the following:

- A physical examination such as listening to your heart beat with a stethoscope or feeling your pulse.^{2,17}
- An echocardiogram, a device which uses sound waves to produce an image of the heart and shows how the blood flows through the valves.^{2,18}
- Tests to check general health such as blood tests, a chest x-ray or an electrocardiogram (ECG), which measures the heart's rhythm and electrical activity.^{2,17,19}
- Be asked about your medical background, such as details of medications you may be currently on, if you have any allergies or have had any allergic reactions to anaesthesia in the past.²

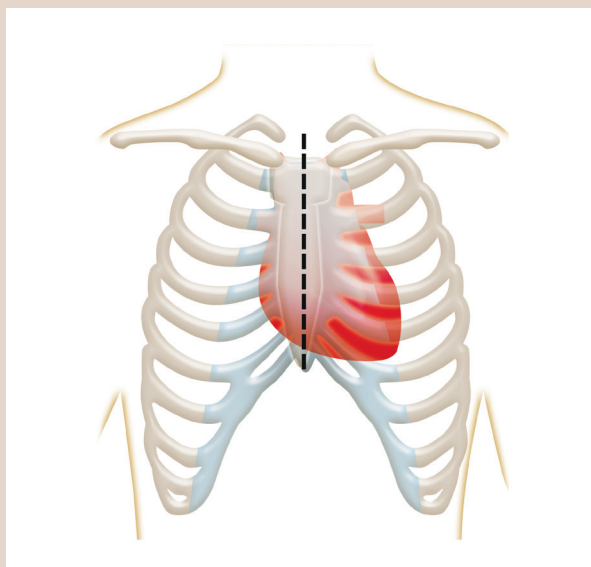
During your procedure



The procedure usually lasts a few hours and you will be asleep during your operation so you won't feel anything.²

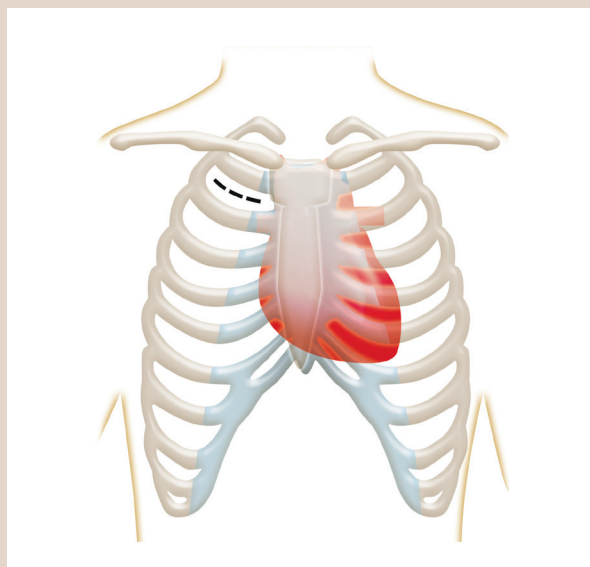
Your heart valve replacement will involve the following steps:²

- 1 If you are going to have open-heart surgery, a cut will be made along the middle of your breastbone to allow the surgeon access to your heart. However, if you are going to have the minimally invasive procedure, the cut will be smaller⁴
- 2 A heart-lung machine will be attached to you through tubes. This will take over the job of your heart during the operation
- 3 The damaged valve is removed and replaced with a new one
- 4 Your heart is re-started again before they take you off the heart-lung machine
- 5 For traditional open-heart surgery your breastbone is joined up with wires. The cut on your chest will then be closed up with dissolvable stitches



Full sternotomy

Open-heart surgery where the surgeon makes a cut through the breastbone to reach the heart.²¹



Minimally invasive surgery

The valve can also be implanted using less invasive methods, such as 'mini thoracotomy,' where a small cut is made between the ribs to access the heart.²¹ You and your doctor will discuss the best option for you.

After your procedure



Right after your operation you will usually stay in the intensive care unit for a day or two where they will monitor you closely before being moved to the surgical ward.²

The days immediately after your procedure, you might have various tubes and monitors connected to you to check your vital signs.² For traditional open heart surgery you can expect to stay in hospital for around a week but this depends on your age and current health.² For the minimally invasive procedure, your stay in hospital might be reduced to 3–5 days.²² Your healthcare team will offer advice to help during your recovery period, such as local cardiac rehabilitation programmes or support groups.²

Blood-thinner medication requirements

If you were given a tissue valve, you need to take blood thinners for a short period. This may be from a few weeks to two to three months after surgery.^{6,23}

If you were fitted with a mechanical valve, initially you'll need to take several blood-thinning medications to avoid blood clots. You will be on at least one form of blood-thinning medication for the rest of your life and your doctor will guide you on how long to take the others.^{6,23}

Things to consider after surgery



It can take around two to three months before you feel your normal self again, though your recovery may be shorter if you had the less invasive surgery.^{2,24} Your healthcare team will give you advice on how to take care of yourself after your surgery. For example, they are likely to ask you to avoid heavy exercise and heavy lifting for the first few months, or not to drive for the first 6 weeks.²

Unlike tissue valves, mechanical valves require lifelong use of a specific type of blood thinner called vitamin K antagonists, which will be prescribed to you by your doctor.⁶ Taking this type of blood thinner requires you to make some changes to your daily life:

- You will need to regularly take blood tests to monitor its effect. Initially this may be weekly but once your levels are stable you might only need to take tests every 8 weeks or so.²⁵
- Try to reduce your risk of bleeding for example, use a soft-bristle toothbrush, shave with an electric razor rather than a blade, take care when using sharp objects like knives and avoid contact sports.⁸
- Try to keep the amount of foods high in vitamin K (e.g. leafy greens) consistent in your diet.⁸
- Avoid drinking alcohol.⁸

To learn more about your aortic stenosis and valve replacement visit [Edwards.com](https://www.edwards.com)

Glossary



Aortic stenosis: A type of heart valve disease which involves narrowing of the aortic valve so that blood cannot flow normally
Aortic valve: The valve between left ventricle and the aorta
Atrium: Upper chamber of the heart that receives blood from the veins
Blood thinner: A drug which prevents the clotting of blood, also known as an anticoagulant
Ventricle: The large lower pumping chambers of the heart

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No clinical data are available that evaluate the long-term impact of RESILIA tissue in patients. Additional clinical data for up to 10 years of follow-up are being collected to monitor the long-term safety and performance of RESILIA tissue.

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