



**Brighton and Sussex
University Hospitals**
NHS Trust

Transcatheter Aortic Valve Implant (TAVI)

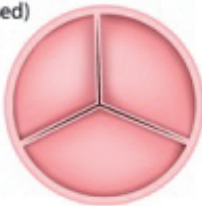
Sussex Cardiac Centre

Contents

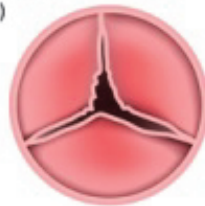
Valvular heart disease	3
What are the symptoms	3
Transcatheter aortic valve implantation	4
What is the valve?	6
What are the risks and benefits?	6
After the procedure	7
Going home	8
Activity	8
Travel	8
Wound care	9
Returning to work	9
Hospital Follow up	10
Useful telephone numbers / websites	11

HEART VALVE DISEASE

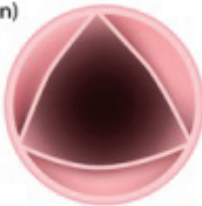
Normal valve
(closed)



Valve stenosis
(closed)



Normal valve
(open)



Valve stenosis
(open)



Valvular heart disease

Your heart is a muscle which pumps blood to your lungs and around the rest of your body. There are four valves in your heart.

Normally, these valves open to let blood flow through or out of your heart, and then shut to keep it from flowing backwards.

If your valve is diseased or damaged this can affect the flow of blood to your heart in two ways.

- 1 If the valve does not open fully, it will obstruct the flow of blood. This is called **valve stenosis**.
- 2 If the valve does not close properly, it will allow blood to leak backwards, in the wrong direction. This is called **valve incompetence** or **regurgitation**.

What are the symptoms?

The symptoms of valvular disease vary depending on which valve is affected, they may include:

- Tiredness or breathlessness when exercising
- Palpitations or feeling like your heart is racing
- Chest pains (angina) because there is not enough blood
- Flowing through the coronary arteries, which supply the heart muscle with blood
- Spells of dizziness and fainting, this can happen if the obstruction is severe.

The back pressure (the effect of blood flowing backwards) can also cause shortness of breath and swelling of the ankles and legs.

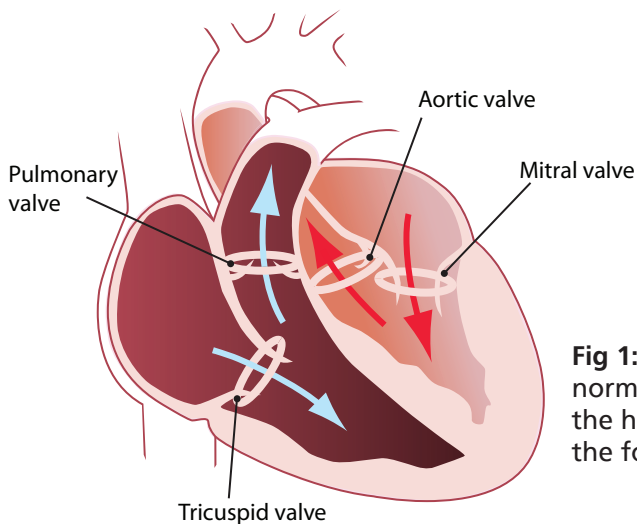


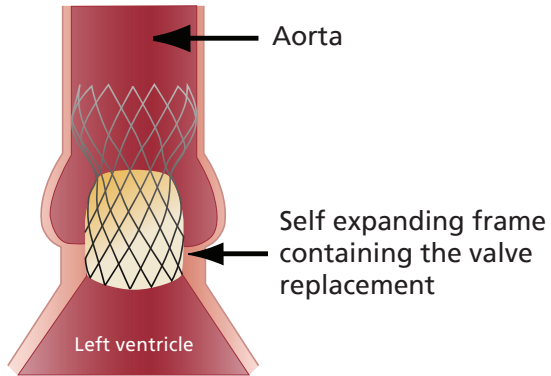
Fig 1: This picture shows the normal flow of blood through the heart, and the location of the four heart valves

Transcatheter aortic valve implantation

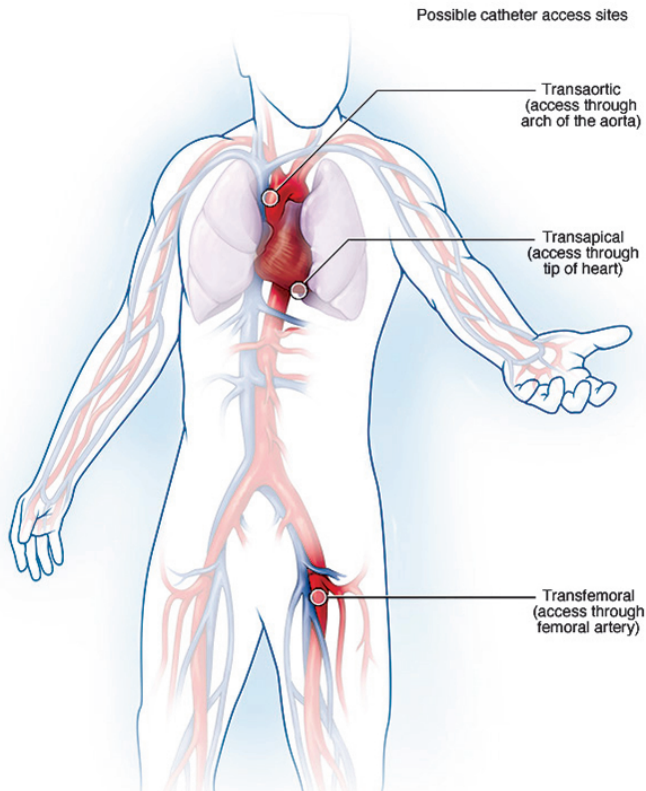
For some people one way of treating their particular heart problem is to insert a new aortic valve percutaneously (through an artery via the skin).

You will need to have a number of tests to see if the TAVI procedure is the right one for you. These tests may include an echocardiogram (ultrasound scan of the heart), an angiogram and a CT scan. Prior to admission for the TAVI procedure you will also be contacted by our Structural Heart Nurse Specialist to attend a pre-admission clinic. You may also be approached about participating in a clinical trial.

Before the start of the procedure, to help you to relax, an anaesthetist will give you some sedation. Access to the heart will be through a tube in the artery at the wrist, and a larger tube in the artery at the groin. Under X-ray control, the doctors will place the new aortic valve.



For some patients, the approach from the leg is not suitable and the valve may need to be implanted from an incision in the chest itself, from the side of chest or around the shoulder. If this is the best treatment for you, we will discuss this in detail with you. These access points require general anaesthetic.



Once the procedure has finished you will wake up fully while still in the theatre and then be transferred to our Specialist Cardiac Ward, where you will stay for at least 24hrs.

Some patients may need a Permanent Pacemaker after the TAVI as the new valve can squash the electrical conduction system of the heart. If this is the case for you, we will usually put in a Pacemaker in during the first couple of days following your TAVI.

What is the new valve?

Your new valve will be made out of either Porcine (Pig) or Bovine (Cow) pericardium which is cut into shape and then sewn into a metallic frame which can be squeezed into a small catheter. We use several different valve types, depending on your anatomy. Some valves are put in with a balloon, others are self-expanding and some can be mechanically deployed.

What are the risks and benefits?

The TAVI procedure has a success rate of more than 98%, however, as with any heart procedure there are risks, and they vary from person to person. We will discuss these with you when you come for your appointment at the clinic and again when you come to sign the consent form.

The potential benefits are improved heart function, a better quality of life and perhaps an increased life expectancy.

After the procedure

The procedure lasts approximately one and a half hours. We will close the puncture site in your groin with a device that seals the artery. The nurse looking after you will regularly inspect your groin, check your blood pressure and check the pulses in your feet.

We will observe your heart rhythm on a cardiac monitor overnight. If all is well, you will be able to sit up on return to ward and get out of bed that evening or the following morning.

While you are in the Cardiac Care Unit (CCU) it may not always be possible to care for you with other patients who are the same sex as you because we will be using specialised equipment as part of your care. However we provide substantial screening around your bed, to preserve your privacy and dignity. There is limited space in the ward, so we suggest you do not bring too many things with you into hospital.

CCU has visiting hours of 3pm till 8pm

To enable nurses and doctors to attend to your needs during visiting time, we ask that visitors are limited to two people at the bedside, at any one time.

Before you go home we will review your medication. You will need to take Aspirin to start with and we will review this in clinic. We will also see if other medications need stopping or the dose altering.



Going home

If there have not been any problems, you should be able to go home two to three days after the procedure.

If you expect problems organising your own transport home, then please contact us prior to admission as soon as you can.

We recommend that you have someone who can stay with you for up to 2 days following discharge to help with recovery. You may need support over the next 1-2 weeks while recuperating.

Activity

We advise you not to do anything strenuous for the first week or so after returning home. So avoid lifting heavy objects (e.g. shopping, suitcases) excessive pulling and pushing (e.g. cutting the grass, digging the garden, shovelling and vacuum cleaning).

Give yourself a week or two to get your strength back before returning to your everyday activities. A good starting point is to take regular walks on a daily basis. You don't have to avoid climbing stairs or walking up hills - just take them slowly and steadily at first. After a couple of weeks you should be back doing the things you used to do. Hopefully you will find that you can do more than you could before.

Travel

Government rules say that you are not allowed to drive for 2 weeks following your TAVI procedure. You don't need to let the DVLA know unless you hold a commercial license. It's safe to fly 2 weeks after your TAVI – assuming you have not had any complications and you are the passenger and not the pilot! If you need insurance then the British Heart Foundation (BHF) 0845 0708070 has details of insurers.

Wound care

It is normal for your groin to feel tender for a few days after the procedure. A bruise may develop with discolouration down as far as your knee. If you develop a hard tender lump under the skin around the cut/wound, please contact out CCU. This may be the result of a collection of blood under the skin. We also advise you to avoid hot baths for 48 hours as this may encourage bleeding.

The artery sealing device leaves a stitch under the skin and your wound may be covered in a clear film dressing. This can be peeled off when you get home. Then the wound area can be kept clean and dry as normal.

In the highly unlikely event of your wound starting to bleed, lie down and get a family member or friend to apply pressure to your groin. Call the ward for advice.

Recovery at home will continue at different rates for each person. Physical and psychological health may take a few weeks to recover and reach peak performance following the TAVI procedure.

Returning to work

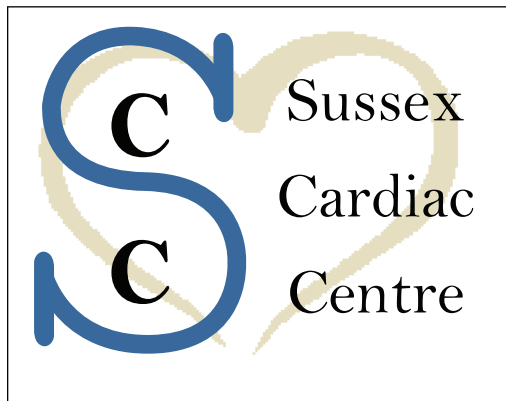
This will depend on many factors such as the overall state of your health and the type of work that you do. If you have been working up until the time of your procedure you should be able to return to work within a couple of weeks or so. You may like to discuss this in more detail with your consultant or GP.

Hospital Follow-up

You will be invited back to see your Consultant for a review. This will usually be 2-3 months following discharge. Thereafter you will return to the care of your referring hospital, if you live outside the Brighton area.

If you have any questions, queries or concerns please do not hesitate to contact our Structural Heart Specialist Nurse - **Alex Gannaway 07769 286982**

Cardiac Rehabilitation can be really helpful following a TAVI procedure. There are Cardiac Rehabilitation and Support groups that are available so please contact us to find out if there is anything in your area.



Useful telephone numbers/websites

Sussex Cardiac Centre

Patient Website

www.sussex-cardiac-centre.co.uk

The Sussex Heart Charity

Local Cardiac Charity

www.sussexheartcharity.org

Brighton and Sussex Take Heart

Community Exercise and Support Group

www.bsthg.org.uk

Telephone: 01273 278213 or 01273 584530

The British cardiac Patients Association (BCPA)

National helpline: 01223 846845

National Institute of Clinical Excellence (NICE)

www.nice.org.uk

Cardiac Research Team

Telephone: 01273 696955 Ext. 67687

Structural Heart Nurse Specialist

Alex Gannaway

Telephone: 07769 286982

Alex.gannaway@nhs.net

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Disclaimer

The information in this leaflet is for guidance purposes only and is in no way intended to replace professional clinical advice by a qualified practitioner.

Ref number: 199.4

Publication Date: July 2020

Review Date: July 2023

