

South London Cardiac Operational Delivery Network

Transcatheter Aortic Valve Implantation (TAVI) Procedure

This leaflet explains more about the TAVI procedure, a treatment for aortic stenosis, including the benefits and risks.

If you have any further questions, please speak to a doctor or nurse caring for you.

What is Aortic Stenosis?

Your heart is a muscle which pumps blood to your lungs and around the rest of your body. There are four valves located within your heart. These valves open to let blood flow in through the heart and they close to prevent blood flowing backwards. This ensures the heart is an effective pump. One of these valves is called the aortic valve. When open, it allows the flow of oxygenated blood from the heart into your aorta, the major artery that supplies the rest of your body.

In some people, the aortic valve may degenerate and struggle to open well. This condition is called aortic stenosis. As a result, the heart cannot easily pump blood through the narrowed valve. This causes symptoms including breathlessness and chest pain. Some people may experience dizzy spells when exercising, which may lead to fainting. The restriction and extra force required to pump blood also causes strain on the heart muscle, which may lead to fluid on the lungs, swollen ankles and eventually heart muscle weakness. If untreated, aortic stenosis will usually get worse over time.

What is TAVI?

Transcatheter aortic valve implantation (TAVI) is a treatment for aortic valve disease where a new valve is inserted inside of this narrowed valve. This is an interventional cardiology procedure, usually performed under local anaesthetic (conscious sedation) rather than general anaesthetic.

Why should I have TAVI?

Having a new aortic valve implanted may improve how well your heart works, which should significantly improve your symptoms, potentially increasing both your quality of life and life expectancy.

Not everyone is suitable for TAVI, but if you are, it is important to remember that aortic stenosis is a serious condition when considering whether to go ahead with the treatment. It is likely that your symptoms will progress over time, impacting on your quality of life and your life expectancy.

What are the steps to having a TAVI procedure?

You have already been taken through a series of tests and investigations, known as the TAVI assessment or TAVI work-up. These tests have confirmed that your heart and blood vessels are anatomically suitable and that TAVI is the most appropriate treatment for you.

A member of your heart team will contact you with the details of when you should come to the hospital for the TAVI procedure.

If your symptoms change whilst you are waiting for the TAVI procedure date, please contact your GP or 999 in the first instance. You should also let us know promptly.

What are the risks of the TAVI procedure?

As with any medical procedure, there are certain risks involved. These will be fully explained to you by your heart team.

The risk of complications may include:

- 10-20% risk of heart rhythm abnormalities (arrhythmias)
- 5% risk of bleeding, bruising or pain on the access site
- 5% risk of damage to an artery, requiring surgical or percutaneous repair
- 5% risk of a moderate to severe leaky valve
- 5-10% risk of a slow heart rate requiring a permanent pacemaker
- 3% risk of stroke
- <3% risk of kidney injury
- <2% risk of infection
- <1% risk of a heart attack
- <1% risk of allergy to the X-ray dye
- <1% risk of being converted to an open heart surgery.

Very rarely, problems with the device may lead to death, due to any one or a combination of the above circumstances. Please speak to the nurse or doctor caring for you if you have any questions or concerns.

How do I give my consent (permission)?

We want to involve you in decisions about your care and treatment. If you decide to go ahead with the procedure, you will be asked to sign a consent form. Staff will explain all the risks,

benefits and alternatives before they ask you to sign a consent form. This states that you agree to have the treatment and you understand what it involves.

If at any time there is anything you don't understand or if you need more time to think about the procedure, please tell your heart team - even if this is after signing the consent form. It is your decision whether you have the procedure and your wishes will be respected at all times. Please ask a member of staff if you would like to read our consent policy.

Having the TAVI procedure

If you are coming from home to have your TAVI procedure, please bring with you:

- All your medicines, including anything that you get from your doctor on prescription, other 'over the counter' medicines and any alternative medicines, such as herbal remedies
- Any relevant clinic letters from other hospitals or specialties
- Contact details for family members or carers
- A list of any questions you may have.

What happens during a TAVI?

When you arrive, you will be assessed by members of your heart team. The evening before, or on the morning of your procedure, you will be examined by one of the anaesthetists. You will be required to fast for six hours before your procedure. Your heart team will advise you of this.

During the procedure:

- A catheter (hollow tube) will be inserted into your groin.
- The catheter is passed into your heart and positioned within the opening of the aortic valve.
- If necessary, a balloon may be gently inflated to make room for the new tissue valve.
- The TAVI implant is an artificial heart valve, made of a stent (metal tube) and porcine (pig) or bovine (cow) tissue.
- The new valve either expands by itself or is expanded using the balloon, depending on which type of valve is used.
- If a balloon has been used, it is deflated before the balloon and catheter are removed.
- The new valve now sits inside your valve.

There are other access routes that could be possible if the route through the groin isn't suitable for you. Your heart team will explain any alternatives to you as appropriate.

The procedure typically takes one to two hours. Your heart team will close the puncture site with a device that seals the blood vessel.

Will I feel any pain?

You may feel uncomfortable at the procedure site after the TAVI procedure, but this will wear off in a few days and you will be given painkillers as necessary by the nurses looking after you.

You may be given paracetamol when you leave hospital. If you require additional pain medications, you should see your GP. Typically, there may be bruising or pain to your groin.

Recovering in hospital after your TAVI

During your recovery in hospital, you will be on a cardiac monitor for one to two days after the procedure and you will be seen every day by your heart team. The team will monitor your wound site during this time. Depending on where you are treated, you will also have a combination of the following tests:

- A chest X-ray.
- Regular routine blood tests
- An electrocardiogram (ECG).
- A transthoracic echocardiogram.

You will likely be discharged home from hospital between the second and fifth day following your procedure. However, all cases are unique and you may need to be kept in hospital for longer.

There is limited space in the ward, so we suggest you do not bring too many things with you into hospital.

Going home after your TAVI

It is best to prepare for going home before you come to the hospital. This planning is one of the most important things that you, your carer and family can do to help make your procedure a success. Your going home plan should include the following:

- **Going home** – You must have a responsible adult to help you get home. You can travel by car as a **passenger only**. If you are thinking of travelling home by public transport (with assistance), please discuss this with your heart team/specialist nurses before your procedure in order to plan safely. Please talk to your heart team if you have any concerns about your journey home.
- **Help at home** – You will need some help when you first go home. We suggest that you arrange to have someone stay with you for the first two days or longer to help you recover. If you do not have family or friends to help you, please speak to your heart team.

Often, people feel some improvement immediately, particularly with their breathing. You may experience some discomfort where the catheters were inserted, but over a week or two this should improve and you will be able to have medication to help the pain, if needed. Your nurse will check the incision sites and give you spare dressings if required.

It is important to remember that it may take up to two to three months for a full recovery from the procedure. Try to be patient and take care and take into consideration all elements of your health as you heal.

When you are discharged, you will be given a discharge summary letter for you to give to your GP or your letter will be emailed to your GP directly. This will detail what has happened to you in hospital and which medications you are on. You will need to take potentially more than one type of blood thinning medication to stop blood clots forming on the device. How long you need to take these will vary. You will be instructed on this prior to discharge, including any other changes to your existing medication - please don't hesitate to ask any questions. If you have concerns after discharge, you can ring the pharmacy helpline or call your GP.

Depending on where you are treated, you may be given a card explaining why and for how long you should take the medication.

What do I need to do after I am discharged from hospital?

Activity

Avoid anything that may put a strain on your groin for two to three weeks after the procedure. For the first two weeks after your surgery, it is best to exercise little and often. Begin by walking around the house and taking short walks outside. Once you are comfortable walking on flat ground, try walking up hills slowly, resting as necessary. Aim for two 15 minute walks each day, one in the morning and one in the afternoon.

At week three or four, you may gradually increase this – depending on your individual situation. You may find this difficult if you have mobility problems, so just do what you can manage.

Everyone has a slightly different recovery speed but as soon as you are walking comfortably around the home you can carry out light housework such as washing up, dusting, laundry or small amounts of ironing (while sitting down). None of these activities should make you feel extremely breathless – if they do you are working too hard and need to slow down.

Always wait at least one hour after eating before you exercise and plan exercise into your day to avoid taking on too much and tiring yourself out. Keeping active is very important, but you should avoid strenuous activity, heavy lifting or any of the activities listed above for six weeks after the procedure. It is normal to feel easily tired for a few weeks.

Remember, everyone is different so exercise at a level that feels right for you.

Wound care

You will be given advice from your heart team before you leave the hospital on how to care for your groin wound. If you have any problems, please contact your heart team for specialist advice.

There will normally be no wound as such, but it is normal for both groins to be tender and bruised for a few days after the procedure. Any stitches remaining in the groin will either dissolve over the following weeks or your heart team may advise that you need to visit your Practice Nurse to have them removed. You should not need a dressing in place by the time you go home, but you should avoid using soap or shower gel over these areas for a week after your procedure.

In the unlikely event that your groin starts to bleed, you should lie down flat and apply pressure to the area keeping your leg as straight as possible and your head down. If the bleeding does not stop after 10 minutes, dial 999. Do not drive yourself to A&E. If the bleeding stops within 10 minutes, keep your leg as still as possible for the following hour. If bleeding restarts, go to your A&E department. Do not drive yourself to A&E.

When bathing, avoid using very hot water for the first two weeks. It is also preferable to shower rather than have a bath during this time. Do not use soap or shower gel on the wound until it is properly healed and avoid using talc. There is no need for you to cover the wound unless instructed to do so.

Cardiac rehabilitation

Your heart team may arrange for you to attend cardiac rehabilitation around six weeks after your TAVI. This is a scheme of graduated exercise and general health discussions and you will be able to have this at your local hospital.

Driving

DVLA regulations do not permit driving for four weeks after your TAVI. You do not need to inform the DVLA about your procedure, but we do advise you to tell your insurance company to avoid problems with any claims you may make in the future.

If you have problems with your insurance, the British Heart Foundation (BHF) will be able to give you details of insurance companies. You can call the BHF on 0845 070 80 70. If you have a Group 2 licence for heavy goods or public service, you will need to inform the DVLA who will advise you further.

Emotions

Having a TAVI is a significant event. As well as affecting your physical health, it can also affect you emotionally.

Moods and feelings can easily change from one extreme to another. People who have surgery often say that they find themselves being 'snappy and short' with those around them. You may feel depressed, tearful or irritable one minute and on top of the world the next. This is a normal part of recovering from surgery and these feelings will pass.

Talk to your family, friends and GP about how you are feeling as this will help. If you have a partner, they may also experience high levels of anxiety and depression.

Flying

If your TAVI procedure has been uncomplicated, you may be able to fly two to four weeks after the procedure. Despite this, if you are planning a holiday, it may be better to wait at least six weeks before travelling, as it is unlikely that you will get the best out of your break before then. If you wish to fly within three months of your procedure, check with your doctor and the airline, as each has its own procedure. Also, remember to ensure that you have valid travel insurance.

Sex

Your love life can be resumed when you are ready; this is normally within four to six weeks after the TAVI procedure. Discuss it with your partner and resume once you are both happy and comfortable. It is normal to feel anxious the first time you think about sex after your operation and you may have some questions.

Avoid positions which will put pressure or strain on the wound. You may become tired quicker, so take your time. Some of the medications that you are taking can affect your love life. Your GP or heart team can answer any questions that you may have.

Will I have a follow up appointment?

We will decide for you to come back for an outpatient clinic appointment, usually within four months after your discharge. Sometimes we may ask you to have an echocardiogram on the same day.

Following this, you may be asked back for another follow up appointment several months or a year later. If you were originally referred from another hospital you may instead be discharged to your local cardiologist for continued monitoring.

Useful sources of information

British Heart Foundation – www.bhf.org.uk

The British Heart Foundation funds research into all heart and circulatory diseases and the things that cause them. The website contains a lot of helpful information, including:

- Tests for heart conditions
- Heart valve disease
- Caring for someone with a heart condition
- Cardiac rehabilitation.

British Heart Valve Society – www.bhvs.org.uk

This is a professional specialty group affiliated to the British Cardiovascular Society. It includes people of all disciplines interested in heart valve disease with representation from patients as well. It aims to improve the care of patients with valve disease via educational and training programmes, literature and web information and by defining standards of care for individuals, services and hospitals. It has produced an endocarditis information and warning card you can carry in your wallet.

Heart Valve Voice – www.heartvalvevoice.com

Heart Valve Voice is a collection of people with real experiences of heart valve disease, including a multi-disciplinary group of experts in the field (cardiologists, cardiac surgeons, GPs), cardiac patient societies and patients themselves. Leaflets include: “Recovering from treatment”, “Post-treatment checklist” and “10 surprising things you may not be able to do right after your treatment.”

Contact us

If you have any questions or concerns about your care, please contact your heart team on 07717 158 773 (Monday to Friday, 9am to 5pm).

For more information leaflets on conditions, procedures, treatments and services offered at our hospitals, please visit www.stgeorges.nhs.uk

Additional services

Patient Advice and Liaison Service (PALS)

PALS can offer you on-the-spot advice and information when you have comments or concerns about our services or the care you have received. You can visit the PALS office between 9.30am and 4.30pm, Monday to Friday in the main corridor between Grosvenor and Lanesborough wings (near the lift foyer).

Tel: 020 8725 2453 **Email:** pals@stgeorges.nhs.uk

NHS Choices

NHS Choices provides online information and guidance on all aspects of health and healthcare, to help you make decisions about your health. **Web:** www.nhs.uk

NHS 111

You can call 111 when you need medical help fast but it's not a 999 emergency. NHS 111 is available 24 hours a day, 365 days a year. Calls are free from landlines and mobile phones.

Tel: 111

AccessAble

You can download accessibility guides for all our services by searching 'St George's Hospital' on the AccessAble website (www.accessable.co.uk). The guides are designed to ensure everyone – including those with accessibility needs – can access our hospital and community sites with confidence.

This information has been developed by the South London Cardiac Operational Delivery Network, in conjunction with NHS trust clinicians across the region for a consistent approach to patient information for TAVI assessment and procedure.

