

South London Cardiac Operational Delivery Network

Transcatheter Aortic Valve Implantation (TAVI) Assessment

This leaflet provides information on the TAVI procedure and the tests that you may undergo to help your heart team to decide if TAVI is the right procedure for you.

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 creates 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 this narrowed valve. This is an interventional cardiology procedure, usually performed under local anaesthetic (conscious sedation, where you will be awake and feel more relaxed) rather than general anaesthetic.

Not everyone is suited to this procedure. We need to check that your heart and blood vessels are anatomically suitable and that TAVI is the most appropriate treatment for you. We call this stage the TAVI assessment or TAVI work-up.

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.

Are there any alternatives?

Another treatment option for aortic stenosis may be **surgical aortic valve replacement** (open heart surgery), where the valve is removed and replaced.

Open heart surgery is more invasive than TAVI and can be more risky, particularly if you have other illnesses which increase your overall risk for having a general anaesthetic. If you have been referred for TAVI, it may be that you are at too great a risk for cardiac surgery and it has already been agreed that cardiac surgery will not be an option for you.

There are some options that may help manage aortic stenosis symptoms temporarily, but these are not suitable for all patients and will not fix the diseased valve or improve your life expectancy:

- **Balloon aortic valvuloplasty (BAV)** – this will temporarily stretch open your aortic valve. This may relieve your symptoms for three to six months but only offers temporary relief as the valve narrows again. This will not improve your life expectancy and is not suitable for everyone.
- **Medication** – aortic stenosis cannot be treated with medication. Medication may help to relieve some symptoms but it will not fix the diseased valve.

What are the steps to having a TAVI procedure?

Before you have a TAVI procedure, we will take you through a series of tests and investigations to check that your heart and blood vessels are anatomically suitable and that TAVI is the most appropriate treatment for you. This stage is called the TAVI assessment or TAVI work-up.

Some of these tests may be done in your local hospital or at a pre-assessment clinic. They may be carried out in one day, during a hospital admission over several days or may be completed over a series of outpatient appointments.

When we have the results of your tests the heart team will meet at the **TAVI Multi-Disciplinary Team (MDT) Meeting** to discuss your case and decide on the best treatment plan for you. We will explain this stage later.

What tests will I have for the TAVI assessment?

You will need some or all the following tests or investigations:

- A review by your heart team consultant
- Routine blood tests
- Electrocardiogram (ECG), which measures your heart rhythm
- Echocardiogram, a cardiac ultrasound
- Computerised tomography (CT) scan, a specialist X-ray where you lie in a doughnut shaped scanner, using contrast dye given through a small tube in an arm vein
- Coronary angiogram, where a catheter is passed into an artery in your groin or wrist and a special dye is injected to provide a series of X-ray pictures of the arteries surrounding your heart
- Trans-oesophageal echocardiogram (TOE), a special cardiac ultrasound that takes detailed pictures of your heart from your throat.

Depending on what the above tests indicate, additional tests may be required, such as chest X-rays or breathing tests. The team will explain these to you if they are required.

How should I prepare for the TAVI assessment?

- You should continue to take your regular medications as usual, but please let your heart team know if you are taking antibiotics, blood thinning medication or any other medications in the days before your assessment.
- Please bring 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.
- If you are on blood thinning medication (e.g., warfarin, apixaban, rivaroxaban, edoxaban, dabigatran) or metformin, we may need to adjust or stop these medications if you are going to have a coronary angiogram. Your heart team will direct you on this.

Will I feel any pain?

It is possible that you may feel some discomfort during the coronary angiogram. You will receive local anaesthetic at the site where the catheter is inserted, which may sting initially and then numb the area to make it less uncomfortable.

It is also possible that you may feel some discomfort during the trans-oesophageal echocardiogram (TOE) if one is required. The procedure can feel uncomfortable but should not be painful. You may experience a sore throat or hoarse voice afterwards, but these side effects should pass within a couple of days.

More information on having an angiogram or TOE is available from your heart team.

What are the risks of the TAVI assessment?

The assessment tests carry some risk, though these are relatively small. Most patients (about 99 out of 100) will have no major problems. It is important to be aware of the potential complications before you sign your consent form, giving us your permission to perform the tests. The potential complications include:

- **Bruising** (at the top of the leg where the tube was inserted) following an angiogram – this occurs in about one in every 20 patients. This can be uncomfortable and may take a few weeks to disappear.
- **Damage to the artery in the groin or wrist** following an angiogram – this causes a swelling known as a ‘false aneurysm’. This happens to less than one patient in every 100, but it could increase your length of stay in hospital because you may need extra monitoring or minor surgery.
- **Allergic reaction to the X-ray dye** – This occurs in less than one in every 500 patients. It is important to tell us if you have had any previous allergic reactions before your angiogram or CT scan. If you do have an allergic reaction, we will treat it with medicines.

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 assessment, 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 assessment and 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 assessment, please tell your heart team - even if this is after signing the consent form. We will only arrange tests that are necessary, but it is your decision whether you have them and your wishes will be respected at all times. Please ask a member of staff if you would like to read our consent policy.

After your angiogram

Going home – If you go home on the same day as your angiogram, you must have a responsible adult to help you 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 coming for your assessment to plan safely. Please talk to your heart team if you have any concerns about your journey home.

Caring for the wound to my groin or wrist – It is normal for your wound to be tender for a few days after the angiogram. It is also normal for a bruise to develop. You can shower when you get home but avoid rubbing the wound site. Do not have a bath for 48 hours. Do not put creams, talcum powder or soap directly onto the wound site for a week after the angiogram to avoid irritation and reduce the likelihood of infection.

Eating and drinking – You can eat and drink as usual but you should avoid alcohol for 24 hours after your procedure. You should also drink plenty of non-alcoholic fluids to help remove the dye from your body.

Driving – Do not drive on the day of your angiogram or for two days afterwards. This will allow time for your wound to heal. You can start driving two days after the procedure, if you feel comfortable and have not had any problems with your groin or wrist.

Normal activity – Your return to normal activities will depend on the results of the angiogram, and how strenuous those activities are. Please speak to your heart team before starting any exercise.

Get help if you notice any of the following –

Please contact your GP if you have:

- A hard, tender lump under the skin around the area of incision (a pea-sized lump is normal)
- Any increase in pain, swelling, redness and/or discharge at the site
- Cold foot on the same side as the angiogram
- Raised temperature or fever
- New chest pain.

In the unlikely event that your groin or wrist starts to bleed, you should lie down flat and apply pressure to the area keeping your arm or 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 arm or 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 will I know if I should have the TAVI procedure?

When all your test results are available, your case will be discussed at the **TAVI multi-disciplinary team (MDT) meeting**. These meetings include an experienced team of cardiologists, cardiac surgeons and specialist nurses who will discuss your individual case and decide on the best treatment plan for you. Whilst these meetings happen on a regular basis, please be aware it can take a little while to gather the required information before your case can be discussed.

Following the meeting, your heart team will inform you of your proposed plan of care by telephone or letter. Please be reassured that you will be contacted – you do not need to follow up with us to ensure it's done.

When we contact you, it may be to recommend TAVI, or possibly medical management. The assessment tests may reveal the need for further referrals such as for a surgical assessment. If this is the case, your heart team will inform you and explain any further investigations or procedures needed.

What happens if I am approved for the TAVI procedure?

You will be advised of the heart team's decision for your care after they discuss your case. If you are approved for the TAVI procedure, a member of your heart team will contact you with the details of when you should come to the hospital.

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

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.



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