

# Coming in for trans-catheter aortic valve implantation (TAVI) work up

You have been referred for TAVI work up as you have been diagnosed with severe aortic stenosis (see below). This leaflet aims to answer your questions about having trans-catheter aortic valve implantation (TAVI) work up. It explains the benefits, risks and alternatives of the procedures you will be having, as well as what you can expect when you come to hospital.

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

## What is aortic stenosis?

You have been diagnosed with a condition called aortic stenosis. This means that the valve that opens to allow blood to flow from your heart to the rest of your body has severely narrowed, and does not open properly. This makes it hard for the blood to flow through the valve, so your heart may need to pump harder to force the blood through. The narrowing is often caused by a build up of calcium around and inside the valve, which can happen over the course of a lifetime.

## What is a TAVI?

TAVI is short for trans-catheter aortic valve implantation, and is a way of improving how your heart works without us having to remove your own narrowed valve. It involves putting an artificial valve into your heart. The valve is made up of three 'leaflets' (made of material derived from cows) which control blood flow. The valve is inside a metal cage called a stent, which holds the new valve in position.

You do not need open heart surgery to have this procedure. Instead the valve is inserted into the heart through a thin tube (known as a catheter) which is put into the body through a small cut in either your groin or your chest.

The procedure takes up to two hours and is carried out under general anaesthetic, which means you will be asleep. Because this is a less invasive procedure with a shorter anaesthetic than open heart surgery, it can be an alternative for patients who are not suitable for open heart procedures.

**If you have any questions about the investigations you are having, or if you would like more information, please contact us using the details on the back page.**

## What is TAVI work up?

We want to make sure you are suitable for treatment of your aortic stenosis. TAVI work up is a series of hospital tests that will help us decide the most appropriate way to care for you.

The tests include the following scans:

- carotid dopplers, to look at the arteries that supply blood to your brain
- CT aorta - an x-ray where you lay down and lots of pictures are taken of your chest
- lung function testing to look at how well your lungs work (not all patients need this test)
- a chest x-ray
- an ECG, to check your heart rhythm
- blood tests
- an echocardiogram, which uses ultrasound to look at your heart.

You will also need to have a type of x-ray known as a coronary angiogram. This test is performed under local anaesthetic, so you will be awake but will not feel the small cut we make into your groin. Through this cut, we will push a fine tube through your blood vessels, so that we can inject a fluid known as contrast dye into the arteries in your heart. Because this fluid can be seen under x-ray, your cardiologist will be able to view and take pictures of your heart and its blood supply.

## What are benefits – why should I have TAVI work up?

You need to come in for these investigations so that we can decide how your aortic stenosis should be treated and whether a TAVI is the best option for you. Without having these investigations done, the team will be unable to make a safe clinical decision on the best treatment for you.

Having a new aortic valve implanted may relieve both the short and long-term symptoms of your aortic stenosis. It may make your aortic valve work better and so improve how well your heart works, potentially increasing both your quality of life and your life expectancy.

## What are the risks?

There are risks with any procedure, but it is important to remember that these are the only tests that can be used to decide on the best treatment for you. Most of the tests that you will be having are non-invasive and so the risks mentioned below mainly refer to the coronary angiogram that you will be having. The majority of patients (about 99 out of 100) have no major problems, but the complications listed below can occur.

It is important to be aware of these complications before you sign your consent form, giving us your permission to have the tests:

- **Bruising at the top of the leg** where the catheter has been inserted after you have had your angiogram. This occurs in about one in every 20 patients. This can be uncomfortable and can take a few weeks to disappear.
- **Damage to the artery in the groin** causing 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 surgery.
- Some people (less than one in every 500 patients) may have an **allergic reaction to the x-ray dye**. It is important to tell your nurse if you have had any previous allergic reactions before you have your angiogram. If you do have an allergic reaction, we will treat it with medicines.

- **Damage to one of the heart arteries**, causing some heart damage or a heart attack. This occurs in approximately one in every 1,000 patients. If this happens we will try to repair the artery with balloon treatment or an emergency bypass operation.
- **The angiogram may displace small blood clots.** If these move to the brain, a stroke can occur. This is rare, happening in less than one in 1,000 patients.
- Although a rare complication, it is important for you and your relatives to know that an angiogram carries the **risk of death**. The incidence of this is very low – approximately one in every 2,500 patients.
- **Some of the procedures you will be having will expose you to additional radiation.** For your chest x-ray you will receive about the same amount of radiation as the average person receives from background radiation in 10 days. If you have a CT of your abdomen or your chest, the radiation you receive is equivalent to three years' background radiation. During your coronary angiogram the radiation that you receive is the same as the average person receives from background radiation in six months.

## Are there any other alternatives?

Aortic stenosis can also be treated with open heart surgery or medicines. If you choose to take medicines you may also be suitable to have a balloon aortic valvuloplasty (BAV). This procedure is done under local anaesthetic and uses a small balloon inserted through an artery in your groin to stretch your aortic valve. A BAV may provide temporary relief from your symptoms.

## How can I prepare for a TAVI work up?

You should continue to take your regular medicines as usual. The doctors will review the medicines you are taking at your assessment appointment before you have your procedure and will let you know if you need to adjust the dose or stop taking any of them temporarily. In particular, warfarin, metformin, and insulin doses may need to be held or adjusted – but we will contact you to let you know. You will need to stop taking your warfarin two days before your procedure, however please speak to your doctor or the Nurse Case Manager for Structural Heart Disease about this, **especially** if you have had a heart valve operation, recurrent deep vein thrombosis (DVT) or pulmonary embolism (PE). Your doctor will tell you when to start taking warfarin again after your procedure.

If you are taking antibiotics on the days before your procedure please let the admissions team or nurse case manager know.

Please bring all of the medicines that you currently take or use with you, including anything that you get from your doctor on prescription, medicines you have bought yourself over the counter, and any alternative medicines, such as herbal remedies.

## Giving my consent (permission)

The staff caring for you may need to ask your permission to perform a particular treatment or investigation. You will be asked to sign a consent form that says you have agreed to the treatment and that you understand the benefits, risks and alternatives. If there is anything you don't understand or if you need more time to think about it, please tell the staff caring for you.

Remember, it is your decision. You can change your mind at any time, even if you have signed the consent form. Let staff know immediately if you change your mind. Your wishes will be respected at all times. If you would like to read our consent policy, please ask a member of staff.

## What happens during the TAVI work up?

You will be admitted to St Thomas' hospital for your TAVI work up. Patients usually stay with us for between two and three days. During this time the tests (described above) will be completed and then once it is safe to do so, you will be discharged home.

## Will I feel any pain?

The only procedure that will potentially cause you discomfort during your work up is your coronary angiogram. Please ask to see a copy of our leaflet, **Having a coronary angiogram** for more information. You will receive local anaesthetic at the puncture site, which will sting initially and then numb the area making much less uncomfortable.

## What happens after the procedure?

After you have completed TAVI work up you will be discharged home. Your case will then be discussed within the TAVI multi-disciplinary team. They will decide on the best plan of care depending on your individual clinical needs. Following the meeting, you and your doctor will be informed of your proposed plan of care and you will receive a letter stating what the team feel is the best treatment for you.

## What do I need to do after I go home?

It is possible that you may go home on the same day as your angiogram if your TAVI work up is complete. If this is the case you must have a responsible adult to help you home. You can travel by car (as a passenger only) or by public transport with assistance.

## How should I care for the wound to my groin?

It is normal for your groin 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. Do not put creams, talcum powder or soap directly onto the groin site for up to a week after the angiogram to avoid irritation and reduce the likelihood of infection.

### However, if you notice any of the following please contact your GP:

- a hard tender lump under the skin around the area of incision (although a pea-sized lump is normal)
- any increase in pain, swelling, redness and/or discharge at the site
- a cold foot on the same side as the angiogram
- a raised temperature/fever.

If your groin starts to bleed you should apply pressure to the area keeping your leg as straight as possible (lying down if you can):

- 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 re-starts go to your A&E department. **Do not drive yourself to A&E.**

You should not have chest pain after an angiogram.

## Can I eat and drink as normal?

You can eat and drink as usual but you should avoid alcohol for 24 hours. You should also drink plenty of non-alcoholic fluids to flush the contrast fluid from your body.

## When can I return to my normal activities?

When you are able to return to work depends on your job and on the results of the angiogram. Please follow the advice given to you by your doctor and nurse. You will also need to speak to your doctor about when to start exercising – again this will depend on the result of the angiogram.

### Driving

Please do not drive on the day of your angiogram or for two days afterwards. This will allow time for your groin area to heal. You can start driving two days after the procedure, as long as you feel comfortable and have not had any problems with your groin.

## Will I have a follow-up appointment?

Depending on the results of the tests we will either contact you to let you know you are suitable for a TAVI or invite you for a follow up appointment to discuss other options.

### Contact

If you have any questions or concerns about TAVI work up, the TAVI procedure itself, or your admission please contact **cardiology admissions** on 020 7188 7335, or the **Nurse Case Manager for Structural Heart Disease** on 020 7188 1093.

## Further information

### Pharmacy Medicines Helpline

If you have any questions or concerns about your medicines, please speak to the staff caring for you or call our helpline.

t: 020 7188 8748 9am to 5pm, Monday to Friday

### Patient Advice and Liaison Service (PALS)

To make comments or raise concerns about the Trust's services, please contact PALS. Ask a member of staff to direct you to the PALS office or:

t: 020 7188 8801 at St Thomas'    t: 020 7188 8803 at Guy's    e: pals@gstt.nhs.uk

### Language Support Services

If you need an interpreter or information about your care in a different language or format, please get in touch using the following contact details.

t: 020 7188 8815    fax: 020 7188 5953

### NHS 111

Offers medical help and advice from fully trained advisers supported by experienced nurses and paramedics. Available over the phone 24 hours a day.

t: 111

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