

## Patient information factsheet

### Trans-catheter aortic valve implantation (TAVI) work up

You have been referred for an assessment known as a 'TAVI work up' because you have been diagnosed with a condition called aortic stenosis. TAVI, or trans-catheter aortic valve implantation, is one method of treating this condition and may be recommended for patients who are not able to have open heart surgery.

This factsheet explains the TAVI procedure for aortic stenosis and range of tests you will need to have to ensure it is appropriate for you.

#### What is aortic stenosis?

It is when the aortic valve (the valve that opens to allow blood to flow from your heart to the rest of your body) has narrowed and does not function properly. The valve fails to open fully, making it harder for the heart to pump blood through the valve. This narrowing is often caused by a build up of calcium inside and around the valve which can happen over the course of a lifetime. Symptoms of aortic stenosis may include shortness of breath, chest discomfort and dizziness.

#### What is TAVI?

Trans-catheter aortic valve implantation (TAVI) is a way of replacing your existing valve with a new artificial tissue valve, thereby improving how your heart works without having open heart surgery. The procedure aims to relieve you of some of the symptoms of aortic stenosis, improving your quality of life and potentially increasing your life expectancy.

During the TAVI procedure, a thin tube (catheter) is introduced through a small cut either at the top of your leg (transfemoral TAVI) or on the left hand-side of your chest (transapical TAVI). The replacement valve sits within a small metal cage (also known as a stent) and is attached onto the end of the catheter.

When the catheter is correctly positioned within the heart, the heart is paced very quickly with a temporary pacing system (a machine used to control the heart's rate). A small balloon is inflated and the valve opens up as the balloon expands. The balloon is then deflated, the pacing is stopped and the valve is held in position by the surrounding stent. The catheter is then removed and the small incision is closed.

The transfemoral TAVI procedure takes up to three hours. The team aim to perform all transfemoral TAVI procedures with patients awake. This means a local anaesthetic will be administered to the area surrounding your groin so that you will not feel any pain. You will be aware of your surroundings and able to talk to the team around you. Your anaesthetist will be by your side explaining what is happening to you throughout the procedure.

There are circumstances where a general anaesthetic is required. If this applies to you we will discuss it with you.

Most transfemoral TAVI patients will be transferred to the Cardiac High Dependency Unit (CHDU) to start their recovery and are expected to go home within three days. Transapical TAVI's are always performed under a general anaesthetic, and patients go straight to the Cardiac Intensive Care Unit (CICU) after the procedure. The recovery process takes a bit longer but we expect to help patients get home within seven days.

## TAVI work up

The TAVI work up is a series of hospital tests required to:

- make sure that TAVI will be a safe procedure to offer you
- ensure that your aortic stenosis is severe enough to treat (so you feel the benefit)

The tests you may require include:

- a chest x-ray to look at your lungs
- an ECG to check your heart rhythm
- lung function tests to see how well your lungs work
- a transthoracic echocardiogram (externally looking at your heart with ultrasound)
- a transoesophageal echocardiogram (a more detailed ultrasound of your heart)
- a CT aorta (a special x-ray that looks at the middle section of your body)
- a coronary angiogram to look at the coronary arteries that supply blood to your heart

You may already have had some of these procedures, in which case the TAVI team will decide whether they need to be repeated.

You may be admitted to Southampton General Hospital for an overnight stay, during which we will aim to complete the majority of the tests required. Alternatively, we may ask you to come in for separate outpatient appointments.

## What happens after a TAVI work up?

Once you have undergone all the necessary tests your case will be discussed at our weekly TAVI multi-disciplinary team meeting. Having met you and reviewed the investigations, the TAVI team (which consists of a number of consultants who are experienced in the fields of cardiology, cardiac surgery, cardiac anaesthesia and cardiac imaging) will decide on the best plan of care depending on your individual needs.

The TAVI nurse case manager, who is an experienced cardiac nurse, will coordinate your care and discuss the outcome of the meeting with you, ensuring that all your questions are answered. The consultant who will be responsible for your care may invite you to meet them at clinic to discuss the risks and benefits in greater detail.

## Who can I contact for more information?

If you have any questions or concerns about the TAVI work up or the TAVI procedure itself, please contact:

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Nurse case manager, TAVI and cardiac surgery

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**If you need a translation of this document, an interpreter or a version in large print, Braille or on audio tape, please telephone 023 8120 4688 for help.**