

This leaflet tells you about having a thoracic endovascular aortic repair (TEVAR). It explains what is involved and what the possible risks are. It is not meant to replace informed discussion between you and your doctor, but can act as a starting point for such discussions. If you have any questions about the procedure please ask the doctor who has referred or the department, which is going to perform it.

What is TEVAR?

Thoracic endovascular aortic repair (TEVAR) is a way of repairing an abnormality in the main blood vessel leaving your heart (aorta) by inserting covered metal mesh tubes (stent grafts). The stent grafts are typically inserted in a minimally invasive manner via the arteries in your groin using X-ray guidance to position them accurately. It is an alternative procedure to the conventional major open surgical repair to the aorta.

Why do you need a TEVAR?

You will have already had imaging, either a computed tomography (CT) or a magnetic resonance imaging (MRI) scan, to look at the aorta in your chest. You may have also had a coronary angiogram. The tests have shown that the aorta in your chest is either enlarged (aneurysm) or has developed a split in its lining (dissection). The size of the aneurysm is such that there is a risk of it bursting (rupture) or the dissection is leaking or preventing blood flowing into the legs. This is a very serious problem and most people will not survive a rupture. Repairing the aorta before it ruptures or leaks usually has good results. Repair can

either be done with a major surgical operation to replace the thoracic aorta or the aorta can be 'relined' from the inside with a stent graft. Not all patients are suitable for TEVAR but imaging has shown that yours is.

Are there any risks?

TEVAR is a major but normally safe procedure. There are a number of risks and complications that can arise. They are relatively rare; some are less than a major surgery, others are about the same.

There can be damage to the blood vessels through which the tubes are placed or damage to the aneurysm causing a leak. This may require other radiological procedures or conversion to a major surgical repair.

Occasionally, because of the size of your blood vessels, it may not be possible to insert the stent graft and surgical conversion may also be required. These complications are rare, with the risk about 1%.

The abnormality in your aorta is close to the origins of blood vessels that supply your brain and spinal cord. These blood vessels can sometimes be blocked by the stent graft or the flow through them altered in some way. This can result in a stroke or paralysis of your legs. The risk is about 2–3%.

The stent graft may not completely seal the aneurysm allowing it to continue to fill. Small leaks are quite common and usually require no additional treatment. Some larger leaks may require a further procedure.

There are small risks related to the anaesthetic which will be explained to you by your anaesthetist.

Who has made the decision?

The doctors in charge of your care, interventional radiologists, vascular and cardiovascular surgeons, will have discussed the situation and feel that this is the best treatment option for you.

Are you required to make any special preparations?

You need to be an inpatient for the procedure. You may be asked not to eat for four hours before the procedure, although you may still drink clear fluids such as water.

If you have any allergies or have previously had a reaction to the dye (contrast agent), you *must* tell the radiology staff before you have the test.

The procedure can be undertaken with a variety of anaesthetic techniques ranging from a full general anaesthetic to a needle in your back to numb your lower body (spinal). The anaesthetist who is responsible for the anaesthetic will explain the various options and risks.

Who will you see?

A team of doctors, including a cardiovascular or vascular surgeon and a specially trained doctor, called an interventional radiologist, perform the procedure. Interventional radiologists have special expertise in reading the images and using imaging to guide catheters and wires to aid diagnosis and treatment.

Where will the procedure take place?

In the angiography suite or theatre; this is usually located within the radiology department. This is similar to an operating theatre into which specialised X-ray

equipment has been installed. Some centres perform the procedure within a surgical theatre with a mobile X-ray machine.

What happens during TEVAR?

You will have whatever anaesthetic is best for you. Before TEVAR, the surgeon and interventional radiologist will explain the procedure and ask you to sign a consent form. Please feel free to ask any questions that you may have and, remember that even at this stage, you can decide against going ahead with the procedure if you so wish.

You will be asked to get undressed and put on a hospital gown. A small cannula (thin tube) will be placed into a vein in your arm.

The procedure is performed under sterile conditions and the interventional radiologist and a surgeon will wear sterile gowns and gloves. Small incisions are made in your groins to expose the artery; occasionally a small tube is inserted via your arm. Once the artery is exposed within the groin, a guide wire and catheter (fine plastic tube) will be inserted into the artery and guided to the correct position to obtain the images required. The stent graft is introduced from the groin and positioned using the X-ray equipment; dye (contrast agent) is injected into the blood vessels to check the position. Once completed, the tubes and wires are removed and the arteries in the groin closed with stitches.

Will it hurt?

There may be a little discomfort related to the groin incisions for a few days afterwards. This usually settles quickly and

can be controlled with painkillers. You will not feel the stent graft inside you.

How long will it take?

Every patient is different, and it is not always easy to predict; however, on average the anaesthetic and procedure will take two or three hours.

What happens afterwards?

You will be returned to a special unit to recover from the anaesthetic. You will normally go to a dependency unit for close observation for approximately 24 hours. You should be fit for discharge after 3–5 days.

What happens next?

There is a small chance that your aneurysm will continue to fill after a stent graft is inserted or the graft may move. It is important that this is checked regularly with CT or MRI imaging. The first scan will be soon after the insertion with increasing intervals thereafter.

Finally

Some of your questions should have been answered by this leaflet, but remember that this is only a starting point for discussion about your treatment with the doctors looking after you. Make sure you are satisfied that you have received enough information about the procedure.

Contact: The British Society of Interventional Radiology www.bsir.org
This leaflet has been prepared by the British Society of Interventional Radiology (BSIR) and the Clinical Radiology Patients' Liaison Group (CRPLG) of The Royal College of Radiologists.
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**British Society of Interventional
Radiology**

**Thoracic endovascular
aortic repair
(TEVAR)**

Patient information

