NHS
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Endovascular Aneurysm Repair (EVAR)

the **Best Care for Everyone**
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Introduction

This leaflet is a guide to Endovascular Aneurysm Repair surgery and should help to answer some of the questions you may have.

Abdominal aortic aneurysm

The main blood vessel that comes from the heart is called the aorta. Most aortic aneurysms affect the part of the aorta in the abdomen (belly). An abdominal aortic aneurysm is a swelling of this artery that happens when the wall of this artery becomes weak.

This swelling is more common in men aged over 65 years than it is in women and younger men, so men are invited for ultrasound screening in their 65th year.

Sometimes the swelling is picked up when you are having other scans.

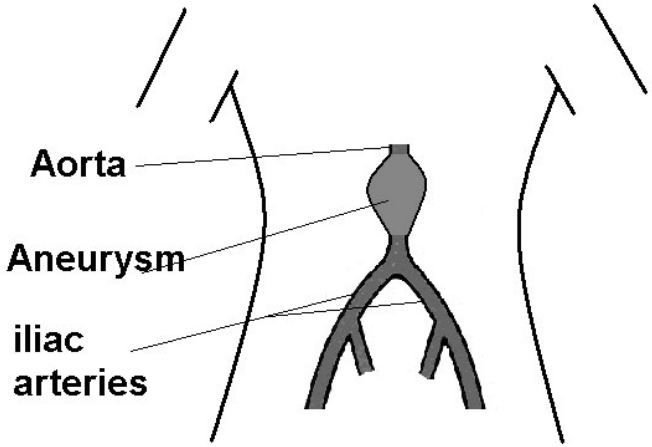

Figure 1: Diagram showing abdominal aortic aneurysm.

Aortic aneurysms do not usually cause any symptoms.

You will need to seek urgent medical attention if your known aneurysm causes abdominal or back pain.

Why do I need the operation?

The decision to operate on an aneurysm that is not causing symptoms depends on its size and the risks of surgery. Many smaller aneurysms never need surgery. With larger aneurysms, having an operation is more likely if the risk of the aneurysm rupturing (bursting) is greater that the risk of having surgery. Your consultant will have talked about the risks with you when thinking about carrying out an operation.

If the aneurysm carries on getting bigger, there is a greater risk that the aneurysm will rupture. When this happens there is severe internal bleeding which is life threatening and means that you need medical attention straight away.

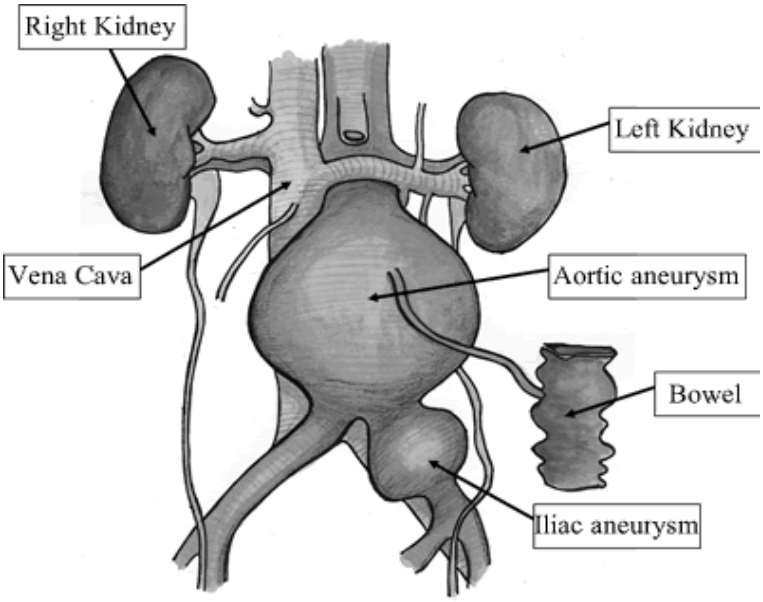

Figure 2: Diagram showing abdominal and iliac aneurysms

About the operation

Your aneurysm can be treated with a ‘stent graft system’ to strengthen the aorta from the inside, this is known as an Endo Vascular Aneurysm Repair (EVAR). A stent-graft is a metal mesh tube covered by the same material that would be used in open surgical repair. This tube usually divides into two limbs at its lower end, like trouser legs.

The stent-graft is inserted into the aorta through the groin arteries (main arteries to the legs), through two small cuts, one in each groin. Often a special technique can be used where the cuts in your groin may be very small (about 0.5 cm) this is called percutaneous access. Occasionally, groin cuts can be slightly larger.

The graft is positioned in a collapsed form then once in place, released across the aneurysm. It then seals the aneurysm at the top and bottom allowing blood to flow freely through the tube without touching the artery wall.

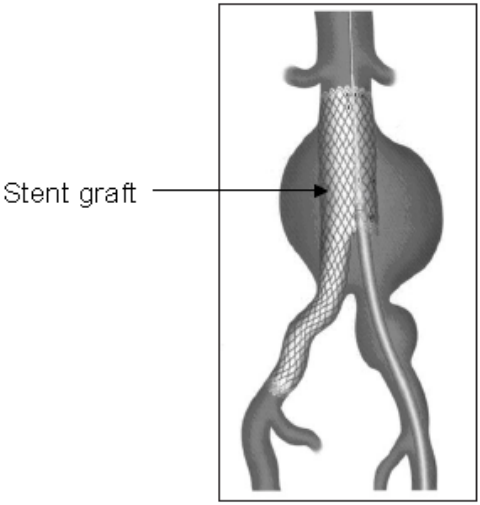

Figure 3: EVAR surgery

Alternative treatments

The type of treatment we can offer you will depend on the size, shape and location of the aneurysm, as well as your general health. Not all aneurysms can be treated with EVAR and in these cases the more traditional ‘open’ operation of cutting into your abdomen, may be offered.

The other option is for us to continue checking the aneurysm but this may mean you have a greater risk of the aneurysm bursting as it gets bigger.

These options will have been thought about carefully and discussed with you when planning your treatment.

Benefits of EVAR

- The small cuts (incisions) help to reduce the risk of wound infection.
- Recovery is quicker and less painful as you will have smaller cuts than with open surgery. Patients tend to stay in hospital for usually 1 to 2 days.
- As the surgery is less invasive, complications affecting your heart and lungs are less common.

Risks and complications

- There is a small risk of graft, wound, or chest infection following an operation. We do all we can to reduce these risks.
- Operating on the blood vessels carries a risk of damaging the circulation to other areas of the body such as the legs, kidneys, bowel or spinal cord. If this happens you may need another operation to try to correct this, or we may just need to monitor you more closely after your operation.
- We cannot say for certain how long the stent graft will last. At the moment, we follow up patients who have this type of surgery for life.
- Blood can leak into the area between the stent graft and the aneurysm; this is known as an ‘endoleak’. Around 15 patients in every 100 will need further surgery in the first 4 years following surgery.
- In very rare cases the stent graft has to be taken out and repair of the aneurysm has to be carried out using open surgery.

- Having major surgery can cause blood clots to form in the legs or lungs. This can happen because you are not as active after surgery. The day after surgery, we will encourage you to get up and walk around, as this will help to get blood flowing around the body. You will also be given small injections of a medication which thins the blood to help prevent clots from forming while you are in hospital.
- As with all operations there is a risk of complications, such as a heart attack. There is also a risk of not surviving the surgery. This can depend on your overall fitness and will be fully discussed with you. The risk of not surviving the surgery is less than 1 in every 200 patients.
- The risk of death is less with EVAR initially, however the risk of death in the longer term is slightly lower with open surgery.

What to expect

You will be asked to come into hospital on the day of your operation or the day before and will be in hospital for about 1 to 2 days.

On the day of your operation, you will be taken to the operating theatre and given a general anaesthetic, with some local anaesthetic to the wounds to make the area numb and comfortable. Your anaesthetic will be discussed with you before your surgery.

During your operation, the operating team will work under the guidance of X-ray imaging, to position the stent graft inside your aorta.

The operation takes about 2 hours but it may be longer. You will go back to the ward after a short stay in the recovery area, as soon as we are happy that your condition is stable.

A tube (catheter) will be put inside your bladder to drain away the urine. This is usually taken out the next day when you will be able to pass urine normally.

Pain control

You can expect to have some pain and discomfort after your operation, but try not to worry as strong pain relief is used to control this. The anaesthetic doctor and a specialist nurse monitor this closely to make sure that the pain relief is working well.

Diet and fluids

You will be able to eat and drink normally after your operation. We can give you medication to deal with any nausea or vomiting if this is needed.

Wound care

Dissolvable stitches may be used to close the wounds depending on how big they are, sometimes the wounds are so small they do not need stitching. You will have dressings over the wounds which are water resistant, allowing you to have a shower or bath as normal. The dressings will start to peel off after several days. Once this happens, if the wounds are healed, please take off the dressings and leave the wounds uncovered.

Going home

Once you are mobile, comfortable and able to look after yourself, we will arrange for you to go home. Most people go home the day after their operation. It is important that you have restful periods and slowly build up your activity each day. The stent graft cannot be damaged by bending or vigorous exercise.

You can begin driving again once you can perform an emergency stop without pain or hesitation. You should inform your car insurance company that you have had an operation.

Follow up

You will be seen in the outpatient clinic about 6 weeks after your discharge home from hospital.

We will also arrange for you to have a CT (computerised tomography) scan to check your stent graft. You will have had this scan before you come into hospital for your follow up clinic appointment. You will have another ultrasound scan around 6 months after the operation, then once a year after this. Sometimes we need to scan you more often, your surgeon will discuss this with you.

You will need to have follow up scans for the rest of your life.

If you have any problems before your next scan, please contact your GP for advice.

Contact information

If you have any minor concerns before being seen in the follow-up clinic, please contact your GP or NHS 111 for advice.

NHS 111
Tel: 111

Or telephone Gloucestershire Hospitals NHS Foundation Trust
Tel: 0300 422 2222 - Switchboard

When prompted ask for the operator then your consultant.

Alternatively, if you are worried or feel unwell, telephone 999 or go to the nearest Emergency Department.

Further information

More information about aortic aneurysms can be found at the following websites:

National Institute for Health and Care Excellence (NICE)
Website: www.nice.org.uk

Vascular Society
Website: www.vascularsociety.org.uk

The Circulation Foundation
Website: Endovascular Aneurysm Repair (EVAR) | circulationfoundation.org.uk

National Vascular Registry 2022 annual report
https://www.vsqip.org.uk/wp-content/uploads/2024/04/NVR-2022-Annual-Report.pdf

EVAR trial 1
Endovascular versus open repair of abdominal aortic aneurysm in 15-years' follow-up of the UK endovascular aneurysm repair trial 1 (EVAR trial 1): a randomised controlled trial (thelancet.com)

Content reviewed: August 2025

Shared Decision Making

If you are asked to make a choice, you may have lots of questions that you want to ask. You may also want to talk over your options with your family or friends. It can help to write a list of the questions you want answered and take it to your appointment.

Ask 3 Questions

To begin with, try to make sure you get the answers to three key questions if you asked to make a choice about your healthcare.

1. What are my options?
2. What are the pros and cons of each option for me?
3. How do I get support to help me make a decision that is right for me?

These resources have been adapted with kind permission from the MAGIC Programme, supported by the Health Foundation.

***Ask 3 Questions** is based on Shepherd HL, et al. Three questions that patients can ask to improve the quality of information physicians give about treatment options: A cross-over trial. Patient Education and Counselling, 2011;84: 379-85

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NHS **https://aqua.nhs.uk/resources/shared-decision-making-case-studies/**

GHPI0922_08_25
Department: Vascular
Review due: August 2028
www.gloshospitals.nhs.uk