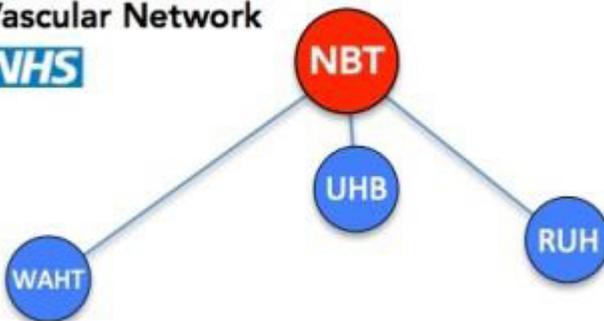


Open repair of Abdominal Aortic Aneurysms (AAA)

Bristol Bath Weston
Vascular Network



Exceptional healthcare, personally delivered

Ask 3 Questions

Preparation for your Appointments

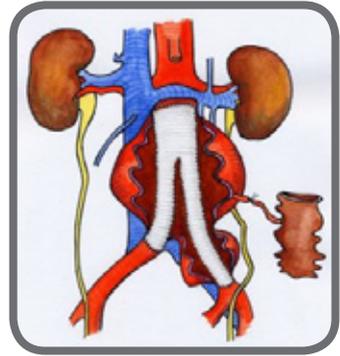
We want you to be active in your healthcare. By telling us what is important to you and asking questions you can help with this. The three questions below may be useful:



OPEN REPAIR OF AAA

The traditional operation involves cutting open your abdomen to replace the aneurysm with an artificial piece of artery (a graft).

In the UK under one third of planned AAA repairs are done using “open” AAA repair.



The procedure

Anaesthetic

The operation is performed under general anaesthetic.

As the surgery requires an incision in the tummy and can be quite painful the anaesthetic team will discuss whether to put in an epidural at the time of surgery. This is done to provide pain relief after the surgery. It requires the anaesthetist to place a fine tube in the back alongside the nerves of the spinal cord; local anaesthetic drugs can then be given down the tube to numb the nerves and block pain sensation. The alternative is to use “patient controlled analgesia” or “PCA” for short; this gives a small dose of strong painkiller through a drip every time you push a button.

Your anaesthetic specialist will discuss the pros and cons of each approach with you.

The anaesthetic team will place a “drip” in the artery in your arm (usually at the wrist) to monitor your blood pressure during the operation. This is called an “arterial line”. Once you are asleep the team will also insert a drip in a large vein in the neck; this is called a “central line” and is used for giving certain drugs and monitoring your fluids during and after the operation. You will also have a urinary catheter inserted to monitor the amount of urine you make during and after the operation.

Incision

The aorta sits behind the intestines just in front of the spine. To get to the aorta the surgeon can either make an incision up and down in the middle from just below the rib cage to the top of the pubic bone or an incision from side to side above the belly button.

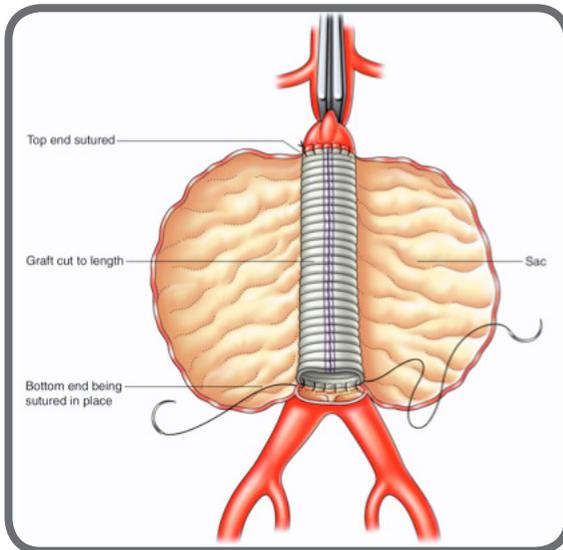
Your specialist will discuss with you, which technique they will use. There are no clear overall advantages with one way or the other.

Repairing the AAA

This is a major operation. The risk of death in hospital in the UK with open AAA repair is currently 3%.

You can find out about your specialists at https://www.vsqip.org.uk/surgeon-outcomes/?filter_letter=A

In order to repair the AAA the specialist must stop the blood flowing in the artery with clamps above and below the aneurysm.



The aneurysm is then cut open and the graft sewn into place.

The sac of the aneurysm is then wrapped around the graft, to help reduce bleeding and the risk of other structures sticking to the repair.

After the operation

If your recovery is straightforward, you will be in hospital between 7 and 11 days. It is usual for patients to spend one or two nights on the high dependency or intensive care unit. You will be allowed to eat and drink once you are fully awake following surgery. You may not feel like eating immediately, but usually you will be eating normally within 3 days of your operation. The nurses will aim to getting you sitting up and walking as soon as possible.

Once you are well enough to return home, you will be discharged. At this stage, you may still need painkilling tablets. You may also notice that you tire easily. It is usual for it to take 3 to 6 months, and sometimes longer, to get back to your normal level of activity. During this phase of recovery, you should plan periods of rest into your day, gradually reducing them as you get stronger. The best way to recover is to gradually increase your level of physical activity over three months. You may resume normal sexual relations as soon as you as you feel comfortable.

Your wound should be dry and healed within 10 days. If you develop redness or swelling in the wound, you should see your doctor about this. You will be referred back to your surgeon if your doctor has any concerns.

There is no set time for returning to work but you may need to wait 6-12 weeks before you are able to work. You should ask your surgeon about this. If you drive for a living, especially HGVs, you will need to be fully recovered before returning to work.

Advantages of open repair

Open repair has a number of **advantages** over stent graft repair (EVAR).

In particular:

- Much more adaptable technique to complicated anatomy. More complex shapes of aneurysm can be treated than with standard stents.
- It is very durable. There is a very low rate of people ever needing further procedures on the aorta. Once the surgery is done the AAA is "fixed". There is rarely need for long term x-ray follow-up
- Studies suggest that in the longer term (>8 years) patients who have open repair live longer than those who have stent grafts.

Problems with open repair

- Higher risk of death around the time of operation
 - In the UK the in hospital risk of death following open AAA repair is 3 in 100 compared to 1 patient in every 250 for endovascular repair (stent graft or "EVAR")
- All patients need to go to the high dependency unit or intensive care unit. There is a risk the operation may be cancelled due to a lack of a bed on the day the operation is planned for.
- Higher risk of major complications as an in-patient after surgery
 - Just over 25% (1 in 4 patients) have a major complication*
 - Heart problems 7%

- Chest infections or breathing problems 13%
 - Bleeding 2%
 - Reduced blood supply to the legs 3%
 - Kidney failure 5%
 - Return to theatre – 1 in 14 patients
- Longer hospital stay (national average 8 days) and long time to return to normal activity (variable, most 6-12 weeks; some still not back to normal at 6 months)
 - Risk of hernia or adhesions in the abdomen in the long term – up to 1 in 10 patients need a procedure in the long term.

*Data from the UK National Vascular Registry Report 2016

Problems after any AAA repair

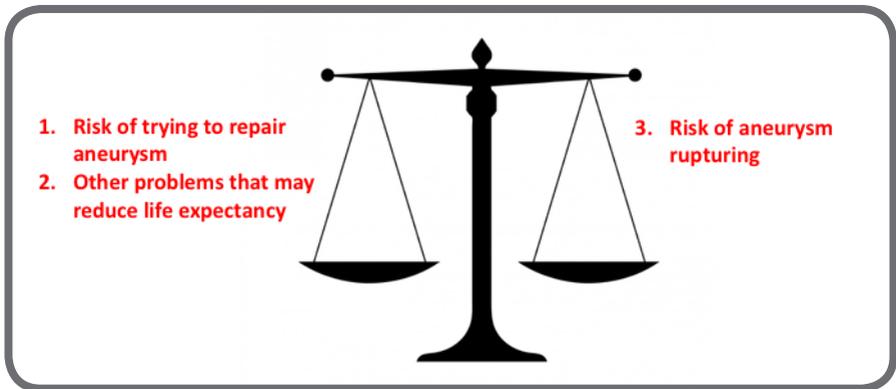
Any patient who has a AAA repaired can have the following problems.

- Reduced sexual function
- Reduced blood supply to legs. If this happens we often must perform emergency surgery to correct the problem. The risk of losing a leg (major lower limb amputation) after any AAA repair is less than 1/100.

- Reduced blood supply to the pelvis. This occurs if the main blood vessel (internal iliac) supplying the pelvic organs is blocked off during the repair of the AAA. This is sometimes done intentionally when we treat an aneurysm that extends down into the pelvis (common iliac aneurysm). Not everyone who has a blocked internal iliac artery gets a problem – it is quite unpredictable.
 - The most common problem seen is pain in the lower back or buttock on walking (buttock claudication). This may last for a few weeks or months or can be permanent.
 - Very rarely the blood supply to the skin around the buttock can be lost (skin necrosis).
 - Reduced blood supply to the bowel in the pelvis. This leads to inflammation in the bowel (“ischaemic colitis”) which can progress to the bowel muscle dying and the bowel bursting. It is very uncommon for patients to have problems with the bowel in planned operations (1 to 2/100). The symptoms can be mild with diarrhea for a short period, to much more severe problems resulting in the need for emergency bowel surgery and a colostomy because the bowel has died or in the longer term narrowed up completely.
- Reduced blood supply to the spinal cord or nerves. This is very rare in patients having standard AAA repair (2/1000). This can result in weakness in one or both legs (paraplegia)
- Kidney failure/Dialysis (short term or long term)
 - This can be due to the stress the repair puts on the body, together with other factors (low blood pressure, drugs, x-ray contrast). This type of “acute kidney injury” usually recovers fully

- The repair can cause one or more of the main arteries supplying the kidney/s to block off. This will produce a permanent reduction in the function of the kidney/s. This can lead to dialysis permanently.
- Significant kidney problems occur after 1/100 standard EVAR and 4/100 open repairs.
- Aorto-enteric fistulas – unknown rate much less than 1/100
 - This is a very rare complication that typically occurs many years after repair. This occurs when the graft used to repair the AAA sticks to the intestine and erodes into the bowel. This can cause life threatening bleeding or infection. This is usually seen only after open AAA repair. It is much more common after repairing an aneurysm that has already ruptured rather than after a planned repair.
- Graft infection 2/1000
 - The grafts for stents and for open repair are man-made fibres. It is possible for these grafts to pick up some bugs usually from the skin at the time of your operation or for bugs to stick to the graft when you have an infection in the blood stream at some time (for example a bad chest infection). These bugs slowly multiply over time and can cause a weakening of the joins around the stents or a collection of fluid around the graft. Such infection can sometimes be difficult to diagnose, and symptoms can range from feeling tired with flu-like symptoms to being very unwell with bleeding problems.
- Damage to other adjacent structures during the repair.

Balancing the benefits and risks



Open surgery places more stress on the body than EVAR. Your specialist may recommend that the risks of open surgery are too great to contemplate. This is very much dependent on your general health and the shape of your aneurysm. If you have an aneurysm which extends above or around the kidney arteries, or an aneurysm that involves the arteries going to the legs (iliac aneurysms) it will be technically more difficult to repair and the risk of a complication will be higher.

There is no doubt that open repair carries more risk around the time of the operation and takes longer to get over, but in the long term you are rewarded by a repair that is much less likely to need further procedures.

Thinking about how the benefits and risk set out above apply to you is important. To make a shared decision with your specialist it is important that you read through the information and ask questions. This will help you to get the plan that is best for you.

**PATIENT
APPROVED** 



www.nbt.nhs.uk/vascularsurgery

If you or the individual you are caring for need support reading this leaflet please ask a member of staff for advice.

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