

# V12 Endovascular Abdominal Aortic Aneurysm Repair

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## What is an abdominal aortic aneurysm?

Your aorta is the main artery that carries oxygen-rich blood from your heart to the rest of your body. Your aorta arches through your chest and down into your abdomen (see figure 1).

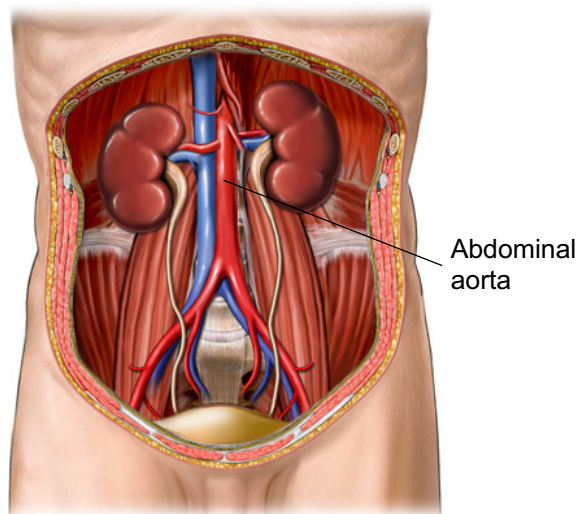


Figure 1  
The abdominal aorta

Your aorta can become enlarged (dilated) and this is called an aneurysm (see figure 2). The abdomen is the most common site for an aneurysm to develop.

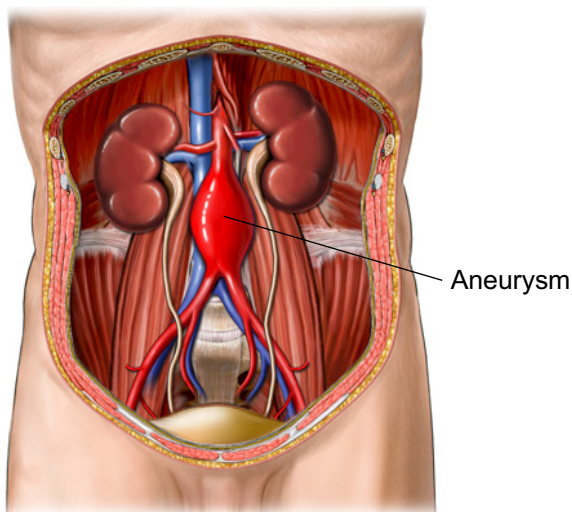


Figure 2  
An aortic aneurysm

Your surgeon has recommended an aortic aneurysm repair. However, it is your decision to go ahead with the operation or not. This document will give you information about the benefits and risks to help you to make an informed decision. If you have any questions that this document does not answer, ask your surgeon or the healthcare team.

## How does an aortic aneurysm happen?

An aortic aneurysm is usually caused by changes in the structure of the wall of your aorta. An aneurysm usually happens below the junction with the renal arteries that supply your kidneys, and before your aorta divides into the iliac arteries that supply your lower body.

An aneurysm has developed because of one of the following risk factors – smoking, high blood pressure, age and a family history of aortic aneurysm. Some of these factors also cause heart disease and stroke (loss of brain function resulting from an interruption of the blood supply to your brain).

You may not have been aware that you have an aneurysm because it often does not cause any symptoms. However, if the aneurysm gets too large, it can burst (rupture). This usually causes death.

Once the aneurysm gets larger than 5.5 centimetres in diameter (just over 2 inches), your surgeon will usually recommend an operation to repair it. However, if you have other serious medical problems, your surgeon may decide to wait and operate only when the aneurysm gets even larger. When your surgeon recommends an operation, the risk of a serious complication from surgery is lower compared to the risk of death caused by the aneurysm bursting.

## What are the benefits of surgery?

Surgery should prevent you from dying from a burst aneurysm.

Endovascular repair is a fairly new procedure and we do not yet know the long-term success (over 20 years or more).

## Are there any alternatives to endovascular repair?

Endovascular repair is suitable only for 7 in 10 people.

For some people it may be possible to have open surgery that involves a long cut on your abdomen. This has a risk of serious complications including the risk of death being higher (4 in 100 after open surgery compared to less than 2 in 100 for endovascular repair surgery). An advantage of having an endovascular repair is that the operation needs only two small cuts, so you should recover faster, and it can be performed under a local anaesthetic.

You can decide to leave the aneurysm alone but it could burst, causing sudden death.

Lifestyle and medication changes may help prevent further damage but will not reverse the damage that is already done.

### **What will happen if I decide not to have the operation?**

As the aneurysm gets larger, the wall becomes weaker and the risk of it bursting increases. If the aneurysm does burst, the chance of surviving is poor. Only 1 in 10 people survives a burst aneurysm.

### **What does the operation involve?**

The healthcare team will carry out a number of checks to make sure you have the operation you came in for. You can help by confirming to your surgeon and the healthcare team your name and the operation you are having.

The operation can be performed under a local anaesthetic while you are sedated. However, various anaesthetic techniques are possible including a general anaesthetic and regional anaesthetic (spinal or epidural). Your anaesthetist will discuss the options with you and recommend the best form of anaesthesia for you. You may also have injections of local anaesthetic to help with the pain after the operation. You may be given antibiotics during the operation to reduce the risk of infection. The operation usually takes one to three hours.

Your surgeon will usually make a cut on each of your groins. They will insert a guidewire (thin flexible wire) into a femoral artery, up into an iliac artery and then into your aorta. The end of the guidewire will be in your aorta across the renal arteries. Your surgeon will use x-rays to guide them while they insert a graft.

The graft is usually made up of two or three pieces. Your surgeon will first insert the main part of the graft. The graft is usually made of a special polyester textile that is strong and long-lasting, and has expanding stents (metal mesh tubes). Some grafts have anchors that help them to attach to the wall of your aorta. Your surgeon will insert a small tube containing the main part of the graft over the guidewire and up into your aorta just below the renal arteries. Your surgeon will remove the tube and this releases the graft to expand and press firmly against the wall of your aorta.

Your surgeon will use the same technique to insert the legs of the graft, with each leg going from the main part down into an iliac artery (see figure 3).

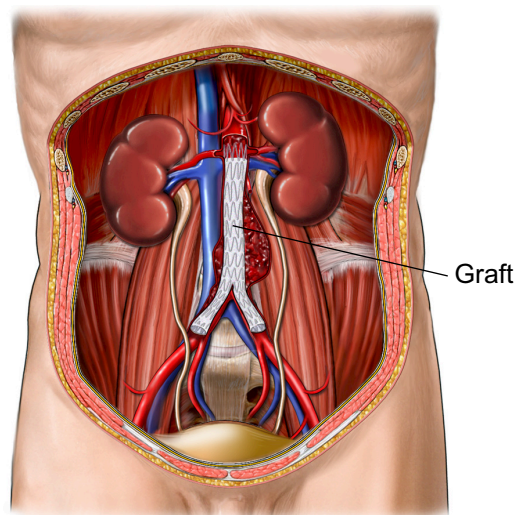


Figure 3

A graft in place

Sometimes they may need to block off one of the iliac arteries and connect the femoral arteries. This is called a femoro-femoral bypass. Your surgeon will be able to discuss this with you. Your surgeon will use x-rays to check that blood is flowing through the graft. They will remove the guidewire and close the cuts with stitches.

### **What should I do about my medication?**

Let your doctor know about all the medication you take and follow their advice. This includes all blood-thinning medication as well as herbal and complementary remedies, dietary supplements, and medication you can buy over the counter.

### **What can I do to help make the operation a success?**

If you smoke, stopping smoking several weeks or more before the operation may reduce your risk of developing complications and will improve your long-term health.

Try to maintain a healthy weight. You have a higher risk of developing complications if you are overweight.

Regular exercise should help to prepare you for the operation, help you to recover and improve your long-term health. Before you start exercising, ask the healthcare team or your GP for advice.

You can reduce your risk of infection in a surgical wound.

- In the week before the operation, do not shave or wax the area where a cut is likely to be made.
- Keep warm around the time of the operation. Let the healthcare team know if you feel cold.

### **What complications can happen?**

The healthcare team will try to make the operation as safe as possible but complications can happen. Some of these can be serious. You should ask your doctor if there is anything you do not understand. Any numbers which relate to risk are from studies of people who have had this operation. Your doctor may be able to tell you if the risk of a complication is higher or lower for you.

#### **1 Complications of anaesthesia**

Your anaesthetist will be able to discuss with you the possible complications of having an anaesthetic.

#### **2 General complications of any operation**

- Pain. The healthcare team will give you medication to control the pain and it is important that you take it as you are told so you can move about and cough freely.
- Bleeding during or after the operation. You may need a blood transfusion and another operation.
- Infection of the surgical site (wound). It is usually safe to shower after two days but you should check with the healthcare team. Let the healthcare team know if you get a high temperature, notice pus in your wound, or if your wound becomes red, sore or painful. An infection usually settles with antibiotics but you may need another operation.
- Unsightly scarring of your skin.
- Blood clot in your leg (deep-vein thrombosis – DVT). This can cause pain, swelling or redness in your leg, or the veins near the surface of your leg to appear larger than normal. The healthcare team will assess your risk. They will encourage you to get out of bed soon after the operation and may give you injections, medication, or special stockings to wear. Let the healthcare team know straightaway if you think you might have a DVT.

- Blood clot in your lung (pulmonary embolus), if a blood clot moves through your bloodstream to your lungs. If you become short of breath, feel pain in your chest or upper back, or if you cough up blood, let the healthcare team know straightaway. If you are at home, call an ambulance or go immediately to your nearest Emergency department.

#### **3 Specific complications of this operation**

- Graft failure caused by a blockage (risk: 1 in 40).
- Infection of the graft (risk: 1 in 1,000). You may develop an abnormal connection between your aorta and your bowel (aorto-enteric fistula). This is life-threatening and difficult to treat. Have a bath or shower before the operation to wash your abdomen and groins to reduce this risk.
- Abdominal pain and bleeding from your rectum, caused by there not being enough blood supply to your bowel (ischaemic colitis). You may need another operation (risk: 1 in 200).
- Blocking of your leg arteries caused by the abnormal lining of the aneurysm breaking off and going down your leg arteries (distal embolism). This can usually be treated but you may need a small operation called an embolectomy. If it cannot be treated, you may need part of your leg amputated (risk: 1 in 100).
- Severe kidney damage (risk: 1 in 100). You may need to have dialysis treatment to do the work of your kidneys.
- Nerve damage and paralysis, if the blood supply to the nerves of your spinal cord gets damaged (spinal cord ischaemia) (risk: 1 in 400).
- For men, problems having an erection because of damage to arteries and nerves (risk: 1 in 3).
- Death (risk: 1 in 50 for a planned operation, 1 in 2 for an emergency operation to repair a burst aneurysm).

#### **How soon will I recover?**

##### **• In hospital**

After the operation you will be transferred to the recovery area and then to the ward. The healthcare team will encourage you to get out of bed and move about. You should be able to eat a normal diet on the day of the operation. You may get a high temperature the day after. This is normal and you should recover quickly. You may have a scan to check the position of the graft.



You should be able to go home after one to two days. However, your doctor may recommend that you stay a little longer.

If you are worried about anything, in hospital or at home, contact the healthcare team. They should be able to reassure you or identify and treat any complications.

#### • **Returning to normal activities**

To reduce the risk of a blood clot, make sure you follow carefully the instructions of the healthcare team if you have been given medication or need to wear special stockings.

The healthcare team will tell you when you can return to normal activities. You will usually need about two weeks to recover.

Regular exercise should help you to return to normal activities as soon as possible. Before you start exercising, ask the healthcare team or your GP for advice.

Do not drive until you are confident about controlling your vehicle and always check your insurance policy and with your doctor.

#### • **The future**

Most people make a full recovery. It may take up to one month to get back to normal. You will need to come back to the clinic regularly so your surgeon can examine the size of the aneurysm and to check if the graft is working well.

If the graft needs to be adjusted, you will need another operation (risk: 8 in 100).

#### **Summary**

An abdominal aortic aneurysm is an enlargement of your aorta caused by weakness of its wall. Surgery can be life-threatening. However, the risk of a serious complication from surgery is lower compared to the risk of death caused by the aneurysm bursting. You need to know about the complications to help you to make an informed decision about surgery. Knowing about them will also help to detect and treat any problems early.

**Keep this information leaflet. Use it to help you if you need to talk to a healthcare professional.**

#### **Acknowledgements**

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