

# Information about abdominal aortic aneurysms

## Vascular Surgery

### Patient Information Leaflet

The vascular centre for the Black Country population is at The Dudley Group and so major vascular operations are carried out at Russells Hall Hospital, Dudley.

Surgeons, anaesthetists, radiologists and nurses from Russells Hall Hospital in Dudley, New Cross Hospital in Wolverhampton and Manor Hospital in Walsall are working together as part of the Black Country Vascular Centre (BCVC) to improve the care that patients with vascular conditions receive.

## Introduction

This leaflet is about a condition known as an abdominal aortic aneurysm. It explains what the condition is, how it is monitored and briefly describes the surgical treatment options. There is a separate, more detailed leaflet about the two surgical options available.

This leaflet is not meant to replace the information discussed between you and your consultant but can act as a starting point for such a discussion, or as a useful reminder of the key points.

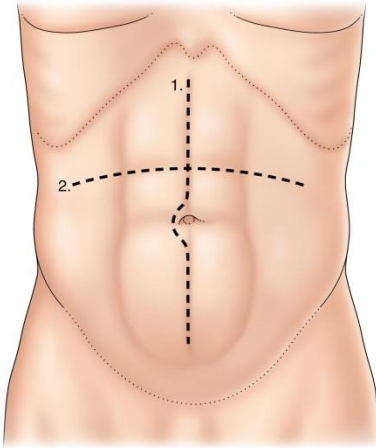
## What is an aneurysm?

An aneurysm occurs when the walls of your arteries weaken. The pressure of blood flow can cause it to stretch and balloon out, rather like a worn car tyre, to form an aneurysm.

Aneurysms can occur in any artery. They can be small and round or long and balloon-like. The most common artery to be affected is the aorta, which is the main artery in your tummy (abdomen). This is known as an abdominal aortic aneurysm (AAA) – please see figure 1.

The aorta is the largest blood vessel in your body. It runs from the left side of the heart, down through the chest and into the abdomen. At about hip level, it divides into two arteries which deliver blood to your legs and feet (known as iliac arteries).

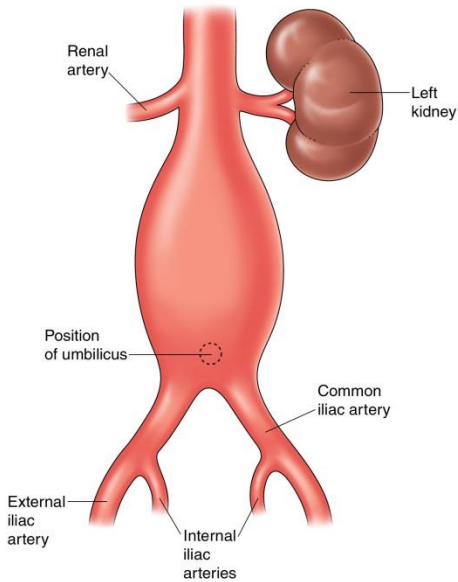
**Aortic aneurysm repair (open operation) - infra renal aneurysms**



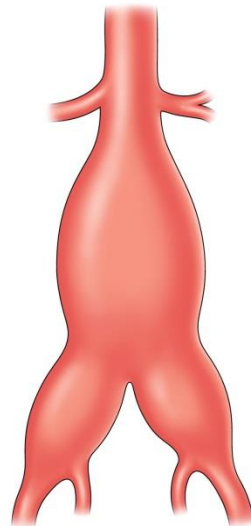
Incisions either:

1. Longitudinal (up and down) to give good exposure to pelvic vessels.
2. Transverse (across) Suitable where less extensive exposure required.

Incisions are kept as short as possible.



1a. Aortic aneurysm



2b. Aortic and iliac artery aneurysms

Figure 1 – shows an AAA

## Who is at risk?

Aneurysms can affect people of any age and both sexes. However, it is known that those who are most at risk include men over the age of 60, younger men with a brother or father who has had an aneurysm or men with arterial disease (angina or heart attack), hardening of the arteries or high blood pressure.

About four in 100 men over the age of 65 will develop an aneurysm, though not all will be of significant size, and about one in 100 will have a large aneurysm requiring surgery. Aneurysms are about six times rarer in women. Smoking and high blood pressure are known to increase the size and risk of aneurysms once they are present.

## How is an aneurysm diagnosed?

Aneurysms generally take years to develop and it is rare for them to give symptoms during this time. This condition is often found by chance during a physical examination or scan for unrelated symptoms.

Occasionally, a patient may become aware of a feeling of pulsation (throbbing) in the abdomen. As an aortic aneurysm stretches, it can cause pain in the back or the abdomen but pain is not common. If an aneurysm is suspected, an ultrasound scan will be performed.

An ultrasound scan of the abdomen is a painless outpatient test that will only take 10 to 15 minutes (see figure 2). It is used to decide whether an aneurysm is present and to measure the exact size.

The most important feature of the scan is the maximum diameter of the aorta, which is usually about two and a half centimetres across in adults, although this varies with your build. An aneurysm is said to be present if the artery is over three centimetres across, and then the tendency is for the blood vessel to gradually increase in size over years.



Figure 2 – ultrasound scan of an AAA

## What happens now?

Not all aneurysms need surgery. The size of the aneurysm will guide the surgeon on your treatment. Your surgeon will discuss whether you need an operation soon, or whether you should be placed onto a surveillance programme.

If you are placed on the surveillance programme, we will call you for scans on a regular basis to monitor the size of the aneurysm.

- If the aneurysm is three and a half centimetres or less, you will be called for a scan every 18 months.
- If the aneurysm is between three and a half to four centimetres, you will be called for a scan every 12 months.
- If the aneurysm is four to five centimetres, you will be called for a scan every six months.
- If the aneurysm is five centimetres or greater, you will be called for a scan every three months.

Each time you have a scan, your consultant will be informed of the aneurysm size and any changes that may have occurred.

## Will I need an operation?

Surgery is only advised when it is considered that the risk of the aneurysm bursting is greater than the risk of having surgery. Eventually the aneurysm may reach a size where surgery is advised, usually when it exceeds five and a half centimetres (please see table 1 for more information).

As surgery carries significant risks, the decision to operate must take into account the individual health of the patient, in particular their heart, lungs and kidneys. Before operating, most patients will need some tests on these organs.

**Table 1 – shows the risk of the aneurysm bursting related to its size (diameter)<sup>1</sup>**

| Size of aorta | Risk of rupture per year   |
|---------------|--|
| 4cm or less   | Less than 1 in 200 people with an aneurysm this size will have a rupture |
| 4cm to 5cm    | 1 to 5 in 100 people with an aneurysm this size will have a rupture      |
| 5cm to 6cm    | 3 to 15 in 100 people with an aneurysm this size will have a rupture     |
| 6cm to 7cm    | 10 to 20 in 100 people with an aneurysm this size will have a rupture    |
| over 7cm      | 20 to 50 in 100 people with an aneurysm this size will have a rupture    |

## What operation will be performed?

Traditional surgery for aneurysm repair involves an incision (cut) in the abdomen, and replacement of the affected section of blood vessel with a fabric tube. If the aneurysm extends into the pelvis, a graft designed like a pair of trousers is used which may extend to the groins in some patients. The main risk of surgery is death or heart attack which occurs in about one in 20 patients overall.

However, after a successful operation, the risk of later complications is very low.

With modern technology, the risks of the operation can be greatly reduced by a keyhole surgical technique known as endovascular repair which uses a stent-graft. However, not every patient or every aneurysm is suitable for this. In particular, aneurysms arising close to or above the kidneys are more difficult to treat in this way.

All patients treated by endovascular surgery need to have regular scans after the operation to detect slippage or failures of the stent-graft. 10 per cent of patients (one person out of every 10) will require further intervention such as surgery in the future.

## **Is surgery successful?**

If aneurysms are repaired before they burst, there is a high overall chance of successful repair and a return to normal life and life expectancy. However, you should discuss the risks of surgery with your surgeon.

The risks attached to the open repair through a cut in your abdomen are:

- medical complications such as a heart attack, stroke, kidney failure
- chest problems
- loss of circulation to the legs or bowel
- deep vein thrombosis (blood clot in the leg vein)
- infection of the artificial artery

Each of these is rare but it does mean overall that some patients may have a fatal complication from their operation. For most, the risk is about five per cent.

With the stent-graft, the potential complications are greatly reduced as there is far less stress placed on the heart, less risk of haemorrhage (bleeding) or respiratory complications.

The main complication associated with this type of aneurysm repair is the risk of the graft moving from the position, resulting in a leakage of blood into the aneurysm. This means that the aneurysm has not been sealed and the graft may become completely or partly blocked by a blood clot. If this happens, you may need an operation to correct the blood flow to your leg arteries.

## **What can I do to help myself?**

You should consider what you can do to improve your general health, for example:

- Eat a healthy diet which includes having a low salt intake
- Exercise regularly, if you are able
- Lose weight, if you are overweight
- Do not smoke. If you would like help with stopping smoking, please contact a member of the Hospital Stop Smoking Team on 01384 456111 ext. 2783
- Only drink alcohol in moderation
- If you have high blood pressure, diabetes or a high cholesterol level, make sure you take any prescribed treatment

You may be prescribed a statin drug to lower your cholesterol level and low-dose aspirin to help prevent blood clots from forming. Information relating to this medication will be provided, if it is dispensed.



# Additional advice for patients who have an aneurysm

## Driving

The DVLA states the following:

### **Car or motorcycle licence**

You must tell DVLA if your aortic aneurysm is over six centimetres in diameter despite treatment. Ask your doctor or consultant if you are not sure.

### **Bus, coach or lorry licence**

You must tell DVLA if you have an aortic aneurysm of any size.

You can find out more from the following weblink:

<https://www.gov.uk/aneurysm-and-driving>

## Flying

If you have an aneurysm and are considering a holiday which involves flying, you will need to declare this condition to your travel insurance company. Some insurance companies will not provide cover for you as some airlines refuse patients with this condition due to an increased risk of the AAA bursting at altitude.

When booking a flight or holiday, it is advisable to check with the airline at the same time. Some companies will provide cover as long as you have the permission of your consultant to fly.

## Normal activity

Often the first description of an aneurysm can be frightening and many patients have concerns about returning to normal life for fear of causing the aneurysm to burst. We encourage you to do the normal activities that you did before you knew you had this condition.

If we have any concerns, these will be discussed with you. You should use this opportunity to improve your health by stopping smoking and getting fitter, in case you ever need to have surgery, as this will reduce any complications occurring during and after surgery.

## Can I find out more?

### NHS Choices

<http://www.nhs.uk/conditions/Repairofabdominalaneurysm/Pages/Introduction.aspx>

### NHS Abdominal Aortic Aneurysm Screening Programme

<http://aaa.screening.nhs.uk/>

## Reference

Brewster *et al.* Guidelines for the treatment of abdominal aortic aneurysms. *Journal of Vascular Surgery*. 2003; 37(5):1106.

## Contact information

If you have any questions, or if there is anything you do not understand about this leaflet, please contact your consultant or vascular nurse on the telephone numbers below:

### **Russells Hall Hospital, Dudley**

|                          |                             |   |
|--------------------------|-----------------------------|---|
| Mrs Shiralkar            | Consultant vascular surgeon | 01384 244246                                  |
| Mr Pathak                | Consultant vascular surgeon | 01384 244245                                  |
| Mr Rehman                | Consultant vascular surgeon | 01384 244176                                  |
| Mr Newman                | Consultant vascular surgeon | 01384 244243                                  |
| Mr Wall                  | Consultant vascular surgeon | 01384 456111<br>ext. 1235                     |
| Sharron Cole/Vicky Baker | Vascular nurse specialists  | 01384 456111<br>ext. 2456<br>(answer machine) |

### **New Cross Hospital, Wolverhampton**

|                         |                             |              |
|-------------------------|-----------------------------|--------------|
| Mr Garnham              | Consultant vascular surgeon | 01902 695977 |
| Mr Hobbs                | Consultant vascular surgeon | 01902 695971 |
| Paula Poulton/Val Isgar | Vascular nurse specialists  | 01902 695984 |

### **Manor Hospital, Walsall**

|            |                             |                           |
|------------|-----------------------------|---------------------------|
| Mr Khan    | Consultant vascular surgeon | 01922 721172<br>ext. 6669 |
| Beth Smith | Vascular nurse specialist   | 01902 721172<br>ext. 7648 |

**This leaflet can be made available in large print, audio version and in other languages, please call 0800 073 0510.**

للحصول على هذه النشرة بحجم أكبر، وعلى شكل إصدار صوتي و بلغات أخرى، الرجاء الاتصال بالرقم 08000730510.

此宣传单可提供大字版本、音频版本和其它语言版本，请拨打电话：0800 073 0510。

Ulotka dostępna jest również w dużym druku, wersji audio lub w innym języku. W tym celu zadzwoń pod numer 0800 073 0510.

ਇਹ ਪਰਚਾ ਵੱਡੇ ਅੱਖਰਾਂ, ਬੋਲ ਕੇ ਰੀਕਾਰਡ ਕੀਤਾ ਹੋਇਆ ਅਤੇ ਦੂਸਰੀਆਂ ਭਾਸ਼ਾਵਾਂ ਵਿਚ ਵੀ ਪ੍ਰਾਪਤ ਹੋ ਸਕਦਾ ਹੈ, 0800 073 0510 ਤੇ ਫੋਨ ਕਰੋ ਜੀ।

Aceasta broșura poate fi pusă la dispoziție tipărită cu caractere mari, versiune audio sau în alte limbi, pentru acest lucru vă rugăm sunați la 0800 073 0510.

یہ کتابچہ آپ کو بڑے حروف کی لکھائی، سمعی صورت اور دیگر زبانوں میں مہیا کیا جا سکتا ہے برائے مہربانی فون نمبر 08000730510 پر رابطہ کریں۔

Images provided with permission from Vascutek

**This leaflet can be downloaded or printed from:**

<http://dudleygroup.nhs.uk/services-and-wards/vascular-service/>

If you have any feedback on this patient information leaflet, please email [dgft.patient.information@nhs.net](mailto:dgft.patient.information@nhs.net)

Originator: Mr Pathak, Consultant Vascular Surgeon; Sharron Cole, Vascular Clinical Nurse Specialist. Date reviewed: October 2017. Next review due: October 2020. Version: 5. DGH ref.: DGH/PIL/00494.