



## References

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# Abdominal Aortic Aneurysm

Vascular Department  
Pilgrim Hospital  
01205 446077  
[www.ulh.nhs.uk](http://www.ulh.nhs.uk)

## **Aim of the leaflet**

This leaflet is aimed at patients who require surgery for an abdominal aneurysm. It provides information on the different methods of surgery and what you should expect afterwards.

## **What is an Abdominal Aortic Aneurysm (AAA)?**

The aorta is the main blood vessel that carries blood from the heart to the rest of the body. It passes through the chest and goes to the abdomen (tummy) and ends by dividing into two iliac arteries which carry blood towards the legs.

Sometimes with ageing (the exact cause is unknown), a section of the aorta may weaken and bulge, enlarging over time (like a balloon). This is called an Aneurysm and is common in that section of the aorta in the abdomen (AAA).

## **Is it serious?**

In the early stage when the AAA is small, it poses no immediate health risk. Your doctor may simply want to keep a check on its size regularly with a scan. If the AAA grows, then the walls become thinner and weaker and could leak or burst causing serious internal bleeding. Therefore, beyond a certain size, your doctor may want to discuss treatment with you.

Most have no specific identifiable cause, but risk factors include:

- Severe atherosclerotic (accumulation of fat in the vessel wall) damage of the aortic wall, however, new evidence suggests this is not the only factor and aneurysmal disease is probably a distinct arterial disease.

## **Contact Numbers**

Mr N Arya  
01205 446547  
Pilgrim Hospital, Spalding and Skegness

Mr J Mohan  
01205 446240  
Pilgrim Hospital, Holbeach and Skegness

Mr P Lee Chong  
01522 573792  
Lincoln County Hospital and Gainsborough

Mr M Subramaniam  
01522 573792  
Lincoln County Hospital

Mr V Somecescu  
01476 464543  
Grantham and Louth

## Driving

A summary of the Driver and Vehicle Licensing Agency (DVLA) rules are:

### Group 1 (own driving licence):

- Notify DVLA of aneurysm more than 6 cm.
- Aortic diameter more than 6.5 cm disqualifies the person from driving.

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### Group 2 (LGV/PCV licence):

- Notify DVLA.
- Aortic diameter more than 5.5 cm disqualifies the person from driving.

## Further Information

This leaflet is a basic guide regarding Aortic Aneurysm. More information is available from your doctor or from the following websites:

[www.nice.org.uk](http://www.nice.org.uk)

[www.prodigy.nhs.uk](http://www.prodigy.nhs.uk)

[www.bhf.org.uk](http://www.bhf.org.uk)

[www.circulationfoundation.org.uk](http://www.circulationfoundation.org.uk)

[www.vascularsociety.org.uk](http://www.vascularsociety.org.uk)

- Family history - there are probably strong genetic factors. About 15% of first-degree relatives of a patient with an abdominal aortic aneurysm (AAA), mainly men, will develop an aneurysm.
- Tobacco smoking is an important factor.
- Gender male.
- Increasing age.
- Hypertension (high blood pressure).
- Chronic obstructive pulmonary disease (breathing disorder usually due to smoking).
- Hyperlipidaemia (high cholesterol).
- In population-based studies, people with diabetes have a lower incidence of aneurysms than non-diabetics have.

## What are the symptoms

Many patients have no symptoms whatsoever, yet may still have an aneurysm. When present, the common symptoms are abdominal and/or back pain, mild or severe. Some feel the aneurysm as a pulsating or throbbing lump in the abdomen. If you know you have an AAA and develop back or abdominal pain and feel faint, you should see a doctor immediately.

## Investigations

This covers the non-urgent scenario. Investigations aim to evaluate the detailed anatomy of the aneurysm, any treatable causes and the patient's fitness for surgery.

### **Various tests that may be needed:**

- Variety of blood tests which may include, full blood count, clotting screen, renal function and liver function.
- Cross-match of blood, in case of transfusion required, if surgery is planned.
- CRP if an inflammatory cause is suspected.
- Electrocardiography (ECG), chest x-ray and possibly echocardiogram and lung function tests pre-surgery.

### **Scans:**

- Ultrasound, computer tomography angiography (CT), magnetic resonance imaging angiography (MRA).

If you have any questions about these tests and scans, please ask the doctor who will explain them to you.

## **Open Repair**

Open repair has a long history and is a proven procedure that works. Average hospital stay is around seven to ten days though it takes up to a couple of months to regain the level of fitness you were accustomed to. As with any major operation there is a risk of complications. Your doctor will discuss these with you before you give consent.

## **Endovascular Repair (EVAR)**

EVAR is a relatively new “keyhole” operation with good short term results but long term results are still awaited. Not every Aneurysm is suitable for the EVAR device. Instead of a larger abdominal incision, the doctor makes smaller cuts in each groin to get to the blood vessels there (femoral arteries). Each artery is punctured and the compressed device, consisting of the graft supported on stainless steel skeleton (stent), is manoeuvred inside the arteries up to the aorta. The device is modular (more

Contrast (dye in the blood vessel) and x-rays are used to see and place the device accurately. When the compression is released, the device opens up and fixes itself to the inside wall of the aorta. The procedure usually takes two to three hours.

### **Pros and cons of Endovascular Repair:**

Advantages:

- Avoids open abdominal surgery.
- Avoids aortic cross clamping.
- Reduced mortality in the first four years of follow-up; longer-term results are unknown.

Disadvantages:

- Follow-up with ultrasound or CT scans is essential to monitor the endo-graft.
- Failure of the endo-graft can occur - this was a common problem with early grafts, but the newer designs are more durable.

Reliable studies (RCT) suggest reduced mortality in the first four years of follow-up. However, rates of death from any cause appear to equalise over the years, due to stent graft-related complication.

## **What follow up should I expect**

With an open repair, usually one further appointment at around two months following the procedure, where you will be discharged if there are no problems. Presently, remember that following EVAR, yearly checks (more frequent in the first year) are required.