

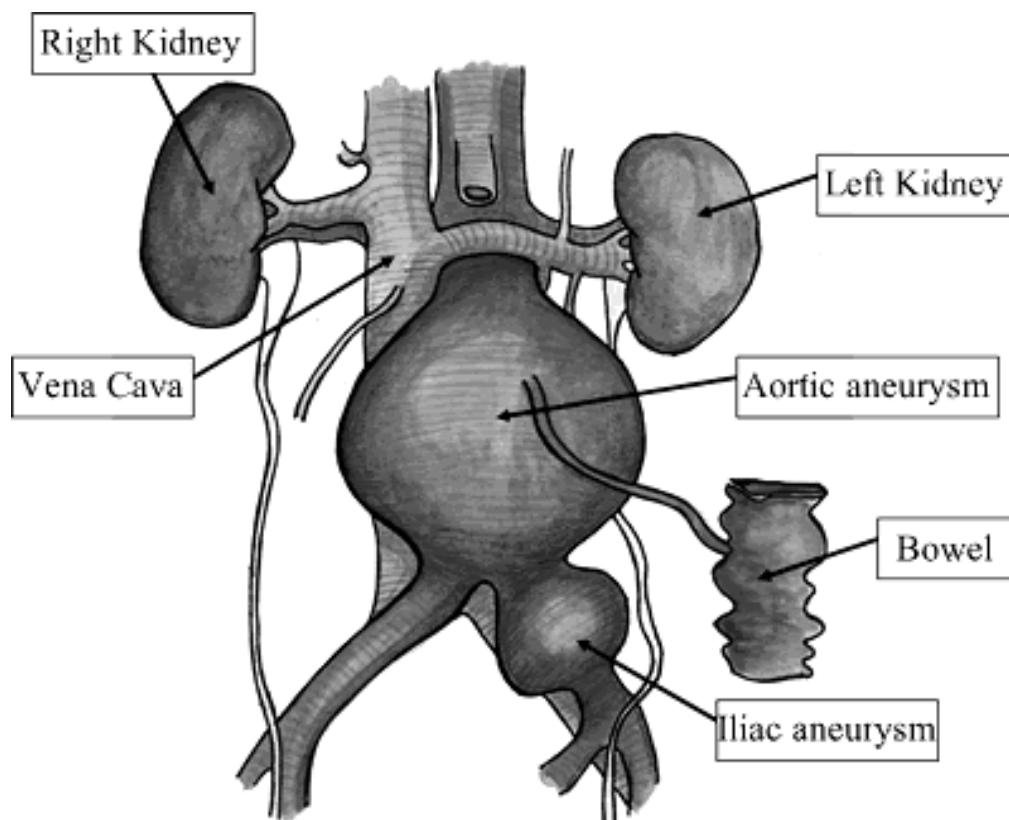
## Endovascular Aneurysm Repair Patient Information

### What is an aortic aneurysm?

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The aorta is the main artery in the body. It runs from the heart, through the chest and abdomen and supplies branches to all the major organs. An aortic aneurysm is a bulge or dilatation of the aorta, usually in the abdominal aorta.

This is a result of weakening of the artery wall, which then stretches due to the pressure of the blood flowing through the aorta, to form an aneurysm. The larger the aneurysm is, the greater the chance that it might rupture (burst) and if an aneurysm ruptures it can be fatal.



## How can an aortic aneurysm be treated?

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All surgical procedures carry some risk, and with small aneurysms the risk of the procedure to repair the aneurysm may be greater than the risk from the aneurysm itself.

Small aneurysms can be followed up with regular scans (usually ultrasound) to keep a close eye on their size. Once an aortic aneurysm reaches a certain size, the risk of it rupturing becomes more likely and so the relative risk of repairing the aneurysm reduces.

It is much safer to repair an aneurysm before it ruptures- this is called an 'elective' repair. Elective repair can be carried out either by open abdominal surgery, which is the traditional method, or by endovascular aneurysm repair (EVAR) using a stent-graft.

Before having an aneurysm repair, you will have a CT scan to provide a very detailed picture of your aneurysm. Depending on a number of factors seen on the CT scan you may be given the option of EVAR rather than open surgical repair.

Some patients (about 50%-60% of cases) are not suitable for EVAR because the shape of their aneurysm is unfavourable and the likelihood of complications from EVAR is too great. In this situation, we would usually advise open surgical repair as the safest treatment.

In those patients with aneurysms that are suitable for EVAR, the benefits and risks of both EVAR and open surgical repair can be discussed and a decision made as to the most appropriate treatment.

## What is EVAR?

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EVAR is a relatively new technique for repairing aortic aneurysms. It has been developed over the last ten years and has been the focus of a number of recent clinical trials to assess its safety and efficacy when compared with open surgical repair.

NICE (NHS National Institute for Health and Clinical Excellence) published guidelines regarding the use of EVAR in March 2006, and have approved its use as an alternative to open surgical repair in suitable patients.

In our centre, EVAR is carried out in a procedure performed by a vascular surgeon and a radiologist who work as a team.

A stent-graft is a metal mesh-work 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 femoral arteries (main arteries to the legs), through two short incisions (cuts), one in each groin. It is then positioned and released across the aneurysm and seals the aneurysm at the top and bottom.

This re-lines the aorta from the inside and prevents blood from flowing into the aneurysm and causing further enlargement and rupture.

## What are the advantages of EVAR compared with traditional open surgical repair?

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EVAR is usually performed under a regional or spinal anaesthetic and sedation, which are administered by an anaesthetist. This means that you are numbed below the waist and are sleepy, but avoids the risks associated with a general anaesthetic. Open surgery would always be performed under a general anaesthetic.

EVAR is performed through small groin incisions whereas open surgical repair requires an abdominal incision, which is much larger and generally more uncomfortable.

Your hospital stay following EVAR is usually about 2 days. You are cared for on a vascular surgical ward and there is usually no need for admission to the Intensive Care Unit. Following open surgical repair you would routinely be

admitted to Intensive Care and your overall length of hospital stay would normally be approximately 10 days.

There is generally minimal blood-loss during EVAR and there is usually no need for blood transfusion. Blood-loss in open surgical repair is generally greater and often patients require transfusion of blood or blood-products during open surgery.

Recent clinical trials show that fewer patients die as a result of their procedure within the first 30 days following their procedure if they undergo EVAR rather than open surgical repair. This is known as the '30 day mortality rate' and is approximately 2% following EVAR compared with 5% following elective open surgical repair.

## **What are the disadvantages of EVAR compared with open surgical repair?**

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EVAR is a new technique and we do not know what the long-term durability and reliability of the procedure and the stent-grafts used are. Open surgical repair is tried and proven with excellent long-term reliability and durability of repair.

Recent clinical trials suggest that there are complications related to the procedure in approximately 20% (or 1 in 5) of patients who have EVAR. The majority of these complications can usually be treated, if necessary, by minor surgical or radiological procedures, and the incidence of complications appears to be reducing as experience in the technique and design of the stent-grafts used improves.

In order to detect any complication we need to follow-up EVAR patients carefully, particularly in the early stages. To do this, we carry out regular CT scans at 1 month, 3 months and 12 months after EVAR, then every year after that, to make sure there aren't any problems. This is also helpful in providing us with information about the long-term reliability of EVAR.

Since the reliability of open surgical repair is well-established, there is no need to scan patients after open surgical repair. Patients are reviewed in the vascular surgical outpatient clinic about 6 weeks after open surgical repair and if all is well, no further follow-up is required.

## For further information on abdominal aortic aneurysm and EVAR:

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National Institute for Clinical Excellence (NICE).  
Procedure Guidance 163. March 2006.

Stent-graft placement in abdominal aortic aneurysm. Understanding NICE guidance - information for people considering the procedure, and for the public.

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

Aortic aneurysm. UK Department of Health. PRODIGY patient information leaflet.

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

The British Heart Foundation

0845 0708070

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

The Circulation Foundation

01483 726511

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

### Sources:

EVAR Endovascular Aneurysm Repair Trials

[www.evartrials.org](http://www.evartrials.org)

Stent-graft placement in abdominal aortic aneurysm. Understanding NICE guidance - information for people considering the procedure, and for the public.

Interventional Procedure Guidance 163, March 2006.

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

Abdominal aortic aneurysm – Patient fact sheet

<http://hcd2.bupa.co.uk>