

## Abdominal Aortic Aneurysm - Information for patients

This leaflet has three aims:

1. To help you, the patient, become better informed and more involved in your care
2. To guide you in the management decisions that will need to be made about your condition
3. To assist you in your questions to doctors and other staff

This guide is not meant to replace the consultation with your GP, consultant vascular surgeon or other healthcare professional because every patient has different needs on which only a consultant surgeon can advise.

You are probably reading this information because either you or someone close to you has been diagnosed with an abdominal aortic aneurysm. This might have come as a shock to you because most of the aneurysms come to light incidentally during examination or investigation of some other unrelated condition. The following is a brief description of what surgeons will tell their patients.

### What is the aorta?

The aorta is a tube which carries blood from the heart to rest of the body. The part of this tube within the abdomen is called the abdominal aorta. Just below the belly button, this tube divides into two main branches, one for each leg. On its way, it gives off branches which carry blood to various organs in the abdomen.

### What is an abdominal aortic aneurysm?

The normal abdominal aorta is about 2 cm in diameter. However, sometimes a part of it may balloon up to a much greater size. This ballooning up of the aorta is called an aortic aneurysm.

### Why does the aneurysm occur?

The main problem is weakening of the aortic wall. Blood flows within the aorta under considerable pressure. This can make the aorta to enlarge if the wall is weak. However, we do not know for certain why the wall weakens in the first place. Smoking and high blood pressure increase the risk of having an aneurysm. There might also be a genetic link. It is more common in men and also if somebody in the family (like a father or a brother) has had an aneurysm.

### Why should it be treated?

Stretching and consequent thinning of the aortic wall increases the risk of it giving way leading to leaking of blood or outright rupture of the aorta, which is very serious and can be fatal. Studies have shown that the risk of leak or rupture increases with the size of the aneurysm and that the risk is low for aneurysms of less than 5.5 cm diameter. Therefore we usually advise treatment for aneurysms of 5.5 cm or more. However, we do keep a close watch on aneurysms smaller than this critical size. We do this by a regular ultrasound at fixed intervals which may be as long as one year for aneurysms of 3 to 4.4 cm and as short as 3 months for larger aneurysms (Surveillance Programme). We advise treatment earlier (i.e., for smaller aneurysms) if it grows rapidly or if it becomes symptomatic.

### **What symptoms can it cause?**

Most aneurysms do not cause any symptoms. They are picked up during routine examination of the abdomen or during investigations of other unrelated problems. A larger aneurysm may become noticeable because of its size. A rapidly expanding aneurysm may cause abdominal or back pain. If you have an aneurysm and develop these symptoms then you should call 999 for an ambulance so that you could be assessed in the Accident and Emergency Department.

### **I have a small aneurysm – How likely is it to increase in size?**

On average aneurysms grow at a rate of 10% a year. However, growth is not always that regular or consistent. It may not increase in size at all for a year or even a number of years and then start increasing in size again.

### **Is there anything I can do to help reduce the growth?**

We do not fully understand the mechanisms involved in the growth of an aneurysm. However, stopping smoking and keeping your blood pressure under control might help. There is also some evidence that cholesterol lowering drugs (statins) help to reduce the rate of aneurysm growth. Your surgeon or doctor will give you a prescription.

### **Is there anything I should not do?**

We do not understand fully the mechanisms which lead to an aneurysm rupture. Generally we advise people not to change their life style and not allow the presence of an aneurysm impair the quality of their life. Furthermore, there is no evidence that lifting or flying increases the risk of rupture. However, if you have an aneurysm and require abdominal surgery for something else then you should consult with your consultant vascular surgeon on any additional risks.

### **I have an aneurysm of more than 5.5 cm – what tests will I need?**

There are two types of tests that you will need. One is to look at the aneurysm more closely to decide what type of treatment or repair will be most appropriate and the other to determine your fitness for such treatment.

#### ***Aneurysm:***

A CT scan from chest to the groins will outline the whole of the aorta and its branches. This scan will help us to see the exact size, extent and shape of the aneurysm and the state of the arteries leading from it.

#### ***Fitness:***

Assessment for your fitness starts with a detailed medical history and clinical examination. Your consultant surgeon would have kept track of any major events related to your health if you were in a surveillance programme. Tests are done to look at your kidney and liver function and blood count. An echocardiogram (ultrasound scan of the heart) and lung function tests will also be requested. You may also need an exercise test which would give us more detailed information about your fitness.<sup>i</sup>

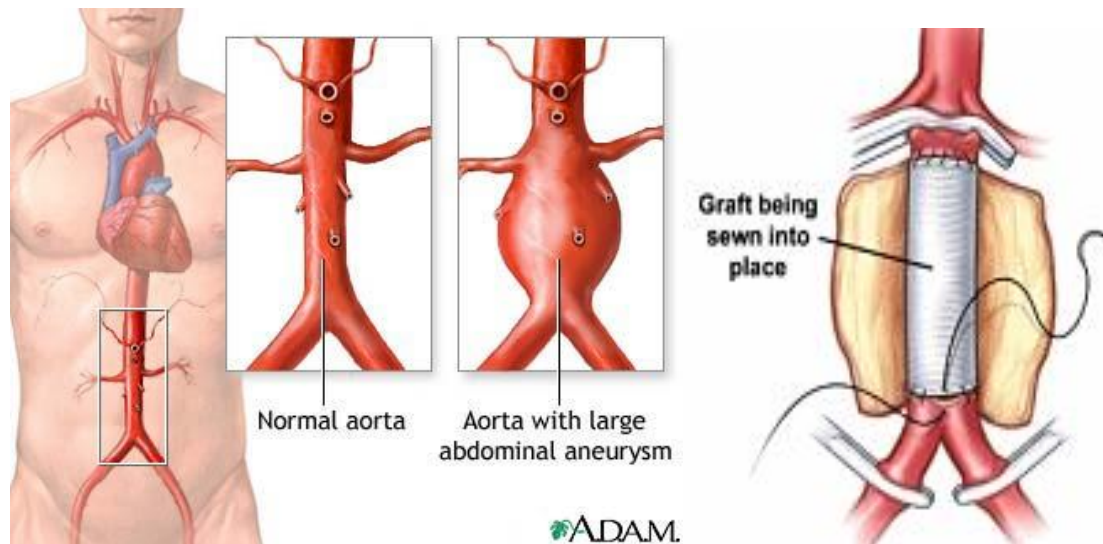
You do not have to be very fit to be able to have treatment. These tests sometimes help us to see if you need some medical treatment to improve the function of your heart and lungs prior to an operation. We sometimes ask for help from other specialists.

### **Treatment**

Traditional surgery involves making a cut in the abdomen under a general anaesthetic. This cut is usually transverse (side to side) just above the umbilicus. However your surgeon may decide to

make a longitudinal cut (up and down) in the middle of abdomen. You may also have small cuts in the groins if needed to access the groin arteries.

The aorta is clamped above the aneurysm which is then opened and a fabric tube is sewn in above and below to make a watertight seal. The sac of the aneurysm is then wrapped around this tube and abdomen closed with strong sutures.



#### **After care:**

You will be nursed in the Critical Care Unit after the procedure. Here, we can monitor your health more closely and intervene urgently if needed. The length of stay here depends upon your fitness before surgery and whether or not you develop any complications related to heart, lungs or kidneys. Your surgeon or Critical Care team will advise you when you can start drinking.

You will have a tube coming out of your nose. This goes into your stomach to keep it empty in case your bowels are slow to work. Similarly a tube is inserted into your bladder to keep it empty to reduce your discomfort. There would also be drips attached to your neck and arms. These enable us to draw blood samples without additional discomfort and also to give you fluids and medication if needed.

These tubes will be removed one by one as you recover. Similarly, oral feeding will be re-established gradually as your bowels recover after the operation. You may need some help to mobilise initially but if no complications develop we expect you to be on your feet and mobilising independently within 7 to 10 days. This is when you would be ready for discharge to your own home.

#### **Pain relief:**

The anaesthetist will discuss pain control in greater detail with you. In general, an epidural catheter (a thin tube inserted into your back) usually provides excellent pain relief in the first 3 to 5 days – the period of maximum pain. Thereafter, we will prescribe pain killers to be taken orally at regular intervals. In most patients this is enough to control the pain adequately. However, you can ask for further medication if the pain persists.

### **At home:**

People usually feel more tired when they get home. It is because they tend to do more than in hospital. It is advisable to be up and about but try and take frequent rests and listen to your body to increase your activities gradually. You would have lost quite a bit of weight during your hospital stay. We expect you to start putting your weight back on within a few weeks of discharge. However, complete recovery to the levels before the operation may take as long as three to six months.

### **Follow up**

Your consultant surgeon will arrange to see you in the clinic, 6 weeks then a few months after the discharge. Normally you should not require further follow up.

### **What are the risks of things going wrong?**

The main complications of aneurysm surgery are

- Heart attack
- Lung infection
- Kidney failure
- Problems with the circulation to the legs
- Bleeding within the abdomen

The severity of these complications is variable but each can be severe enough to prolong your stay in the intensive care unit. You may require support of a breathing machine, drugs or rarely a dialysis. You may also need further surgery for problems with the leg circulation or bleeding in the abdomen.

The risk to life depends to a certain degree on your health and whether you already have heart, lung or kidney disease. There is an average risk of death of about 6 to 7% but your individual risk may be higher or lower than this. Your consultant surgeon and anaesthetist will discuss this with you in greater detail. The risks associated with operative treatment must be balanced against the risk that the untreated aneurysm may continue to increase in size and may eventually rupture. Many patients with a ruptured aneurysm will not survive long enough to reach the hospital. Of the ones who do get to the hospital and undergo surgery, only 50% survive.

### **Are there any long term risks?**

Fortunately long term complications from aneurysm repair are uncommon. These include infection in the graft or further aneurysm formation above or below the graft. In men there may be some problems with erections due to bruising of the nerves that cross the aorta. However the vast majority of people have no further problems and should have the same life expectancy as someone who has never had an aneurysm.

### **How long will I have to wait for an operation once a decision is made?**

The assessment and investigations take a few weeks. Your consultant surgeon will try his best to make this happen as quickly as possible. Once everything is in place he will be able to give you a date for the operation. However, the operation may not go ahead if a bed is not available in Critical Care on the day of surgery. This sometimes happens because of emergency admissions.

You will be seen in the pre-assessment clinic a week or two before surgery. A specialist nurse will take your history and do routine blood tests and a heart tracing (ECG). A junior doctor will do a full physical examination. Usually at this visit you will have a chance to speak to your anaesthetist. He/she might also need to arrange some more tests to be sure of your fitness for the anaesthetic.

### What happens when I arrive at the hospital?

You will be admitted a day before the surgery. A junior doctor and the nurses will see you and do the paperwork related to your admission, prescribe your medications and may take a fresh blood sample in case you need a blood transfusion. We do use techniques to reduce the need for transfusion but it sometimes is necessary. The consultant surgeon and the anaesthetist will also see you and ask you to sign the consent form if you have not done that before. This is another opportunity for you to ask any questions or air any concerns you might have. The surgeon should be able to tell you roughly when you would be going to theatre.

We would ask you not to eat and drink from midnight on the day of surgery. Usually an intravenous drip is not needed before the operation. However, if you take insulin for diabetes we will need to set up an insulin drip to make sure that your blood glucose remains within the normal range.

The consultant surgeon and the anaesthetist will let you know if they wish you to omit any medication.

### Is there any other way to repair the aortic aneurysm?

Up until recently the only treatment for abdominal aortic aneurysm was open surgery. However, more recently a less invasive operation called Endovascular Aneurysm Repair (EVAR) has been introduced. In this procedure, a fabric tube graft mounted on a metal frame is introduced over wires through the arteries in the groin. This is then safely anchored above and below the aneurysm within the segment of the normal aorta. The arteries in the groin are accessed through small incisions. This procedure is associated with less risk to life compared to open surgery. However, not all aneurysms are suitable for this type of treatment. At Bedford Hospital we offer both treatments. Your surgeon will decide which treatment is suitable for you.

