**Circulation Foundation: Leaflet Draft AAA Turndown**

**Abdominal Aortic Aneurysm (AAA)**

An AAA is a ballooning of the main blood vessel in the body (the aorta). AAAs tend to grow slowly over many years. They grow at around 0.2cm per year on average. Sometimes they grow more quickly. Sometimes they grow more slowly. Once we have found an AAA we monitor it with ultrasound scans. These scans are performed every year when the AAA is small (3.0-4.5cm) and every three months when the AAA is bigger (4.5-5.5cm).

**AAA Rupture Risk**

As an AAA grows larger, there is a risk that it bursts or ruptures. This is a serious event with major internal bleeding and a high risk of dying. This is why we take aneurysms so seriously. However, the risk of rupture is actually very low. In an AAA of 3cm the risk of rupture per year is 0.03%. To put this another way that is 3 people out of every 10,000 people with an aneurysm around this size that would rupture each year (an extremely low risk).

When the aneurysm gets larger, the risk of rupture increases. We therefore offer a planned (or “elective”) repair of an AAA when it reaches a size of 5.5cm. This removes the possibility of rupture. Even at this size, the risk of rupture is around 0.5% per year. That means 1 in 200 people with a 5.0-5.5cm AAA would experience a rupture each year without surgery, 199 out of 200 people would not. Still a low overall risk of rupture.

**Benefits of AAA repair**

Operations to repair an AAA also carry risk. However an aneurysm is repaired (open surgery or with a stent) there are risks of major complications and death with the operation. In fit patients who are low-risk the chances of this are small, and smaller than the risk of rupture. Therefore, overall an operation to fix the aneurysm is worth the risk.

In patients who are high risk, the operation is more likely to cause harm than the aneurysm itself. High risk patients are those patients who have other medical conditions that increase their risks from surgery. This can be a wide range of thigs but examples would be: problems with the heart, lungs or kidneys. Not only do operations pose a risk of medical complications or death to high risk patients, but they can also reduce their quality of life if they do survive. This means patients are less likely to be able to do the things that they enjoy in life after surgery.

It is therefore important that we are careful who we offer an operation to so that we do not cause more harm than good. We must be sure that patients offered a repair are likely to benefit from it rather than experience a complication, a reduced quality of life or fail to survive the procedure.

**Why have I not been offered an operation? What does it mean for me?**

If your vascular team have decided that an operation is not suitable for you, they will explain this to you in detail. It means that the assessments of your medical fitness and other medical conditions mean that you are not likely to benefit from an operation to repair your aneurysm. In other words an operation will not change how long you are likely to live or improve how you feel day to day. It is therefore of no benefit to you.

If your team decide that you would not benefit from an operation once your AAA reaches 5.5cm they will talk to you about what happens next. This varies from patient to patient. In some cases, there may be a benefit to taking the risk and repairing your aneurysm when it becomes larger. In these cases we will continue to scan the aneurysm and review our decision when it reaches a larger size (e.g. 6cm), when the risk of rupture is a little higher.

In other cases it may be clear from the assessments that a planned operation to repair your AAA will never be advisable. In that case ongoing monitoring of the aneurysm is not usually recommended either, as it does not change how you are being treated. It is important to remember that the chance of an aneurysm rupturing is still low at 0.5% per year for a 5.5cm AAA.

**What if my aneurysm ruptures?**

In the majority of patients who we decide to treat non-operatively, their aneurysm will never rupture during the rest of their lives. However, in some cases they will experience aneurysm rupture. At the time of decision making around a planned repair, there is also an opportunity to discuss with your team how you would want such an emergency event to be dealt with.

In the case of rupture, the balance of risk to benefit has shifted. If nothing is done, the chances of survival are very low, so some patients will chose to allow attempts at an emergency aneurysm repair. For other patients, they are quite clear that they would not want to undergo major surgery and would prefer to be kept comfortable (“palliative care”). It is valuable to have an informed and frank discussion with your vascular team around these issues and how you personally would want to tackle them. We call this anticipatory care planning and it is important that this is done in partnership with your hospital team, your family and your GP.

**Is it always worth surveying an AAA?**

Historically the decision around suitability of aneurysm repair was only made once the AAA reached 5.5cm. However, it has become increasingly clear over the last few years that in some cases, it can be determined much earlier in the patient pathway that an AAA repair would not be suitable. In such patients, there is little benefit in making them come to the hospital for a scan every 3 or 12 months. For example, patients who are 84 years old (or more) and have an aneurysm below 4.5cm are extremely unlikely to live long enough to reach the 5.5cm threshold. Similarly patients with major medical problems with a small 3cm aneurysm are unlikely to benefit from repair, should they reach 5.5cm. Increasingly therefore we are making decisions earlier and freeing patients from unnecessary surveillance scans. Again, these decisions are made jointly between vascular teams and their patients.

**What can I do to help myself if I am not having an AAA repair?**

Very little has been shown to influence how an aneurysm grows. We do know that smoking is an important cause of AAA development. We also know that if patients continue to smoke that does make their aneurysm grow more quickly. Quitting smoking can therefore help slow the growth of your aneurysm down.

Despite all the focus on rupture, patients with an AAA are between 10 and 100 times more likely to experience other things such as a heart attack or stroke than aneurysm rupture. Taking medicines such as blood thinners (e.g. aspirin) and cholesterol tablets (e.g. statins) significantly reduces the chance of these problems, as does undertaking regular physical exercise.