## WHAT IS AN ABDOMINAL AORTIC ANEURYSM (AAA)?

The aorta is the largest artery in the body, carrying oxygen-rich blood to your lower body and extremities. An abdominal aortic aneurysm occurs when the pressure from blood flowing through your aorta causes a weakened segment that may expand or bulge. The normal diameter of the abdominal aorta is about 2 cm (0.8 in). As an AAA continues to expand beyond normal diameters, it may become dangerous and be at risk for rupture. A ruptured aneurysm can cause severe internal hemorrhage, which can cause shock or even death. Fortunately, when diagnosed early and monitored frequently, an AAA may be treated safely and effectively.



#### WHAT ARE THE RISK FACTORS?

Anyone can develop an AAA, but certain risk factors may predispose an individual to the development of an abdominal aortic aneurysm. These include:

- A family history of AAA
- Smoking
- High blood pressure
- Age 55 and over for men and age 65 and over for women

#### WHAT ARE THE SYMPTOMS?

Most patients with an AAA will remain asymptomatic (experiencing no symptoms), but if you do develop symptoms you may experience the following:

- Pulsations within your abdomen.
- Severe sudden pain in your abdomen or lower back. If you experience such pain, call 911, as this may indicate impending rupture.
- Rarely, you may develop pain, discoloration, or ulcerations on your toes or feet from debris shed from the aneurysm. If you experience this, contact your physician immediately.

## WHAT TESTS WILL I NEED?

Imaging studies create pictures of your arteries and help determine size, shape, and stability of your aneurysm. Several imaging studies may need to be completed before repairing your aneurysm. These may include:

- *Ultrasound:* A noninvasive method of imaging that allows sound waves to create an image of your blood vessels.
- *CT Scan:* A modality that uses a series of images to create a detailed picture of your aneurysm. You may be given intravenous (IV) contrast before this test to ensure a clear depiction of your arteries. **IV contrast can lead to kidney failure in patients** with allergies to contrast dyes or known kidney disease, so please inform your physician of any of these issues.
- *Arteriography:* An invasive test that uses contrast to visualize blood flow through your aorta and other arteries. It usually takes place in a hospital and requires routine lab tests beforehand.

# **TREATMENT OPTIONS**

Understanding your condition and treatment options is extremely important. Your physician and healthcare team can answer any questions that you may have regarding your condition and treatment.

- Your physician may recommend repair of your AAA when it reaches diameters between 5 cm (2 in.) and 5.5 cm (2.2 in.) or if your aneurysm is growing at an increased rate.
- If your aneurysm is small, and you are not experiencing symptoms, your physician may recommend "watchful waiting." This means that the risk that your aneurysm will rupture is very low. You will likely be monitored every 6 to 12 months to detect changes in aneurysm size. Follow-up as directed by your physician is extremely important.
- If your aneurysm is larger, noted to be growing at a rapid rate, or if you are experiencing symptoms, your physician may determine that surgical repair is necessary. In this case, the risk of your aneurysm rupturing may outweigh risks associated with an elective repair.
- Abdominal aortic aneurysms may be repaired with either endovascular or open surgery. Your physician determines which option you may be a candidate for depending on other medical conditions you may have or your specific anatomy.

#### **Endovascular Repair**

- Endovascular repair involves the use of a synthetic stent graft (endograft) composed of fabric and metal to strengthen the weak and aneurysmal segment of your aorta.
- This procedure is less invasive than open surgery; the treatment is performed inside of your artery via two small incisions in both groins.
- During the procedure, using x-rays and small catheters, the stent graft is slowly guided from the arteries in your groin to the aneurysmal aorta.



- The stent graft is deployed at the level of the aneurysm and secured in place.
- This type of repair often has a shorter recovery period postoperatively than open surgery.
- On average, your hospital stay may be 2 to 4 days.
- Complications associated with this type of repair may include injuries to surrounding blood vessels, heart attack, stroke, paraplegia, kidney failure, and blood clots.
- Rarely, leaks may develop around or behind the endograft, which may require additional procedures.
- After endovascular repair, frequent follow-up with ultrasound and CT scans are required to ensure proper placement and functioning of your endograft.

# ABDOMINAL AORTIC ANEURYSM (Cont.)

#### **Open Repair**

Because of unfavorable anatomy or proximity of your aneurysm to the renal arteries, you may not be eligible for an endovascular repair of your AAA. An open repair may be more appropriate.

- Open repair is performed through a large abdominal incision that exposes the aneurysmal aorta.
- The aorta is clamped to stop blood flow and then the surgeon opens the aneurysm and clears any blood clot in the aneurysm.
- A graft is then sewn into place, restoring the normal size and contour of the aorta, allowing blood to flow safely to your lower extremities.
- The aorta is then sewn back together snugly around the graft and the incision site is closed.
- On average, your hospital stay may be 4 to 7 days.



- Complications associated with this type of repair include infection, bleeding, heart attack, stroke, and impaired sexual function.
- After open repair, follow-up with imaging studies is less frequent.

#### RECOVERY

Depending on the type of repair that is performed, your recovery time may vary. Recovery from open repair may take weeks to months, while endovascular repair is much shorter. For all AAA repairs, follow all postoperative instructions given by your vascular surgery team. These include:

- Take all medications as prescribed.
- Shower instead of taking baths for the first week.
- Avoid strenuous exercise.
- Avoid heavy lifting for the first 10 to 14 days.
- Ensure that your groin incisions or abdominal incision is kept clean and dry.
- Follow up with your surgeon between 1 and 2 weeks of discharge.

## WHEN TO CALL YOUR PHYSICIAN

It is important to alert your physician about any complications that you may be having. Contact your physician if you experience any of the following:

- A red, tender, swollen, or draining incision site
- Fever over 101° F
- · Severe abdominal or back pain
- Chest pain or shortness of breath
- Numbness, swelling, or pain in your legs