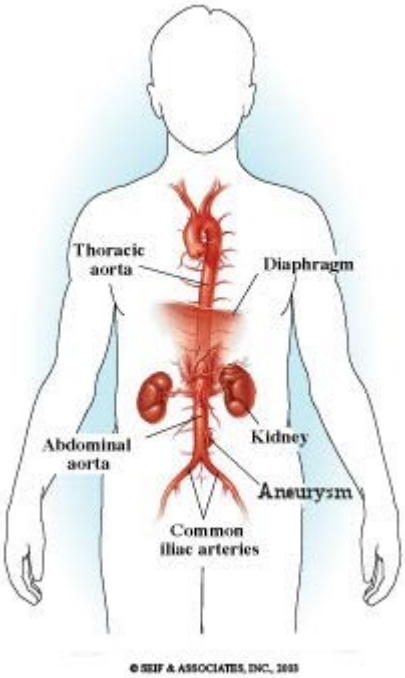
Abdominal Aortic Aneurysm, Open Repair
Pre-op and Procedure

The body has a system of arteries that carry blood away from the heart. The largest artery supplies blood to the lower part of the body. It goes from the heart, through the chest and into the abdomen. There it is called the *abdominal aorta*. If its wall becomes weak, it can bulge out like a balloon. That is called an aneurysm. This is a serious problem. The aneurysm can make the aorta stretch so much that it might burst (*rupture*). The result would be bleeding inside the body.



Before that happens, surgery is needed to fix the condition. One type of surgery is called an open repair. A cut (*incision*) will be made in the abdomen. The damaged part of the aorta will be removed. It will be replaced by a tube of man-made material. This is called an aortic graft.

BEFORE THE SURGERY

- A medical evaluation will be done. This may include:
  - A physical examination.
  - Blood tests.
  - Checking the heart's rhythm (*electrocardiogram*).
  - Looking inside the arteries, to see how the blood is flowing. To do this, a dye is injected into your blood. Then X-rays are taken (*angiogram*).
  - Tests to check the size and location of the aneurysm (*imaging tests*). This could include:

1. Sound waves used to take pictures of the aneurysm (*ultrasound*).
2. Pictures taken using X-rays and a computer (*computed tomography*). This is also called a CT scan.
3. An image is created using a magnet, radio waves and a computer (*magnetic resonance imaging*). This is also called an MRI.
   - Talking with an anesthesiologist. This is the person who will be in charge of the anesthesia (medication) during the surgery. An open repair requires general anesthesia (being asleep during surgery).

- The person who is having open repair of an abdominal aortic aneurysm needs to give what is called informed consent. This requires signing a legal paper that gives permission for the surgery. To give informed consent:
  - You must understand how the procedure is done and why.
  - You must be told all the risks and benefits of the procedure.
  - You must sign the consent. Sometimes a legal guardian can do this.
  - Signing should be witnessed by a healthcare professional.
- The day before the surgery, eat only a light dinner. Then, do not eat or drink anything for at least 8 hours before the surgery. Ask your caregiver if it is OK to take any needed medicines with a sip of water.
- You will probably be given medication to cause bowel movements. It is important to empty the intestines before this surgery.
- Arrive at least an hour before the surgery, or whenever your surgeon recommends. This will give you time to check in and fill out any needed paperwork.

LET YOUR CAREGIVER KNOW ABOUT:

On the day of your surgery, your caregivers will need to know the last time you had anything to eat or drink. This includes water, gum and candy. In advance, also make sure they know about:

- Any allergies.

- All medications you are taking, including:
  - Herbs, eyedrops, over-the-counter medications and creams.
  - Blood thinners (*anticoagulants*), aspirin or other drugs that could affect blood clotting.
- Use of steroids (by mouth or as creams).
- Previous problems with anesthetics, including local anesthetics.
- Possibility of pregnancy, if this applies.
- Any history of blood clots.
- Any history of bleeding or other blood problems.
- Previous surgery.
- Smoking history.
- Any recent symptoms of colds or infections.
- Other health problems.

THE SURGERY

- During the preparation:
  - Small monitors will be put on your body. They are used to check your heart, blood pressure and oxygen level.
  - You will be given an IV. A needle will be inserted in your arm. Medication will be able to flow directly into your body through this needle. Sometimes, an IV also is inserted into a blood vessel in the neck. This can help measure blood pressure. And, it can be used to give fluids after surgery.
  - You will be given a general anesthetic.
  - A tube will be placed in the bladder to drain urine during and after surgery.
  - A tube will be placed through the nose into the stomach. This is used to drain stomach contents.
  - An epidural catheter may be inserted. This is a small tube that is put in the area of your lower spine (backbone). It is used to give pain medicine after surgery.
- During the procedure, which can take several hours:
  - Once you are asleep, the surgeon will make an incision in the area of the aneurysm.
  - Clamps are put on the abdominal aorta. One is put above the aneurysm. One is put below it. This stops the blood flow.
  - The aneurysm is then opened. The graft is sewn to healthy parts of the aorta, right above and below the aneurysm. The walls of the opened aneurysm are wrapped around the graft. It is then sewn closed.
  - The clamps are removed. This lets the blood flow again.
  - The incision is closed using stitches or staples.
  - A clean dressing (medicine and bandage) is put on the area around the incision.

AFTER THE PROCEDURE

- You will stay in a recovery area until the anesthesia has worn off. Your blood pressure and pulse will be checked every so often.
- Then you may be taken to an ICU (intensive care unit). You will continue to be watched carefully and checked often. In time, you will be moved to a regular hospital room.
- You will be hooked up to several machines. And you will still have tubes in your body.
  - The machines check your heart, breathing and blood pressure.
  - Tubes that were put in your bladder, blood vessels and stomach will stay in place for a few days. They will be taken out once your body functions return to normal.
  - You may be given pain medicine through the epidural catheter.
- You will probably be given several tests. And you might have these tests several times. They include:
  - Blood tests.
  - Electrocardiogram.
  - Ultrasound.
  - X-rays.
- You may be asked to do breathing exercises. And you may be asked to cough frequently.

- Tight stockings may be put on your legs. They help keep blood clots from forming in your legs.
- Most people stay in the hospital for a week or so after this type of surgery. If any stitches or staples need to be removed, they probably will be taken out before you go home.

RISKS AND COMPLICATIONS

All surgeries have risks. However, complications for this type of surgery are rare, if the person is in good health. But, possibilities include:

- Bleeding after surgery.
- Infection. This could occur near the incision. Or, it could develop in the graft itself. A graft that becomes infected may need to be replaced. This would require another surgery.
- Lung problems. Sometimes this is a result of the anesthesia. Or, it can be caused by shallow breathing (not taking deep breaths) in the days after surgery. This problem develops most often in people who smoke.
- Intestine problems. In some people, it takes a long time for bowel movements to return. The intestines may take a while to start working again.
- Heart and blood vessel problems. These include:
  - Heart attack.
  - Blood clots. A clot could form in a blood vessel and travel to the brain.
  - Very low blood pressure.
- Kidney damage.
- Nerve damage. This can cause pain or lack of feeling (*numbness*) in the leg.

PROGNOSIS

Open repair of an abdominal aortic aneurysm is usually very successful. However, it is important for the surgery to take place before the aneurysm has ruptured. How healthy the person is before the surgery matters, too. Full recovery may take 6 weeks to three months. To return to normal activities and to stay healthy over the long term, it is also important that you:

- Manage your blood pressure.
- Do not smoke.
- Reduce stress.
- Eat healthy foods that are good for your heart.
- Get regular exercise.

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