

# EVAR (Endovascular Aneurysm Repair)

## What is an EVAR?

EVAR is a procedure to repair an **abdominal aortic aneurysm**, or **AAA**.

An **aneurysm** [AN-yuh-riz-um] is a weakened section of an artery (blood vessel). The artery in this case is called the **aorta** [ay-OR-tuh], which is the largest artery in the body. It supplies oxygen-rich blood from the heart to the **abdomen** (belly), **pelvis** (hip area), and **legs**.

## What can happen with an AAA?

An **aortic aneurysm** can be very **dangerous**, especially if it's large (more than 2 inches across) or it's growing. If it **ruptures** (bursts), it can cause **bleeding inside the body**, and death can happen within a few minutes.

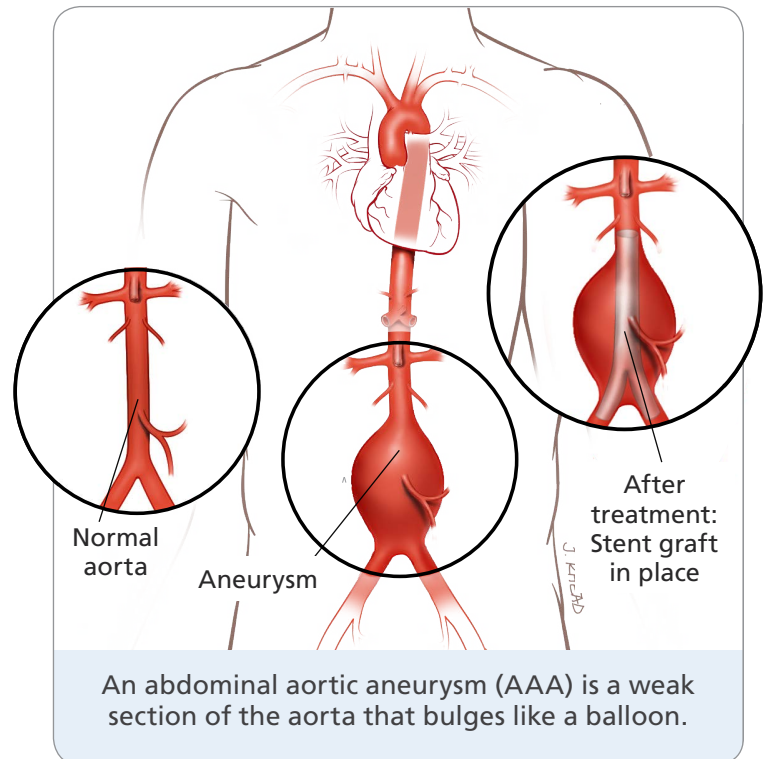
An AAA may or may not cause any symptoms. Common symptoms include a pulsing sensation in the abdomen or pain in the abdomen, chest, or back.

## How is an AAA treated?

There are 2 ways to repair an AAA:

- **Abdominal surgery.** A large incision (cut) is made in your abdomen. The weakened aorta section is removed and replaced with a tube made of a special synthetic (man-made) material.
- **Endovascular aneurysm repair (EVAR).** With EVAR, a special tube called a stent graft is threaded up through the artery and placed inside the aneurysm. Blood then flows through the stent graft and doesn't press against the aneurysm.

If your AAA is small (less than 2 inches across), your doctor may recommend watching and waiting. You'll need tests every 6 months to check the aneurysm. You may also need to take medicine and make lifestyle changes to stop the aneurysm from growing.



## Why have an EVAR procedure?

Compared to surgery, an EVAR (stent graft) is faster, causes less stress on your body, and has a shorter recovery time. **Most aneurysm patients can have an EVAR.** It depends on 2 factors:

- **The shape of your aorta.** To have an EVAR, you need to have a section of normal aorta that is long enough to hold the stent in place.
- **Your commitment and ability to have lifelong follow-up tests** to monitor the stent (see the section on "Follow-up tests").

## How do I prepare for an EVAR?

- **Tell your doctor about all medicines you take.** This includes prescription medications, over-the-counter remedies (such as cough syrup, allergy pills, or pain relievers), inhalers, patches, vitamins, and herbal supplements.
- **Follow your doctor’s orders about your medicines.** You may need to stop some medicines for a certain amount of time before the procedure.
- **Tell your doctor about any allergies** you have.
- **Arrange for a ride** to and from the hospital. Ask your doctor if you need to have someone stay with you after you get home from the procedure.
- **Tell your doctor if you have a cold, flu, or fever** the day of the procedure.
- **Follow all instructions on when to stop eating and drinking** before the procedure.

## What happens before the procedure?

- A nurse will prepare the patch of skin, usually in your groin, where catheters (tiny tubes) will be inserted.
- You will have an IV (intravenous) line for medicine. Blood may be taken for lab tests.

## What happens during the procedure?

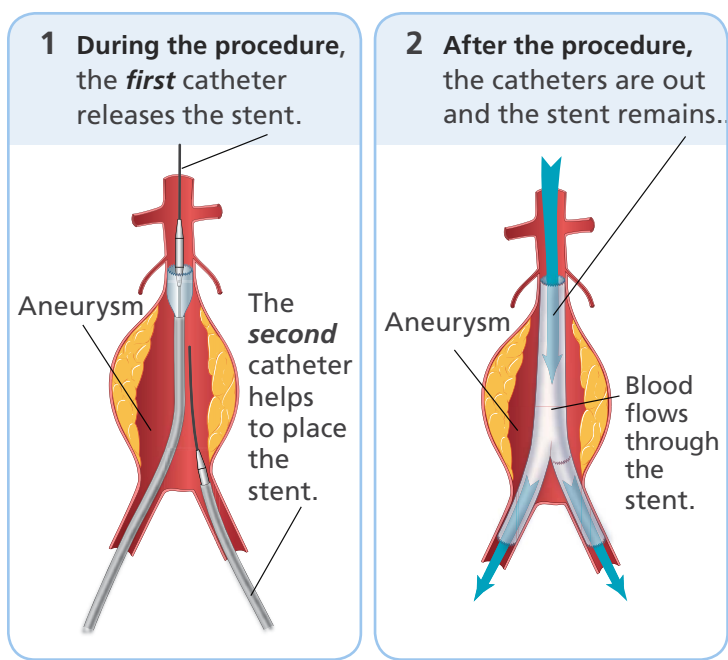
An EVAR procedure usually takes 2 to 3 hours. It is done in the cardiac catheterization lab, angioplasty lab, or in an operating room. Here’s what happens:

- **You receive anesthesia.** Anesthesia is a medicine that stops you from feeling pain. If general anesthesia is used, you will sleep during the procedure.
- **The doctor makes 2 small incisions (cuts) into blood vessels in your groin.** A sheath (short, plastic sleeve) is placed in each incision. The sheath holds the artery open to let guidewires or catheters through.
- **The doctor runs a guidewire through 1 of the sheaths and into the artery.** X-ray images on a video screen will show the guidewire as it moves up to the aneurysm.
- **The doctor inserts a catheter through each sheath and into the artery.** One catheter holds a compressed stent graft. Using the guidewire, the doctor threads this catheter up the artery. The other catheter will help fit the stent graft into the aneurysm.
- **The doctor takes out the catheters, leaving the stent graft in place.** The graft will expand to seal against the artery wall around the aneurysm. Blood flows through the stent graft.
- **The incisions are closed** with a stitch or other closure device.

## Talking with your doctor about an EVAR procedure

The table below lists the most common potential benefits, risks, and alternatives for EVAR. There may be other benefits or risks in your unique medical situation. If you have any questions, be sure to ask.

Possible benefits	Risks and possible complications	Alternatives
<ul style="list-style-type: none"><li>• Relieves the pressure on an aneurysm</li><li>• Greatly reduces the risk of it bursting</li><li>• Less invasive than traditional (open) AAA repair surgery — easier on the body and has a faster recovery</li></ul>	<ul style="list-style-type: none"><li>• Infection.</li><li>• Problems such as blood leaking around the stent, movement of the stent, or stent fracture. These will require another procedure to fix.</li><li>• Blocked blood flow through the stent.</li><li>• A ruptured artery.</li><li>• Injury to the kidney.</li><li>• Death (very rare).</li></ul>	<ul style="list-style-type: none"><li>• Watching and waiting. This requires regular tests to make sure your aneurysm isn’t too large or growing quickly.</li><li>• Traditional (open) surgery to replace the weakened section of the aorta.</li></ul>



## Risk factors you **CANNOT** change include:

- **Age.** People older than 60 years have a higher risk.
- **Sex and race.** Aortic aneurysms are more common in men and among Caucasian (white) people.
- **Family history.** Your risk for an aortic aneurysm is higher if someone else in your family has had one.

## Risk factors you **CAN** change include:

- **Tobacco use.** Smoking or chewing tobacco is closely connected with aortic aneurysms.
- **High blood pressure.** The higher your blood pressure, the more stress it places on your arteries. This pressure can lead to an aneurysm.
- **High cholesterol.** Cholesterol is a waxy substance in your blood. High cholesterol can cause deposits to form in your blood vessels, which can block or damage your arteries.

## What happens after the procedure?

Plan to spend a day or 2 in the hospital. The healthcare team will monitor you and run tests to make sure the stent graft is stable. When you are ready to go home, someone should drive you.

## Follow-up tests

After an EVAR, you will need to go to regular follow-up appointments to make sure the stent graft is still in the right place. You should plan to have an x-ray or CT scan:

- One month after the procedure
- Six months after the procedure
- A year after the procedure
- Every year after that, for the rest of your life

If you can't have these regular tests, it is better to have surgery to repair your AAA.

## Risk factors for aortic aneurysm

Even though your AAA has been treated, you need to take action to help prevent another aneurysm from developing. The first step is understanding the factors that increase your risk for an aortic aneurysm.

## How can I lower my risk?

- **If you use tobacco, stop now.** Smoking or chewing tobacco is one of the strongest factors in developing an aneurysm. Quitting is the single biggest choice you can make in your health.
- **Control your blood pressure** to protect your arteries from further damage. Medicine, exercise, and weight loss can help.
- **Control your cholesterol.** Keep your total cholesterol under 200 and your LDL ("bad") cholesterol under 100. This can be done with medicines and a low-fat, low-cholesterol diet.
- **Follow a heart-healthy eating plan.** Eat a diet low in saturated fats, cholesterol, and salt and high in fresh fruits, fiber, and vegetables.

## Where can I find more information?

Ask your doctor or nurse for a copy of these Intermountain education items:

- **Quitting Tobacco: Your Journey to Freedom**
- **Understanding Cholesterol**, a fact sheet for patients and families
- **Nutrition for a Healthy Heart** booklet

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