Ablation for Arrhythmias

Catheter ablation is a procedure that uses radiofrequency energy (similar to microwave heat) to destroy a small area of heart tissue that is causing rapid and irregular heartbeats. Destroying this tissue helps restore your heart's regular rhythm. The procedure is also called radiofrequency ablation.

Quick facts

- Catheter ablation is used to treat abnormal heart rhythms (arrhythmias) when medicines are not tolerated or effective.
- Medicines help to control the abnormal heart tissue that causes arrhythmias. Catheter ablation destroys the tissue.
- Catheter ablation is a low-risk procedure that is successful in most people who have it.
- This procedure takes place in a special hospital room called an electrophysiology (EP) lab or a cardiac catheterization (cath) lab. It takes 2 to 4 hours.

Why do people have catheter ablation?

Special cells in your heart create electrical signals that travel along pathways to the chambers of your heart. These signals make the heart's upper and lower chambers beat in the proper sequence. Abnormal cells may create disorganized electrical signals that cause irregular or rapid heartbeats called arrhythmias. When this happens, your heart may not pump blood effectively and you may feel faint, short of breath and weak. You may also feel your heart pounding.

Medicines to treat rapid and irregular heartbeats work very well for most people. But they don't work for everyone, and they may cause side effects in some people. In these cases, doctors may suggest catheter ablation. The procedure is used most often to treat a condition called supraventricular tachycardia, or SVT, which occurs because of abnormal conduction fibers in the heart. Catheter ablation is also used to help control other heart rhythm problems such as atrial flutter and atrial fibrillation. Catheter ablation destroys the abnormal tissue without damaging the rest of the heart.

What are the risks of catheter ablation?

There are few risks. The most common problems result from the use of the catheters – long, thin tubes doctors insert into your arteries or veins. Inserting the tubes can occasionally damage your blood vessel or cause bleeding or infection. These problems are rare.

"I was in the emergency department every few days with SVT. I felt awful and the medicines just weren't working. After catheter ablation I can go to work and exercise without SVT." Bill, age 61.

How should I prepare for catheter ablation?

- Your doctor will tell you what to eat and drink during the 24 hours before the test.
- Usually, you'll be asked not to eat or drink anything for at least 6 to 8 hours before the procedure.
- Tell your doctor about any medicines you take. He or she may ask you not to take them before your test. Don't stop taking your medicines until your doctor tells you to.
- Leave all your jewelry at home.
- Arrange for someone to drive you home after your procedure.

What happens during catheter ablation?

A doctor with special training performs the procedure along with a team of nurses and technicians. The procedure is done in a hospital EP or cath lab.

- A nurse will put an IV (intravenous line) into a vein in your arm so you can get medicine (anesthesia) to prevent pain. You may also get a medicine (sedative) to help you relax but you will be awake throughout the procedure.
- The nurse will clean and shave the area where the doctor will be working. This is usually in your groin.
- The nurse will give you a shot — a local anesthetic — to numb the needle puncture site.
- The doctor will make a needle puncture through your skin and into the blood vessel (typically a vein, but sometimes an artery) in your groin. A small straw-sized tube (called a sheath) will be inserted into the blood vessel. The doctor will gently guide a catheter (a long, thin tube) into your vessel through the sheath. A video screen will show the position of the catheter. You may feel some pressure in your groin, but you shouldn't feel any pain.
- The doctor inserts several long, thin tubes with wires, called electrode catheters, through the sheath and feeds these tubes into your heart.
- To locate the abnormal tissue causing arrhythmia, the doctor sends a small electrical impulse through the electrode catheter. This activates the abnormal tissue that is causing your arrhythmia. Other catheters record the heart's electrical signals to locate the abnormal sites.
- The doctor places the catheter at the exact site inside your heart where the abnormal cells are. Then, a mild, painless, radiofrequency energy (similar to microwave heat) is sent to the tissue. This destroys heart muscle cells in a very small area (about 1/5 of an inch) that are responsible for the extra impulses that caused your rapid heartbeats.
- Catheter ablation usually takes 2 to 4 hours. If you have more than one area of abnormal tissue, the procedure will take longer. You can usually go home the same day, or you may have to stay overnight.

NOTE: During this procedure, the tip of a catheter is guided to the area of heart tissue that is producing abnormal electrical signals. Then the catheter emits a pulse of painless radiofrequency energy that destroys the abnormal tissue and corrects the irregular heartbeat.

What happens after catheter ablation?

You'll be moved to a recovery room. The sheath usually stays in your leg for several hours after catheter ablation. During this time, you have to lie flat.

After the doctor or nurse removes the sheath:

- A nurse will put pressure on the puncture site to stop the bleeding.
- You should keep your leg straight for 6 to 8 hours after the doctor or nurse removes the sheath. The nurse will tell you when you can get out of bed.
- The nurse will watch you carefully and check your heartbeat and vital signs (pulse and blood pressure).
- Tell your doctor or nurse right away if you notice any swelling, pain or bleeding at the puncture site, or if you have chest pain.
- Before you leave the hospital, the nurse will give you written instructions about what to do at home.
- Aspirin is often prescribed for 2 to 4 weeks to minimize risk of clot formation at ablation sites.

What happens after I get home?

Follow the instructions your nurse or doctor gave you. Most people can return to their normal activities on the day after they leave the hospital.

- Don't drive for 24 hours after you leave the hospital.
- Don't drink alcohol for 24 hours after you leave the hospital.

- Avoid heavy physical activity for three days. Ask your doctor when you can return to strenuous exercise.
- A small bruise at the puncture site is normal. If the site starts to bleed, lie flat and press firmly on top of it. Have someone call the doctor or hospital.

Call 112 if you notice:

- The puncture site swells up very fast.
- Bleeding from the puncture site does not slow down when you press on it firmly.

Call your doctor if:

- Your leg with the puncture becomes numb or tingles, or your foot feels cold or turns blue.
- The area around a puncture site looks more bruised.
- The spot begins to swell, or fluids drain from it.
- You feel pain or discomfort in your chest that moves into your neck, jaw or arm.
- You feel sick to your stomach or sweat a lot.
- You have a fast or irregular heartbeat.
- You feel short of breath.
- You feel dizzy or lightheaded enough to have to lie down.

How can I learn more about catheter ablation?

Talk with your doctor. Here are some good questions to ask:

- Why do you think catheter ablation will help me?
- Are there other treatments we should consider?
- How did I get this arrhythmia?
- Will I need to take medicine or have another procedure after I have catheter ablation?