

# Cardiac Interventions

*There are several nonsurgical procedures that may be used to treat blocked arteries. The treatment options are based on the specific type of artery blockage you may have, your preference, and your doctor's recommendations. An angiogram (cardiac catheterization test) will have been done to determine which of the intervention options is right for your condition.*

## Expertise in Matters of the Heart

During a cardiac intervention, a long narrow tube, called a catheter, is passed through a small incision in your groin and up through your arteries until it reaches the heart. When the catheter is in position near the blockage, your cardiologist will perform one of the intervention procedures described below.

### **Percutaneous Transluminal Coronary Angioplasty (PTCA or Balloon Angioplasty)**

During a PTCA, a catheter with a small balloon at the tip is guided into the narrowed artery. Then the balloon is inflated to compress the fatty matter against the artery wall and stretch the artery open to increase blood flow to the heart.

### **Stent**

A stent is a small stainless steel mesh tube or coil that is placed in a narrowed artery using a balloon catheter. When the balloon is inflated, the stent expands and presses against the inner wall of the artery. After the balloon is deflated and removed, the stent remains, keeping the artery open. Over several weeks your artery heals around the stent.

A drug coated stent may be placed in your artery. This type of stent is coated with a drug that prevents re-blockage of the blood vessel. After placement both aspirin and Plavix are required for at least six months.



### **Atherectomy**

A special cylindrical catheter is used to shave away the fat or plaque buildup along the artery wall. After a portion of the plaque is removed, a balloon catheter is inserted. The balloon is inflated and the narrowed area in the artery is widened.

### **Rotablation**

A special catheter with an acorn-shaped diamond-coated tip is guided to the blockage, where it spins to grind away plaque deposits. The microscopic particles created by this procedure are washed away in your blood stream and filtered out by your liver and spleen. The rotablator has a high-speed motor and makes a very loud noise. You may have lingering chest pain after this procedure. This is normal. Your physician will prescribe medication to relieve the pain.

### **Cutting Balloon**

This procedure uses a balloon with microblades attached to it to open narrowed arteries. As the balloon is inflated it scores the blockage and flattens it against the artery wall. Scoring the plaque forces it to break apart evenly. The cutting balloon is especially useful for patients with re-blockage of an artery due to scar tissue.

### **Brachytherapy**

Brachytherapy is the internal delivery of radiation after angioplasty to prevent the artery from narrowing again.

### **Patient Preparation:**

- Do not eat or drink after midnight the day before or for at least 8 hours prior to the procedure.
- Do not take any medications the morning of your procedure, unless otherwise directed by your physician.
- If you take Coumadin, please obtain instructions from your physician 5-7 days before the procedure regarding when to stop and restart the medicine.
- If you have diabetes, take half of your morning insulin dose. Check your blood sugar, and relay this information to the nurse or technician. Ask your doctor for further instruction, especially if you take diabetic medications.

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- Bring your medications with you, along with a list of your daily dosages.
- Plan to arrive at the Cardiac Catheterization Lab 1 hour before your scheduled procedure.
- Arrange for transportation home upon discharge. Do not plan to drive or operate machinery for the next 48 hours.
- Resting for 24 hours following the procedure is recommended. You will receive written instructions upon discharge.
- Most people stay overnight at the hospital to ensure complete recovery.

**What to expect:** A nurse will measure your blood pressure, pulse and weight, and will ask you to describe your medical history and any allergies you may have. Electrodes will be placed on your chest to monitor your heart rhythm. A blood pressure cuff on your upper arm will take measurements every 5 minutes, and a clip on the end of your finger will continuously monitor the level of oxygen in your blood.

Next, an IV with sedative medication is started, and an area of your groin is cleaned and prepared with a warm

antiseptic solution. Then a physician will inject a small amount of local anesthetic into your groin to numb the area. This may sting for 30 seconds. The physician then pushes on the groin as a series of three tubes (catheters) are advanced into the artery and up to your heart. You won't feel the catheters. If you feel any pain, inform the physician or nurses.

After the procedure, you will be taken to a recovery area where your vital signs are closely monitored. The catheter will be removed from your artery and pressure maintained on your groin for 20 minutes. A bandage is placed over the area. You may not be able to sit up for 6 to 8 hours. Most patients are admitted to the hospital for an overnight stay. If you are allowed to leave the day of the procedure, someone must be available to drive you home.

The intervention procedure itself takes about 1 1/2 to 2 1/2 hours, but the preparation and recovery time add several hours.

**At home:** Avoid sitting upright for the rest of the day. Drink plenty of fluids to wash the dye out of your system. You may shower the next day. For 2 days, avoid lifting, strenuous activity, prolonged standing, or sitting

and driving for long periods of time. You may feel a small lump at the site near your groin where the catheter entered. Complete instructions will be given to you before you are released to go home.

**Call your doctor if you have drainage at the site, a temperature above 101 degrees, or a lump that becomes swollen and tender.**

**Things to think about:** These procedures are effective at opening arteries, but will not cure coronary artery disease. Lifestyle factors that contribute to the disease, such as smoking, diet, and exercise, will need to be modified to improve your cardiac health. Cardiac rehabilitation may be recommended by your physician.

