

Illinois Heart & Lung Associates - Patient Services

PCI - Coronary Artery Stents & Coronary Angioplasty

Coronary Artery Stents

What are coronary artery stents?

A stent is a device made of surgical stainless steel that is placed inside an artery to prop it open and allow blood to flow through the blood vessel. Coronary artery stents are sometimes used to improve the result of coronary artery balloon angioplasty (PTCA). Occasionally, the coronary artery closes suddenly after being opened by angioplasty. Coronary artery stents may then be used to keep the blood vessel open. Other times, the opened coronary artery will close gradually due to elastic recoil, much as a stocking tends to return to its former size and shape after you take it off. Stents prevent this from happening.



How are coronary stents inserted?

You will receive medicine in a vein to make you sleepy and take pain away. You will also receive a shot to numb the area where a tube (catheter) is inserted. The stent comes tightly wrapped around a deflated balloon at the tip of the catheter, which is inserted into an artery in your groin. The doctor then guides the catheter through your artery. A special X-ray is used to be sure the catheter is in the proper position. Next, the balloon is inflated. As it inflates, it expands the stent. After the stent is fully expanded, the balloon is deflated, and the catheter and balloon are withdrawn. The stent remains behind to prop open the blood vessel.

What happens after the stent is inserted?

The stent remains in your blood vessel. Over time, it becomes covered with tissue from the inner lining of your coronary artery. While this is happening, your blood begins to form a clot on the surface of the stent. Anti-platelet drugs are given to stop the blood clot from forming in the newly opened artery. Usually, you will take them until the stent is covered with lining tissue, a process that takes about 3 to 4 weeks. You will probably be asked to take aspirin every day for the rest of your life. The aspirin is not necessary if you are taking other drugs, called blood thinners, that prevent clotting.

When are coronary stents needed?

More and more coronary balloon angioplasties use stents to improve their success. Stents often make emergency coronary bypass surgery unnecessary. They prevent elastic recoil of the artery and, when placed in larger coronary arteries, decrease the chance of re-blockage of the artery.

Are there complications from coronary artery stents?

It is sometimes hard to place the stents properly in arteries where the arteries twist and turn. The artery may close in spite of the stent if it is not put in exactly the right place. Most of the problems come from clots that form on the stent. Drugs that are given to stop blood clotting may make bleeding from other places in the body a problem. Bleeding is most likely to happen in the groin where the catheter was inserted. Since anti-platelet drugs are now used instead of anticoagulants, the number of bleeding problems is low.

What are the results of coronary artery stenting?

Coronary stents have only been used for about 10 years. Even with this short-term experience, a good number of people with stents have survived for up to 5 years without problems. Since stents seem to work well, their use will likely become more common.

Coronary Angioplasty

What is Coronary Angioplasty?

Coronary angioplasty is a technique used to widen the narrowing in your coronary artery without surgery. It is an innovative technique for treating coronary artery disease. Coronary angioplasty is sometimes called PTCA (Percutaneous Transluminal Coronary Angioplasty). The basic idea of PTCA is to position a small, inflatable balloon within the narrowed portion of the coronary artery. Once in position, the balloon is inflated causing the narrowed area to increase in diameter, allowing increased blood flow through the artery. The procedure will be very similar to your cardiac catheterization.

Preparation

As with your cardiac catheterization, you will be asked not to eat or drink anything after midnight on the night before your procedure. You will be given your morning medications and a mild sedative with a few sips of water. If not done already, blood tests, a chest X-ray, and an EKG will be done. You and your family will be offered a video on "coronary angioplasty" to view if you wish. You will be asked to sign two consents. One will be for Percutaneous Transluminal Coronary Angioplasty and the other will be for Possible Coronary Artery Bypass Graft Surgery. The reason for signing the second consent is just precautionary and will be explained thoroughly by your cardiologist. You will have an IV started if one is not already available. The floor nurse will prepare you for PTCA by shaving the procedure site and placing a hospital gown on you. Please wear socks or slippers to help keep you war. You may wear your dentures, eyeglasses, and rings.

During your procedure

Again, this procedure is very similar to a cardiac catheterization. You will be brought to the Cath Lab by wheelchair or car. The nurses and technicians will assist you to the X-ray table and attach you to a monitor. Oxygen will be started through small tubing attached to your nose. The procedure site will be cleansed with a cool antiseptic paint and the area will be draped with sterile sheets. You will be asked to keep your hands at your sides unless repositioned by the staff. After your local anesthetic has taken effect, a catheter is placed at the opening of the narrowed coronary artery. A few X-ray pictures will be taken to visualize the problem area before the balloon is inserted through the catheter. During the balloon inflations, you may experience chest pain. This is due to the temporary reduction of blood flow to the coronary artery caused by the inflated balloon. Please notify the staff of the pain. We would like for you to rate it on a scale from one to ten with ten being the worst pain. For example, you may experience pain of three after immediate inflation. Tell the staff, "I'm having chest pain, abut three out of ten." If the pain worsens, you may have to say, "The pain is now five out of ten." This will help the cardiologist determine how long to leave the balloon inflated. Each individual is different. Some people require one inflation while others may require several. This has no effect on the results. The procedure may last anywhere from one to two hours. Your family will be kept informed of your progress and should wait in the designated waiting area.

Following the procedure

Upon completion of the PTCA, you will be taken to the ICU by stretcher. The small sheath will be left in place for several hours to overnight to monitor your blood pressure and allow the blood thinning medicine to wear off. You will remain on flat bed rest with your leg immobilized during this time and for eight hours following the removal of the sheath. Please ask for pain medication

or sedation if you need it. Your doctor may or may not allow you to eat and drink after the procedure. If you are not allowed to eat, you will be given the proper amount of fluids through your IV. Please notify the nurses if you have any recurrent chest pain.

Obtaining your test results

Your cardiologist will discuss your results with you and your family once you have been settled in your hospital room. If you have any questions concerning your coronary angioplasty, please feel free to contact us at the office where you see your IHLA physician.