Coronary Artery Stents

What are coronary artery stents?

A stent is a tiny device made of surgical stainless steel that is placed inside an artery to hold it open and allow blood to flow through the blood vessel.

When are coronary stents used?

Coronary stents are used as a routine part of most angioplasty procedures. They cannot be used when the artery being treated is small or very curved or twisted. Stents have made emergency coronary bypass surgery during angioplasty far less common. Coronary stents can be used during an acute heart attack to quickly restore blood flow to the heart muscle and limit damage from the attack.

How do I prepare for the procedure?

Talk with your healthcare provider about what medicines you should take before the procedure. Your doctor may prescribe medicine to prevent blood clots from forming during the procedure. If you are taking daily aspirin for a medical condition, ask your provider if you need to stop taking it before your surgery.

- Plan for your care and transportation after the procedure and during recovery at home.
- Your healthcare provider will ask you not to eat or drink anything after midnight on the night before the procedure.
- You may have blood tests, an electrocardiogram (ECG), and a chest X-ray before the procedure.
- Someone at the hospital will shave and wash the area where the catheter will be inserted (arm or groin) to help prevent infection.

What happens during the procedure?

You will receive medicine in a vein to make you sleepy and to 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. A catheter is a thin tube inserted into a blood vessel either at the elbow or groin. The catheter is pushed through the blood vessel to the blockage in the artery. Inflating a balloon at the tip of the catheter stretches the narrowed artery and expands the stent. After the stent is fully expanded, the balloon is deflated, and the catheter and balloon are withdrawn. The stent stays behind to hold

open the blood vessel.

What happens after the procedure?

The stent remains in your blood vessel. Over time, it may become covered with tissue from the inner lining of your coronary artery. While this is happening, blood may begin to form a clot on the surface of the stent. Blood thinning drugs are given to stop the blood clot from forming on the surface of the stent in the newly opened artery. Usually, these blood thinning drugs are a combination of aspirin and a medicine called clopidogrel. You will take them until the stent is covered with lining tissue, a process that takes at least a month.

Many stents release a drug from a special coating on the stent. The drug prevents scar tissue from growing and blocking the artery. The drug slows the growth of normal tissue as well as scar tissue. You may need to take blood thinners for at least 3 to 6 months if you have this kind of stent.

You will probably be asked to take aspirin every day for the rest of your life. The aspirin is not always necessary if you are taking other blood thinners that prevent clotting.

What are the risks?

- 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.
- For a few people, arteries may become blocked again within 3 to 6 months after the stent is put in.
- Sometimes a blood clot may form on the stent within a few days or weeks after it is put in place. Blood thinning medicines are important to help prevent this.

What are the benefits?

The main value of stents is that they decrease the chance of the blockage coming back after angioplasty. They can also prevent or treat a lot of damage to the blood vessel during angioplasty.

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