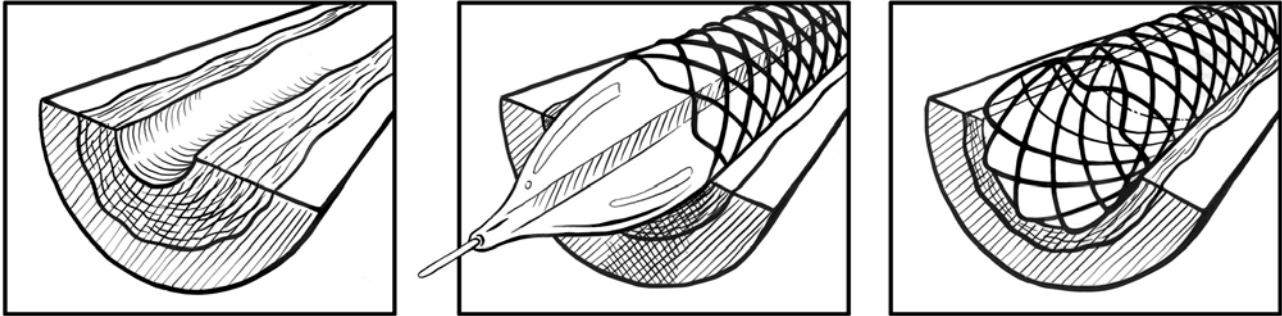




What Is a Stent?

A stent is a tiny wire mesh tube. It props open an artery and is left there permanently.



Why are stents used?

When a coronary artery (an artery feeding the heart muscle) is narrowed by a buildup of fatty deposits called plaque, it can reduce blood flow. If blood flow is reduced to the heart muscle, chest pain can result. If a clot

forms and completely blocks the blood flow to part of the heart muscle, a heart attack results.

Stents help keep coronary arteries open and reduce the chance of a heart attack.

How are arteries opened?

To open a narrowed artery, a doctor may do a procedure called a percutaneous coronary intervention (PCI) or angioplasty. In it, a balloon-tipped tube called a catheter is inserted into an artery and advanced to the point of blockage. Then the balloon is inflated.

This compresses the plaque and opens the narrowed spot. When the opening in the vessel has been widened, the balloon is deflated and the catheter is withdrawn.

How are stents used?

When a stent is used, it's collapsed to a small diameter and put over the balloon catheter. It's then moved into the area of the blockage. When the balloon is inflated, the stent expands, locks in place and forms a scaffold. This holds the artery open. The stent stays in the artery permanently and holds it open. This improves blood flow to the heart muscle and relieves symptoms (usually chest pain).

Stents are used depending on certain features of the artery blockage. Factors that affect whether a stent can be used include the size of the artery and where the blockage is.

Stenting has become fairly common. The majority of angioplasty procedures are done using stents.

What are the advantages of using a stent?

In certain patients, stents reduce the renarrowing that occurs after balloon angioplasty or other procedures that use catheters.

Patients who have angioplasty and stents recover from these procedures much faster than patients who have coronary artery bypass surgery. They have much less discomfort, too.

Can stented arteries reclose?

In about a third of patients who've had angioplasty without a stent, the artery that was opened begins to become narrowed again within months of the procedure. This renarrowing is called restenosis.

Stents help prevent this, and in recent years doctors have used new types of stents called drug-eluting stents. These stents are covered

with drugs that help keep the blood vessel from reclosing. Stents that are not coated with drugs are called bare metal stents. It is very important that patients with either type of stent take their anti-clotting medicines as directed.

If stents don't work and arteries reclose, you may need coronary artery bypass surgery.

What precautions should be taken after a stent procedure?

Patients who've had a stent procedure must take one or more blood-thinning agents. Examples are aspirin and clopidogrel. These medications help reduce the risk of a blood clot developing in the stent and blocking the artery.

- Aspirin is used indefinitely.
- Clopidogrel is used for one to 12 months (or perhaps even longer) after the procedure (depending on the type of stent).

- Clopidogrel can cause side effects, so blood tests will be done periodically. It's important that you don't stop taking this medication for any reason without consulting your cardiologist who has been treating your coronary artery disease.

For the next four weeks a magnetic resonance imaging (MRI) scan should **not** be done without a cardiologist's approval. But metal detectors don't affect the stent.

How can I learn more?

1. Talk to your doctor, nurse or other health-care professionals. If you have heart disease or have had a stroke, members of your family also may be at higher risk. It's very important for them to make changes now to lower their risk.
2. Call 1-800-AHA-USA1 (1-800-242-8721) or visit americanheart.org to learn more about heart disease.

3. For information on stroke, call 1-888-4-STROKE (1-888-478-7653) or visit StrokeAssociation.org.

We have many other fact sheets and educational booklets to help you make healthier choices to reduce your risk, manage disease or care for a loved one.

Knowledge is power, so *Learn and Live!*

Do you have questions or comments for your doctor?

Take a few minutes to write your own questions for the next time you see your healthcare provider. For example:

What are potential complications from this procedure?

Your contribution to the American Heart Association supports research that helps make publications like this possible.

The statistics in this sheet were up to date at publication. For the latest statistics, see the *Heart Disease and Stroke Statistics Update* at americanheart.org/statistics.

©2007, American Heart Association 10/07LS1466