

REASONS FOR PLACING A STENT IN THE HEART

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Abstract

Medicine has been going through a period of positive change since the last century. A stent is a small metal mesh tube that keeps your artery open to improve blood flow. Stents often help people with blocked coronary (heart) arteries. Metal and fabric stent grafts treat aortic aneurysms. Most stents are permanent. You may need to take medication to reduce the risk of blood clots after a stent is placed. This article provides information about the types of stents, the heart benefits, and skills and knowledge for patients who use stents.

Keywords: Stent, artery, angioplasty, stent-graft, coronary angioplasty.

Introduction

A stent is a small mesh tube made of stainless steel or cobalt-chromium alloys that is inserted through a catheter into a narrowed (blocked) coronary artery. The stent helps to widen a segment of the artery to improve blood flow, which should reduce or eliminate symptoms of chest pain. Stent technology is constantly evolving, so we now use drug-eluting stents, which help prevent the stent from becoming clogged and narrowing again (a process called restenosis). Stents are used to reduce symptoms in patients with obstructive arterial disease who experience chest pain/tightness or shortness of breath during exercise or during periods of intense emotion. A stent is a tiny tube placed surgically in the arteries, veins, and other parts of the body to allow the seamless flow of bodily fluids. A stent is majorly used when arteries or veins become narrow due to the buildup of plaque, when they are organically weakened and can no longer stay open. Plaque is caused by high cholesterol levels and other fatty substances present in the blood. These tend to stick to the walls of the arteries and block the blood flow or reduce blood's rate of flow.

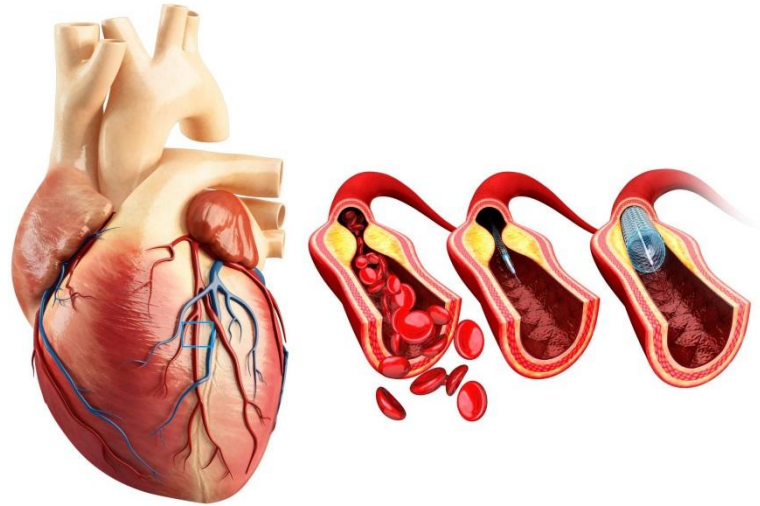
The Main Part

In some selected patients, stents may be used instead of bypass surgery. Diabetic patients with multiple coronary blockages may do better with bypass surgery.

Although you might have worked hard to maintain your heart health, age and other factors can at times lead to the blood vessels of the heart becoming constricted. One way to prevent the situation from leading to a heart attack or other problems is to place a stent that supports the affected vein or artery to remain open. You should also know that stent placement requires heart surgery, although not as major as open-heart or bypass surgery. The recovery time is also lower than for an open-heart surgery.



Stents are also used to maintain the uninterrupted flow of urine and bile. They are hollow metallic tubes that are placed to keep the blocked area of the artery open. However, with advances in modern medicine, stents today are made of organic, dissolvable materials. These stents are coated with medicine, and, over time, tend to dissolve in the body, thereby eliminating the need for you to undergo an invasive procedure to get it removed. Non-metallic stents have witnessed widespread adoption because they prevent complications involved with invasive surgeries.



Stents most commonly treat severe blockages in your arteries. These blockages come from plaque buildup. You can think of a stent like crowd control for your artery. After your provider moves plaque out of the way, the stent helps that space stay open so your blood can get through.

You might need stents if you have:

- Carotid artery disease: Stents in your carotid arteries, in your neck, help blood reach your brain. This can lower your risk of a stroke.
- Coronary artery disease: Stents in your coronary arteries let blood reach your heart. This can help you prevent or recover from a heart attack.
- Peripheral artery disease: Stents in arteries in your legs, pelvis or arms help blood flow better there.
- Renal artery disease: Stents in your renal arteries can improve blood flow to your kidneys.

Stents also commonly treat aortic aneurysms. This is a bulge in the largest artery in your body (aorta). The bulge forms at a spot where your artery walls are weak. A stent-graft serves as a new lining for that part of your aorta. This improves blood flow and lowers your risk of an aneurysm rupture

Stents help prevent the arteries from narrowing or blocking again in the months or years after surgery. However, they do not cure coronary artery disease and do not reduce your quality of life. Talk to your cardiologist so you can be completely clear about the reasons and benefits of stent implantation. Monitor your condition closely for hypertension, high bad cholesterol (LDL), and cardiovascular disease.

Stent placement is a permanent procedure. However, as mentioned earlier, there is a 2 to 3% chance that the artery will narrow again. This usually happens within 6 to 9 months after stent placement, at which point the cardiologist will place another stent to keep the artery open.

You can reduce your risk of getting multiple stents by following your doctor's recommendations for lifestyle changes, such as lowering your cholesterol, eating a balanced diet, quitting smoking, and controlling your blood pressure.

Coronary angioplasty with stent placement is a simple procedure that was first performed in Switzerland in 1977. It's natural to feel nervous before any surgery, no matter how simple and



straightforward it may be. But to help you along, here's a quick rundown of the procedure and the steps involved.

In the first step, you'll be given painkillers and sedatives through IV lines to help you relax and calm down during the procedure. A local anesthetic is used to numb the skin at the incision site.

Next, the surgeon will make a small incision in your forearm, hand, or hand. They'll make an incision over an artery where the doctor can feel your pulse.

A thin, bendable tube called a catheter is inserted through the incision. A cardiologist will move it to the blocked area. X-rays and special contrast dyes will help doctors guide the catheter through the blood vessels.

Once the catheter is in the right place, another flexible wire will be inserted. The cardiologist will also inflate and deflate it several times, along with a small sausage-shaped balloon. The procedure pushes the plaque to the edges of the artery, eventually widening it.

The next step is to place a stent. Stents help prevent blocked arteries from closing back up. Once the stent is in place, the cardiologist will remove the catheter and wire.

The final step involves placing a closure device or applying pressure to stop the bleeding. A bandage is placed to cover the cut. Coronary angioplasty with stent placement is a very successful and safe procedure. It has been performed for about 50 years and has seen significant improvements over time. However, no invasive procedure is without risks.

Conclusion

Cardiac stent placement is an effective life-saving treatment for many patients with heart disease. This procedure helps to relieve narrowing in the arteries and restore blood flow, ultimately preventing heart attacks and strokes. It improves the quality of life and helps patients recover more quickly. However, as with any medical procedure, stenting carries some risks. Complications such as thrombosis, infection, bleeding, and arterial damage can occur. To reduce these risks, patients need to be under constant medical supervision and strictly adhere to the treatment plans prescribed by their cardiologist. Overall, the benefits of using a cardiac stent allow for timely and effective risk management, which helps improve the health of patients and ensure safe treatment for them. The stenting procedure plays an important role in the treatment of heart disease, allowing patients to live a quality and long life.

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