REVIEWED
By Chris at 9:06 am, Aug 19, 2019



# Drug-eluting stents: Do they increase heart attack risk?

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## Drug-eluting stents: Do they increase heart attack risk?

**Drug-eluting stents, once thought to increase heart attack risk, are generally considered safe if used properly.**

By Mayo Clinic Staff

Stents are small mesh tubes inserted to keep arteries open after a procedure called angioplasty (percutaneous coronary intervention, or PCI). Drug-eluting stents have a polymer coating over mesh that emits a drug over time to help keep the blockage from coming back.

In general, drug-eluting stents are preferred over bare-metal stents for most people. Drug-eluting stents are more likely to keep the blockage from recurring compared to bare metal stents. Plus, studies show the latest drug-eluting stents are at least as safe as bare-metal stents.

Drug-eluting stents, however, require longer treatment with blood thinners to prevent the stents from closing because of blood clotting. This makes them less desirable for people with bleeding problems or those who'll need some type of surgery within a year after the stent is put in. Here's information to help you talk to your doctor about whether a drug-eluting stent is right for you.

### What's a stent?

Stents are usually metal mesh tubes inserted during PCI, a procedure that widens the blocked artery by temporarily inserting and inflating a tiny balloon. Stents help prevent the artery from becoming blocked again (restenosis).

Even with stents, arteries can sometimes become blocked again. Drug-eluting stents can make this less likely to happen.

Stents can be classified into two categories: bare-metal stents and drug-eluting stents.

- **Bare-metal stents** have no special coating. They act as scaffolding to prop open blood vessels after they're widened with angioplasty.

As the artery heals, tissue grows around the stent, holding it in place. However, sometimes an overgrowth of scar tissue in the lining of the artery increases the risk of reblockage.

- **Drug-eluting stents** are coated with medication that is slowly released (eluted) to help prevent the growth of scar tissue in the artery lining. This helps the artery remain smooth and open, ensuring good blood flow.



Many people with heart problems have been successfully treated with drug-eluting stents, preventing the need for more-invasive procedures, such as coronary artery bypass surgery. Drug-eluting stents help prevent the recurrence of symptoms, such as chest pain. This also reduces the need for repeat angioplasty procedures, which carry the risk of complications such as heart attack and stroke.

## What are your options for treating clogged heart arteries?

Drug-eluting stents are just one option for treating narrowed heart arteries. It's worth remembering that you have about five options — each with risks and benefits — if your arteries become narrowed:

- **Medications and lifestyle changes.** This is a good option for many people. If you have symptoms from your narrowed coronary arteries, such as angina, and your condition isn't severe or immediately life-threatening, it may be worth first trying heart medications, such as beta blockers, nitrates or calcium channel blockers, as well as aspirin and cholesterol-lowering drugs called statins.

  With medications, lifestyle changes, such as stopping smoking, eating a more heart-healthy diet and exercising, can be as effective as receiving a stent in some circumstances. Even if you receive a stent, your doctor will likely also prescribe medications, such as aspirin and statins, and lifestyle changes.

- **Angioplasty and bare-metal stents.** These stents can work well, but they have a higher rate of restenosis than do drug-eluting stents. If you'll need some type of surgery that's not related to your heart (for example, a stomach or hernia operation) soon after your stent placement, or if you have a bleeding disorder, you may do better with a bare-metal stent.
- **Angioplasty and drug-eluting stents.** Drug-eluting stents are safe and effective in most circumstances. These stents work well and have a lower rate of restenosis than do bare-metal stents. For optimum effectiveness, you must take your medications as prescribed.
- **Coronary bypass surgery.** Bypass surgery is used to divert blood around blocked arteries in the heart. The surgeon takes a healthy blood vessel from your leg, arm or chest and connects it to the other arteries in your heart so that blood is bypassed around the diseased or blocked area. Bypass surgery works well and may sometimes be preferred over stents, but it's more invasive than using stents, which means a longer recovery time.

## What should you do after stent placement?

Here's what to do if you have a stent:

- **Take aspirin.** Your doctor will recommend that you take aspirin daily and indefinitely to reduce the risk of clotting inside the stent. Follow your doctor's instructions on how much and what type of aspirin to take.
- **Take additional anti-clotting medication.** People with stents are given prescription anti-clotting medications, such as clopidogrel (Plavix) or ticagrelor (Brilinta). People who have drug-eluting stents need to take medications, such as clopidogrel or ticagrelor, to reduce the risk of stent clotting for at least one year after the stent is inserted. For most people with bare-metal stents, additional anti-clotting medication is only recommended for one month after stent placement.

  Ask your cardiologist how long you should take anti-clotting and other medications. The answer will depend on your type of blockage, the type of stent and your risk of bleeding. Don't stop taking aspirin or other anti-clotting medications without consulting your cardiologist.

- **Inform other health care providers.** Let your primary care doctor and other specialists you see know what medications you take and that you have a stent. Anti-clotting medications and aspirin can affect surgeries and other medical procedures and may interact with other medications.

## What if I need other surgeries?

If you're considering surgery not related to your heart (noncardiac surgery) in the year after receiving your stent, here's what to do:

- If you can, postpone your noncardiac surgery for one year after receiving a stent.
- If surgery can't be postponed, discuss with your doctor medications you're taking, such as aspirin or clopidogrel. Your dosages might need to be adjusted. It also might be possible to stop taking anti-clotting medications six months after stent placement, but this must be discussed with your doctors.
- If you're likely to need surgery in the year after you get a stent, a bare-metal stent may be a better option for you. You may also want to consider a bare-metal stent if you're at an increased risk of bleeding or don't think you'll be able to take anti-clotting medications as prescribed by your doctor. Talk with your doctor about your situation.



Jan. 09, 2019

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Drug eluting stents Do they increase heart attack risk ART-20044911