

Patient information from BMJ

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Coronary angioplasty

This information is about an operation to widen blood vessels in your heart that have become too narrow. It explains how and why the operation is done, what the risks are, and what to expect afterwards.

You can use our information to talk with your doctor about this operation.

What is a coronary angioplasty?

The blood vessels that carry blood from your heart to the rest of your body are called arteries.

If you have heart disease, the insides of your arteries can become coated with fatty patches. This can make parts of your arteries narrow and “furred up”. This makes it harder for blood to flow through them freely.

If this happens to the arteries inside your heart (called the coronary arteries) it can cause chest pain.

This pain is called **angina**. It happens when the flow of blood is reduced so much that your heart doesn’t get enough oxygen. If an artery is completely blocked it can cause a heart attack.

When you have an angioplasty, a doctor uses a tiny balloon to widen a narrowed blood vessel in your heart so that blood can flow more easily.

You may also hear angioplasty called percutaneous transluminal coronary angioplasty (PTCA).

The aims of this operation are to:

- stop or reduce chest pain
- improve your quality of life
- reduce your chance of a heart attack, and
- help you to live longer.

Angiogram

To find out if angioplasty will help you, you'll need a test called an angiogram. This is an x-ray that shows up any narrow parts in your arteries.

In this test, your doctor threads a thin, hollow tube into an artery in your groin or arm. Dye is passed through the tube and flows through your bloodstream to your heart, where it shows up any narrow parts in the arteries there.

Why might I need an angioplasty?

Not everyone with heart disease needs an angioplasty. Many people manage with medication. But your doctor may suggest this procedure if:

- you get chest pain even though you are taking medication for angina
- an angiogram shows narrowed arteries in your heart that could be causing chest pain
- your doctor thinks that your narrowed artery can be opened up by angioplasty.

Other reasons why someone might have an angioplasty include:

- if you've had heart bypass surgery but an artery has furred up again, and
- as an emergency treatment after a heart attack.

If you do have an angioplasty, you'll still need to take medication afterwards, but you might be able to take less. If you're overweight, your doctor might encourage you to lose weight.

If you smoke, you should do everything you can to quit. Smoking makes any treatment for heart disease less likely to work.

What will happen?

Depending on where you live, you may be able to choose where you have your operation. You can ask your doctor about which hospitals specialise in this type of operation.

The operation itself usually takes between 30 minutes and one hour. It is done with a local anaesthetic, so you will be awake, but you won't feel much.

You may feel a little chest pain for the short time that the balloon is inflated in your artery. If it bothers you, you can have painkillers or a sedative medication to relax you.

You may notice that you miss a heartbeat or two while the balloon is doing its work. This is normal

Angioplasty is not done by operating on your chest. Instead, the surgeon reaches your heart through an artery in your groin, wrist, or arm.

A local anaesthetic in the area makes the skin numb. The doctor will then:

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- make a small cut and thread a thin tube (called a catheter), with a tiny balloon on it, into the artery
- check on the x-ray screen that the tube is in the right place, and gently push it up to the arteries in your heart, until it reaches the narrow part
- inflate the balloon, pushing the fatty patches that are causing the narrowing onto the inside walls of the artery. Usually the catheter also carries a short tube made of stainless steel (called a stent). This is pushed out as the balloon is blown up and is left inside your artery. Blood can now flow freely through the stent even in a narrowed part of the artery.

Some stents are coated in medication that helps prevent them from becoming blocked and the artery from narrowing again. These are called drug-eluting stents. You can talk with your doctor about what type of stent is best for you.

- check that the artery has been widened enough to allow blood to flow through easily. This is done by injecting dye into the catheter to see how well it flows through the artery. Once blood is flowing well, the balloon is let down and taken out.

How might an angioplasty help me?

An angioplasty can help prevent heart attacks and help you live longer. But it can also make simple but important differences to your daily life. For example, it can help to:

- reduce chest pain
- reduce the amount of medication you need to take
- make you feel less breathless
- walk further, go up stairs more easily, and make other simple physical things less of a struggle
- generally make you feel better, and more able to enjoy life.

If you have an angioplasty as part of treatment after a heart attack, it can help reduce your chances of having another heart attack or a stroke, or of dying.

Having a stent fitted can reduce the chance of your artery narrowing again, which makes it less likely that you'll need another angioplasty.

What are the risks?

All operations have risks. With an angioplasty, you're more likely to have complications depending on where the problem is in your artery, and on how narrow the artery has become.

You're also more likely to have problems if you are older and have other health problems, such as diabetes or heart failure.

The list of possible complications with this procedure might look long and worrying. But remember, these are just things that might happen. Many people have no problems at all.

Problems that can happen in the short term include:

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- bleeding slightly more than usual where the catheter goes in. This can cause bruising, but this will go away after a while. More severe bleeding can also sometimes happen. If it does, you may need a blood transfusion
- an infection where the catheter is put in
- an allergic reaction to the dye. Tell the doctor before the operation if you have any allergies
- the operation might not work if the narrowing is too severe
- having a heart attack during the procedure. If this happens you might need emergency open heart surgery
- having a stroke
- dying during the procedure.

Longer-term problems include:

- needing another angioplasty if your arteries fur up again. This is not uncommon
- needing heart bypass surgery if the angioplasty doesn't work well enough and you're still having severe angina.

What can I expect afterwards?

You may be able to go home the same day after your operation, but that's not always possible. You should be able to go home the next day, though. But you will need to be collected, as you shouldn't drive for a week after the operation.

After angioplasty many people feel better than they have done for years. For example, you may find that you can do more things without getting breathless or feeling pain in your chest.

But you should give yourself time to recover. Don't lift anything heavy for the first few days. And don't try to do too much in the first week. Although it's fine to have sex again as soon as you feel ready.

After that you should be able to drive a car. But if you drive a vehicle for which you need a special licence (such as a truck or bus) you need to wait six weeks and have some tests to check your fitness.

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