

Arterial angioplasty and stenting

Angioplasty is the stretching of a blood vessel with a balloon, performed to open up a narrowing or blockage, improving the flow of blood within the vessel. **Stenting** is the insertion of a wire mesh tube, called a stent, to keep a blood vessel open.

What are the benefits?

Angioplasty and stenting are successful in 90-95% of cases, improving blood flow and relieving pain. In some patients, especially diabetics, these procedures can help heal ulcers and some wounds after surgery.

Angioplasty and stenting can be beneficial for varying amounts of time, depending on the location and severity of the disease, and depending on whether ballooning or stenting is used. You should discuss your specific situation with your doctor.

How do I prepare for the procedure?

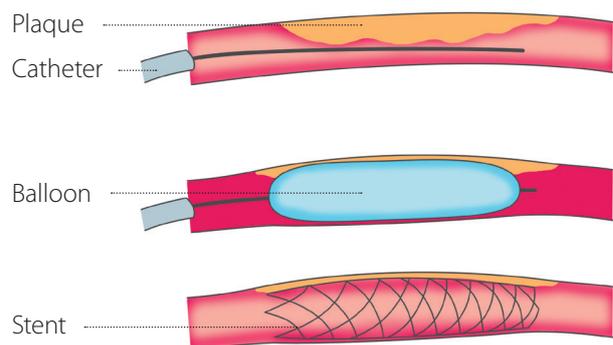
Some medications may need to be reduced or stopped before the procedure – it is important to discuss any medications you take with your doctor. You may be asked to fast the night before the procedure.

Your blood levels, blood clotting and kidney function will be tested beforehand to ensure you are fit for the procedure.

The procedure

The procedure is performed under local anaesthesia, sometimes with sedation. Throughout the procedure, your blood pressure, heart rate and oxygen levels will be monitored. If you are diabetic, your blood sugar will also be monitored. After your skin has been sterilised and numbed with local anaesthetic, a small plastic tube (called a catheter) is passed into an artery in your groin or wrist.

Your blood is thinned with medication to prevent clotting, and then the interventional radiologist manipulates a long thin wire through the site of narrowing or blockage, using x-rays to guide the wire into position. Once the narrowing has been passed, a balloon mounted on a long thin catheter is advanced over the wire and through the narrowing. The balloon is inflated using fluid, which stretches open the artery. During the stretching, you may experience a bit of discomfort, which you should report to the interventional radiologist.



If the stretching is not successful, then, in the same way that the balloon was positioned, a wire mesh scaffold tube (called a stent) is placed to keep the blood vessel open. On some occasions, particularly where the vessel is completely blocked, the plan from the outset will be to place a stent. The vast majority of stents are permanent. At the end of the procedure, which lasts about an hour, pressure will be applied to the site of entry in the groin to stop the bleeding. Special devices, which clip, stitch or plug the hole may be used in some circumstances instead of pressure.

What are the risks?

You may bleed or bruise at the site of puncture. Rarely, the bleeding may worsen and require blood transfusions or further procedures. Rarely, at the site of angioplasty or stenting, the blood vessel may rupture and may need to be sealed with a special fabric-lined stent to stop the bleeding.

The material (atherosclerotic plaque) causing the narrowing or newly formed clot may occasionally dislodge and travel downstream causing blockage of flow, requiring an additional procedure for correction. Over time, clots or narrowing may recur at the site of angioplasty or form within stents. Though it is rare, stents can fracture.

What should I expect after the procedure? What is the follow-up plan?

After the procedure, your pulse and blood pressure will be closely monitored, and you may be asked to lie flat in bed for 3-6 hours. You will be allowed to eat and drink as usual, and if there are no complications or concerns, after monitoring, you may be allowed to go home the same day or the next morning. If you received a stent, you will probably be asked to take tablets to prevent clots forming within the stents for 3-6 months. You will return to the clinic for follow up appointments with either the interventional radiologist who performed the procedure or a vascular surgeon. Some physicians perform yearly ultrasound scans to ensure the site of angioplasty or stenting is staying open. If the artery or stent re-narrows, which happens in 10-15% of cases, then you may need to have the procedure repeated.

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