

# CAROTID ENDARTERECTOMY

When fatty deposits (plaque) build up in a carotid artery (a blood vessel in your neck), the artery becomes narrow and blood flow to your brain is restricted. This is known as carotid artery disease. Carotid artery disease can increase your risk of having a stroke or a transient ischaemic attack.

Carotid endarterectomy is an operation to unblock the narrowing in one or both carotid arteries and restore blood flow. Doctors usually become aware of this situation because you have had a stroke or a transient ischaemic attack (TIA).

- **Carotid:** refers to the carotid arteries, the blood vessels in your neck that supply blood to your brain.
- **Endarterectomy:** means to remove the inner lining of a carotid artery when it has become thickened or damaged by a build-up of plaque (referred to as stenosis).

Carotid endarterectomy can significantly reduce your risk of having a further stroke or TIA.

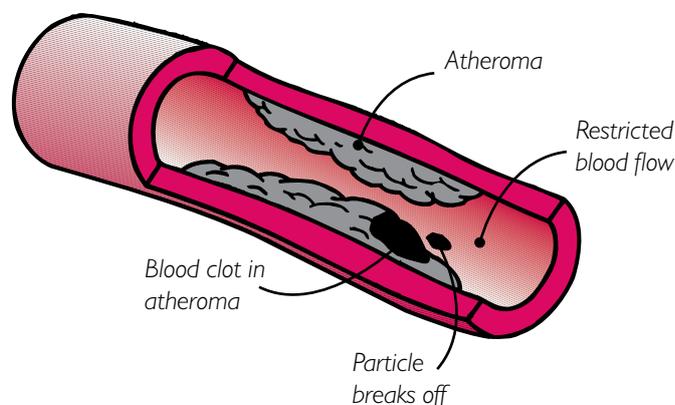
## Carotid arteries and atherosclerosis

There are two carotid arteries, one on each side of your neck. They carry the main blood supply to your head and neck. Normal healthy arteries are elastic and smooth on the inside so that blood can flow easily through them. As you age, plaque can build up inside your arteries to form an atheroma. This process is called atherosclerosis and makes the arteries become narrow and stiff.

As well as the natural ageing process, other factors which cause atheroma include:

- eating fatty foods
- high blood pressure
- smoking
- diabetes

Atheroma can also attract blood clots that narrow the artery even more. These clots can then break off and travel in your bloodstream up to your brain, causing a stroke.



FACTSHEET

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## What tests will you have?

Initially you will need to have some tests to find out the extent of the narrowing (or stenosis) in your carotid arteries. Your doctor may suggest one or more of the following tests:

- Ultrasound: this involves passing a 'probe' over your neck. The probe generates painless sound waves which create an image of your blood vessels. This shows how much the arteries have narrowed.
- CT scan (computed tomography): a computer is used to take x-rays of your neck from different angles. This produces detailed pictures of the inside of your arteries.
- CTA (computerised tomography angiography): a special dye, which shows up on x-rays, is injected into your blood vessels. This provides detailed pictures of your blood vessels and the blood flow through them.
- MRA (magnetic resonance angiography): a magnetic field and radio waves are used to produce images of your arteries and blood flow.

## Who should have this surgery?

Anyone who has stable symptoms and no disability after a stroke should be considered for a carotid endarterectomy if they have severe stenosis.

Your doctor and anaesthetist will consider whether you are eligible for this surgery. They will need to work out if the risk of the surgery is outweighed by the benefits.

If you are eligible, carotid endarterectomy should be carried out within 2 weeks of your stroke or TIA.

If you have not had a stroke, surgery might be considered if there is considerable narrowing of the carotid arteries.

Carotid endarterectomy is not suitable if:

- The narrowing in your arteries is mild or moderate
- There is a complete blockage of your carotid artery

## What are the risks?

Like all forms of surgery there are some risks to carotid endarterectomy. The two main risks of carotid endarterectomy are stroke (due either to a blocked artery in the brain or to bleeding in the brain) and heart attack. This is why your doctor has to consider the extent of the narrowing in your carotid arteries and whether the benefit outweighs the risks.

Following surgery there are other factors to consider. For example:

- You may develop a wound infection.
- Nerve damage may occur, leading to facial numbness, hoarse voice and difficulty in moving your tongue.
- A haematoma (a large bruise) can develop near the carotid artery. This can be serious because of its location next to your windpipe.

### **What if you are not eligible for surgery?**

Whether you have carotid endarterectomy surgery or not, current medical guidelines recommend that everyone who has had an ischaemic stroke (due to a blood clot) or a TIA is given the following medications to reduce their risk of stroke:

- antiplatelets (such as aspirin and dipyridamol) to thin your blood
- statins (eg. simvastatin) to reduce the cholesterol level in your blood
- you may also be given blood pressure lowering drugs as a protective measure even if your blood pressure is not raised



You should also receive advice on your diet and lifestyle, to reduce your risk of stroke.

### **What happens during the procedure?**

You will have an anaesthetic, either a general anaesthetic (which will make you sleep throughout the procedure), or a local anaesthetic (which will numb your neck but allow you to remain awake). Research shows that the success of the operation is not affected by the choice of anaesthetic. However, a local anaesthetic is often preferred so the surgeon can monitor your response to the change in blood flow to your brain.

A cut will be made in your neck so the surgeon can reach the carotid artery and clamp the blood vessel in readiness to open it up. Your brain is still supplied with blood via the other carotid artery on the other side of your neck. The surgeon then removes the inner lining of your affected artery, along with any plaque it contains.

Often a patch is sewn into the opening of the artery to widen it at this point. This patch can be either man-made or taken from a vein in your leg. Once the artery is stitched up, the clamps are removed and the incision in your neck is closed with stitches. Sometimes a narrow tube is left to drain out any excess fluid or blood and is normally removed the next day.

The procedure usually takes around 2 hours.

### **How long will recovery take?**

- After surgery you will be in a recovery ward where you will be monitored. Most people can eat and drink a few hours after surgery and will be discharged home 1-2 days after the operation.
- There is often some swelling or bruising in your neck which usually settles within 7-10 days. Although your scar will be visible initially this will fade to a slim silver line in 2-3 months.
- You should have a gradual return to normal activity, such as a combination of short walks and rest periods.
- You should avoid heavy exercise for 4-6 weeks. Ask your GP if you are in any doubt about what activities you can do.
- You can usually return to driving after 2-3 weeks, if you can perform an emergency stop and look over your shoulder comfortably.
- You should be able to return to work in 3-4 weeks.
- Your GP can advise you on your readiness to work and drive. Everyone is unique and you will have your own recovery path depending on your age, medical history and life circumstances.

### **What else can you do?**

Although carotid endarterectomy can reduce your risk of stroke by removing the build-up of plaque, you will need to make changes to your lifestyle to stop it from building up again.

These are some key areas that you can address:

- stop smoking
- have your blood pressure checked regularly
- eat a healthy, balanced diet
- take regular exercise
- maintain a healthy weight
- moderate your alcohol intake
- control your cholesterol level

See the CHSS booklet 'Reducing the risk of stroke' for more information.

If you would like to speak to one of our nurses in confidence,  
please call the Chest Heart & Stroke Scotland Advice Line Nurses

**0808 801 0899**

Call FREE from landlines and mobiles