PATIENT INFORMATION

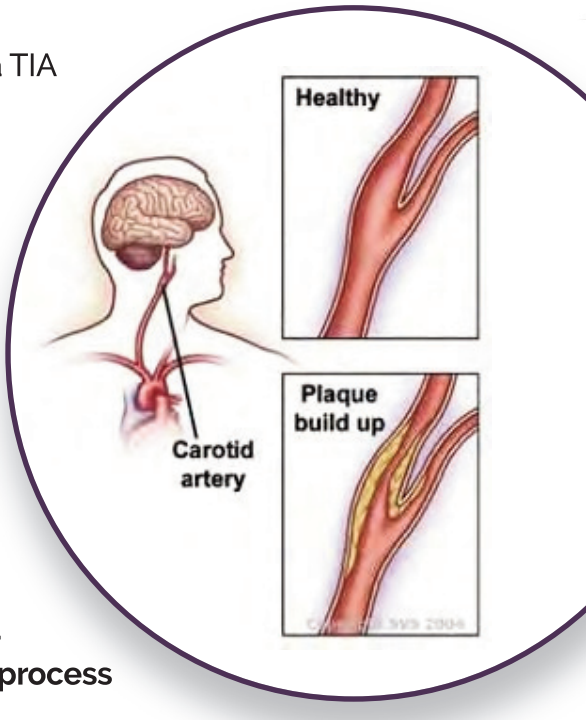
CIRCULATION FOUNDATION
The Vascular Charity

# Carotid Endarterectomy

A carotid endarterectomy may be performed if you have had a TIA (mini-stroke), a sudden, transient loss of vision in one eye (amaurosis fugax) or a stroke.

This is due to narrowing of the carotid artery, one of main arteries supplying blood to your brain (found in your neck). The danger is that you may suffer another major stroke in the next few weeks.

In a small number of people, a tight narrowing is discovered whilst under investigation for another problem. If this applies to you, you will still undergo the same pre-operative tests but will be admitted to hospital for planned surgery.




**The aim of carotid endarterectomy is to prevent you having a major stroke. The following information will help explain the process of a carotid endarterectomy operation.**

## BEFORE THE TREATMENT

Before you have carotid surgery, there are a number of tests that need to be done to assess whether you are able to have the operation and some immediately before the surgery (pre-operative tests).

Tests to check whether you are suitable for the operation include:

- Ultrasound scan
- CT scan (special X-ray scan) of your brain.
- Blood tests
- ECG (a heart tracing)

You may also have a special MRI scan of your brain.

These tests should have been done within a couple of days of your symptoms. If you are fit enough, you will then be offered an operation within two weeks of your symptoms.

# THE OPERATION

## The Anaesthetic

Carotid endarterectomy can be performed under either regional (local) or general anaesthesia. Not all cases are suitable for regional anaesthesia and not all hospitals are able to offer this service. Your surgeon will advise you which method of anaesthesia you will be offered.

For local anaesthesia, the Anaesthetist will make an injection into the skin of your neck to numb it. During the operation, if you become uncomfortable, the Surgeon will inject more local anaesthetic. You will also be given some sedation (which might make you sleepy), so you may not be fully aware of the operation. Occasionally, it may be necessary to convert to a short general anaesthetic during the operation.

## The Operation

You will have a cut running vertically down from near the angle of your jaw / ear lobe towards your breastbone. The incision is usually 7-10cm in length.

Once the carotid artery is displayed, the branches of the artery are clamped to limit blood loss during the operation. A small cut is made along the artery and the plaque or narrowing is carefully removed.

When the inside of the artery has been cleared, it is closed with very fine stitches. A small patch will usually be stitched to the artery to prevent further narrowing. This patch is normally made of a piece of animal tissue (bovine) but a synthetic material called Dacron or even a vein from your leg may be used.

The wound is usually closed with a stitch under the skin that dissolves. To protect the brain from interruption to its blood supply while the artery is clamped, a shunt (narrow plastic tube) is sometimes used to maintain blood flow. The shunt lies in a loop outside the artery, passing into the artery above and below at each end of the incision in the artery.

To monitor the blood supply to your brain a special listening device may be placed onto your head. This allows the surgeon to hear and see how fast your blood is running, which will help them make decisions during the operation.

At the end of the operation your surgeons may look inside the artery with a special camera to check that the repair is satisfactory and that there is no blood clot.

Your surgeon may place a small plastic drain in your neck for a short period to look for bleeding and to reduce neck swelling after the operation.

## Recovery and Aftercare

Immediately following surgery, your progress will be closely monitored in Recovery. Most patients are usually sent back to the ward after a few hours.

Rarely, you may be taken to the High Dependency Unit if you require blood pressure support.

There is often some swelling in the neck, but this settles within 7-10 days. The incision on your neck will initially be very visible. However, this will subside to become virtually invisible within 2-3 months. A blood transfusion is rarely required.

## GOING HOME

Most people stay in hospital between 1 and 2 days after carotid endarterectomy.

Your stitches are usually dissolvable. We will check the wound and remove the drain (if required) prior to discharge.

Regular exercise such as a short walk combined with rest is recommended to provide a gradual return to normal activity.

**Medicines**: You will usually be sent home on a small dose of clopidogrel (Plavix) if you were not already taking it. This makes the blood less sticky. If you are allergic to this medication, or if it upsets your tummy, an alternative drug may be prescribed. We will review and optimize your medication as required, prior to discharge.

## COMPLICATIONS

**Stroke**: A small number of people, between 1 and 3 in 100, having carotid endarterectomy will have a stroke during the operation. The severity of stroke can be very mild (causing little or no disability) through to severe (causing major disability and death). All possible precautions will be taken to prevent this.

**Other Major Complications**: As with any major operation, there is a small risk of you having a medical complication such as a heart attack, kidney failure, chest problems or infection in the wound. Each of these is rare, but overall it does mean that some patients may have a fatal complication from their operation. For most patients this risk is about 2% (so 98 in every 100 patients will make a full recovery from the operation).

**Fluid leak from wound**: Occasionally the wound can bleed or bleeding beneath the wound will cause swelling. Usually the swelling will settle on its own but occasionally the wound may need further surgical attention. If you have been started on tablets to thin your blood when you were admitted for symptoms of TIA or stroke, then this may place you at an increased risk of bleeding that, as a worst case scenario, may require a return to theatre.

**Nerve injuries**: These are uncommon. Skin nerves are interrupted by the incision leading to some loss of skin sensation which usually recovers over time. Handling of nerves nearer the carotid artery can lead to temporary or rarely permanent loss of function.

The vagus nerve provides a branch to the voice box (larynx) which, if injured, can lead to a hoarse sounding voice. The hypoglossal nerve supplies the muscles of the tongue, affecting speech slightly by reducing the tongue's mobility if it is damaged. The facial nerve supplies the muscles of the face. Damage to its lowest branch may lead to impaired movement of muscles around the lower jaw and neck.

## HOW YOU CAN HELP YOURSELF

If you are a smoker, you should make a determined effort to stop completely.

Continued smoking will cause further damage to your arteries and increases the risk of heart attacks, strokes, and problems with the circulation in your legs.

You should eat a low fat diet, avoiding food with high saturated fat content and take regular exercise.

Whilst we make every effort to ensure that the information contained in this patient information sheet is accurate, it is not a substitute for medical advice or treatment, and the Circulation Foundation recommends consultation with your doctor or health care professional. The information provided is intended to support patients, not provide personal medical advice. The Circulation Foundation cannot accept liability for any loss or damage resulting from any inaccuracy in this information or third party information such as information on websites to which we link.

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