Patient information

Carotid Endarterectomy

Vascular Department

Your Consultant /Doctor has advised you to have a Carotid Endarterectomy

What is carotid endarterectomy?

Every day, many people in Great Britain have a transient ischaemic attack (TIA – stroke symptoms lasting 24 hours), sudden loss of vision in one eye (amaurosis fugax) or a major stroke. This may be caused by a narrowing (stenosis) of the main artery to the brain – the carotid artery in the neck.

The principal reason is hardening of the arteries with atheroma (a build up of fatty material on the inner lining of an artery). Atheroma narrows the inner lumen of the artery (stenosis) eventually leading to thrombosis (blood clot) and blockage of the artery.

Smoking, high blood pressure, age, family history and high cholesterol are all factors in the development of atheroma. There is a higher risk than average of having a further or permanent stroke. The risks of stroke increase as the narrowing increases.

Endarterectomy is a term used to describe opening of an artery and removal of its thickened inner layers of atheroma to restore the diameter of the artery back to normal. In carotid endarterectomy a patch of vein or material is frequently used to close the artery and widen it.

What are the benefits of having a carotid endarterectomy?

The aim of the operation is to reduce your risk of stroke from thrombosis or embolism (a moving clot) on the side of the surgery. The risk reduction is long lasting and is better than medical drug treatment alone.

What are the risks?

Common risks (greater than 1 in 10) risks include bruising and swelling around the neck and chest. Most patients have an area of permanent numbness on the side of the neck just above the wound. It is normal to have some discomfort in your wound for several weeks after surgery, and to need mild painkillers.

Occasional risks (between 1 in 10 and 1 in 100) include the risk of stroke, or a transient ischaemic attack (stroke lasting 24 hours) affecting up to 4% of people even though the operation is designed to prevent stroke. If this occurs immediately after the operation you may return to the operating theatre to identify and try to rectify the problem.
The majority of such complications are minor and not disabling but stroke can cause permanent disability or even be fatal in some cases.

Occasionally, a collection of blood forms around the wound. This is called a haematoma. If this is small it may disperse by itself, but larger haematomas will need to be removed in a second operation. Re-operation may be necessary if there is internal bleeding.

Less common, rare risks (less than 1 in 100) include damage to the nerves of the face resulting in weakness of the muscles of the mouth and lip.

A heart attack (thrombosis of a coronary artery) may occur as a result of the operation. This can be lead to cardiac failure. We will monitor your condition closely so that any necessary action can be taken quickly.

As with any operation, you may develop a chest infection. This is more likely if you smoke. It may need treatment with antibiotics and physiotherapy.

Other nerve injury is also uncommon but there may be weakness of the side of the mouth or tongue, which may be permanent, a transient or permanent hoarse voice.

Very rare complications (less than 1 in 1000) include problems with swallowing and Horner's syndrome (small pupil, dropped eyelid and no facial sweating).

Wound infection or infection of an artificial patch that may need antibiotic treatment is not common with this operation.

In less than 1% of cases these complications are fatal.

Are there any alternatives available?

If surgery is being suggested, this is because the narrowing of the carotid artery responsible for your TIA is already more than 50% or about a half narrowed. In this situation the risk of stroke is in excess of that if you take medical drug treatment alone.

Medical treatment with antiplatelet medication (aspirin or clopidogrel) and statins will be prescribed by your stroke physician to help to reduce your risk and you should have this treatment regardless of whether you have surgery.

New procedures such as stenting are being developed to clear the narrowing but are available only within a research trial. The risks of stenting are still unclear but show a reduced heart attack risk at the expense of a higher stroke risk.

What happens if I decide not to have treatment?

Your risk of subsequent stroke will not be reduced efficiently. You will be monitored by your stroke physician and general practitioner and continue on medical treatment alone.

What sort of anaesthetic will be given to me?

You may have the procedure under general anaesthesia or local anaesthetic with a sedative.

General anaesthesia is drug-induced unconsciousness: it is always provided by an anaesthetist, who is a doctor with specialist training.

Unfortunately, general anaesthesia can cause side effects and complications. Side effects are common, but are usually short-lived: they include nausea, confusion and pain.

Complications are very rare, but can cause lasting injury: they include awareness, paralysis and death.

There is a risk of damage to teeth, particularly caps or crowns and veneers. Your anaesthetist will take every care, but occasionally damage can occur.

Local anaesthetic is drug-induced numbness: it may be provided by an anaesthetist, surgeon or other healthcare professional, depending on the technique used. Like all medicines, local anaesthetics may sometimes cause side effects, as well as the effects that are needed. You may experience dizziness, blurred vision, drowsiness and occasionally loss of consciousness.

Serious side effects are rare, and include fits, low blood pressure, slowed breathing and changes in heartbeat, which may be life-threatening. If you have any concerns about any of these effects, you should discuss them with your doctor.

If you have sedation, the drugs used in sedation may affect your memory or concentration for up to 24 hours. Many patients remember nothing about the procedure or even what the doctor has said to them afterwards.

The risks of anaesthesia and surgery are lower for those who are undergoing minor surgery, and who are young, fit, active and well.

For more information, please ask for a copy of the leaflet **"You and Your Anaesthetic"** (PIF 344).

You will be given an opportunity to discuss anaesthetic options and risks with your anaesthetist before your surgery.

If you are worried about any of these risks, please speak to your Consultant or a member of their team.

Getting ready for your operation

- You will usually be seen in the pre-operative clinic before you are admitted to hospital unless your admission is urgent. Here you will have blood tests, and sometimes a heart trace or a chest X-ray. You will be assessed to see if you are fit for the anaesthetic. These investigations will be carried out on the ward if you have been admitted or transferred urgently.

- The staff will ask routine questions about your health, the medicine you take at the moment (it may be helpful to bring a list of your medication with you) and any allergies you may have.
- You will be given instructions on eating and drinking before your operation.
- You will be able to discuss the operation with a doctor. You will be asked to sign a consent form to say that you understand the procedure, and what the operation involves.
- If you smoke, you should stop completely. The risks of stroke are greatly increased in smokers and there are additional risks of heart attack and lung disease with surgery. Advice and help is available via your physician, family doctor (GP) and through NHS 111.

The day of your operation

- Please leave all cash and valuables at home. If you need to bring valuables into hospital, these can be sent to General Office for safekeeping.
- General Office is open between 8.30 and 4.30 Monday to Friday. Therefore, if you are discharged outside these times we will not be able to return your property until General Office is open. The Trust does not accept responsibility for items not handed in for safekeeping.
- Please bring any medication you take into hospital with you.
- Please bring in toiletries, nightwear and towels.
- You will be asked to remove jewellery - plain band rings can be worn but they will be taped.
- Please leave body piercings at home. False nails and nail polish will also need to be removed if worn.
- If you are on regular medication, you will be told to take this if necessary.
- You will be asked to put on a gown and disposable underwear.
- A bracelet with your personal details will be attached to your wrist.
- You may be prescribed some medication to take before your operation by the anaesthetist. A member of the nursing staff will give this to you.
- A nurse and porters will take you to the operating theatre.
- Your dentures, glasses or hearing aid can stay with you on your journey to the operating theatre.
- When you arrive in the theatre area, the ward nurse will leave you, and you will be asked to put on a disposable hat.
- You will then be taken to the anaesthetic room and a member of theatre staff will check your details with you.

What should I expect after my operation?

- After your operation you will be kept in the theatre recovery room for several hours before being transferred to the enhanced recovery ward. Some patients will require admission to the critical care unit (ITU or HDU).

- A nurse will check your wound, pulse, blood pressure, and breathing rate regularly. You will also have regular checks of your neurological signs for pupil reactions, arm and leg strength, movement and general responsiveness.

- **It is important that if you feel any pain you must tell the nursing staff, who can give you painkillers to help**.

- The nursing staff will also advise you when you can start taking sips of water. Anaesthetics can make some people sick. If you feel sick we advise you not to drink until this feeling has passed. The nursing staff may offer you an injection to help this sick feeling go away.

- If you have had a local anaesthetic this will have to wear off before you can start eating and drinking. Local anaesthetic for carotid surgery can temporarily give you a hoarse voice.

- The first time you get out of bed, please make sure you ask a nurse to be with you. This is in case you feel dizzy.

- You may have a drainage tube that will be removed the day after your operation.

Going Home

You will normally be allowed home the day after your operation.

Pain relief and medication

The nursing staff will advise you about painkillers before you leave the hospital. Please tell the nurses what painkilling tablets you have at home.

Your wound

The surgeon usually uses a dissolvable stitch (suture) that does not need to be removed. You can expect some swelling and bruising that will take several weeks to settle down. For men this may cause some difficulty with shaving.

Getting back to normal

Remember that you have just had an operation. It is normal to feel more tired than usual for a few days afterwards.

You will be safe to drive when you can move your neck freely to allow a good view of the road including behind you. This will normally be at about three to four weeks but if in doubt, check with your doctor. Avoid long distances and motorway driving at first.

Returning to work

Depending on your job, you will be able to resume in one to three months. If in doubt, please ask your doctor.

Further Appointments

A follow up appointment in the vascular clinic of your local hospital will be arranged for six weeks after the operation. You may also see your stroke physician.

Medication

Your antiplatelet medication may change after surgery with Clopidogrel 75 mg daily being the normal.

Please take any other medication that has been prescribed e.g., for high blood pressure or high cholesterol, and ensure that you have regular blood pressure and cholesterol tests. Your GP or practice nurse can do this.

Feedback

Your feedback is important to us and helps us influence care in the future.

Following your discharge from hospital or attendance at your outpatient appointment you will receive a text asking if you would recommend our service to others. Please take the time to text back, you will not be charged for the text and can opt out at any point. Your co-operation is greatly appreciated.

Further information

LiVES Contact Numbers

During your contact with us, it is important that you are happy with your care and treatment. Please speak to a member of staff and/or the ward/department Sister/Charge Nurse if you have any questions or concerns.

Vascular Ward
Ward 3
Aintree University Hospital
Tel: 0151 529 2028/2262

Vascular Nurses:

Aintree via switchboard
Tel: 0151 525 5980 Bleep 5609/5594 or extensions 4691/4692

Royal Liverpool Hospital via switchboard
Tel: 0151 706 2000 Bleep 4212 or extension 4675
Text phone number: 18001 0151 706 2000 Bleep 4212

Southport via switchboard
Tel: 01704 705124

Whiston Hospital
0151 290 4508/ 430 4199

Secretaries:

Aintree University Hospital
Tel: 0151 706 3691/ 3523/3524/3481/3457/11813
0151 529 4950/4953

Southport/Ormskirk Tel: 01704 704665

Whiston Hospital
St. Helens and Knowsley NHS Trust
Tel: 0151 430 1499

NHS 111
Tel: 111

Circulation Foundation:
www.circulationfoundation.org.uk/vasculardisease/

Smoking cessation:

Liverpool	**Tel: 0800 061 4212/ 0151 374 2535**
Sefton	**Tel: 0300 100 1000**
West Lancashire	**Tel: 0800 328 6297**

Liverpool Vascular and Endovascular Service
Aintree University Hospital
Lower Lane
Liverpool
L9 7AL
Tel: 0151 525 5980
vascsecs@liverpoolft.nhs.uk

Participating Hospitals in LiVES are:

- **Liverpool University Hospitals NHS Foundation Trust**
- **Southport District General Hospital**
- **Ormskirk District General Hospital**
- **Whiston and St Helens Hospitals**

Author: Vascular Department
Review Date: September 2025

All Trust approved information is available on request in alternative formats, including other languages, easy read, large print, audio, Braille, moon and electronically.

يمكن توفير جميع المعلومات المتعلقة بالمرضى الموافق عليهم من قبل ائتمان المستشفى عند الطلب بصيغ أخرى، بما في ذلك لغات أخرى وبطرق تسهل قراءتها وبالحروف الطباعية الكبيرة وبالصوت وبطريقة برايل للمكفوفين وبطريقة مون والكترونياً.

所有經信托基金批准的患者資訊均可以其它格式提供，包括其它語言、 易讀閱讀軟件、大字體、音頻、盲文、穆恩體（Moon）盲文和電子格式，敬請索取。

در صورت تمایل میتوانید کلیه اطلاعات تصویب شده توسط اتحادیّه در رابطه با بیماران را به اشکال مختلف در دسترس داشته باشید، از جمله به زبانهای دیگر، به زبان ساده، چاپ درشت، صوت، خط مخصوص کوران، مون و بصورت روی خطی موجود است.

زانیاریی پێوەندیدار بەو نەخۆشانەی لەلایەن **تراستەوە** پەسەند کراون، ئەگەر داوا بکرێت لە فۆرماتەکانی تردا بریتی لە زمانەکانی تر، ئیزی رید (هاسان خوێندنەوە)، چاپی گەورە، شریتی دەنگ، هێڵی موون و ئەلێکترۆنیکی هەیە.

所有经信托基金批准的患者信息均可以其它格式提供，包括其它语言、 易读阅读软件、大字体、音频、盲文、穆恩体（Moon）盲文和电子格式，敬请索取。

Dhammaan warbixinta bukaanleyda ee Ururka ee la oggol yahay waxaa marka la codsado lagu heli karaa nuskhado kale, sida luqado kale, akhris fudud, far waaweyn, dhegeysi, farta braille ee dadka indhaha la', Moon iyo nidaam eletaroonig ah.