

## Neurosciences Department

# Treatment for a carotid endarterectomy

### Before the surgery

Before the surgery there are a number of tests that need to be done:

- An ultra sound of your neck will have already been done.
- A CT angiogram (CTA) may have already been done. If you have had two independent ultrasounds that agree on the grade of carotid stenosis, you will not need the CTA.

You will perhaps be seen in the pre admission clinic or ward on the day of admission for:

- Blood tests, (including creatinine (kidney function) levels).
- ECG (electrocardiogram –heart trace).
- Chest x-ray (in most cases).
- Dr's assessment check - please bring your medications with you.
- Blood pressure.

### Medication

If you are taking;

- Warfarin, you must inform the admissions office ext 3100, as this may have to be changed or stopped prior to surgery.
- Aspirin and/or clopidogrel, please continue taking them.
- Aspirin and/or dipyridamole, please continue taking them.
- Aspirin only, then we will give you one dose of clopidogrel 75mg the night before surgery (unless you are allergic). Ask the nurses when you arrive about clopidogrel.

### Coming into hospital

- Please bring your medications with you.
- You will be visited by the surgeon who will be performing the operation and the anaesthetist.
- If you have further questions or concerns please ask for the nurse specialist who will gladly visit you.

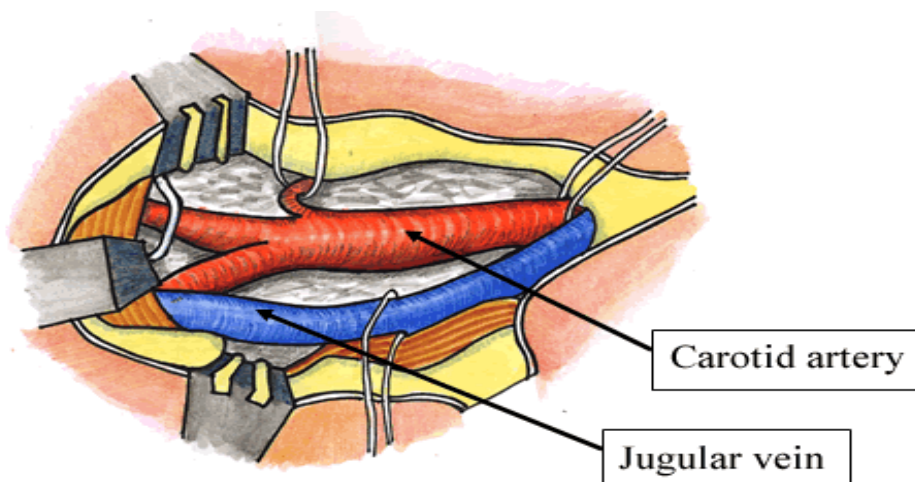
## The treatment

Carotid endarterectomy is performed under a general anaesthetic.

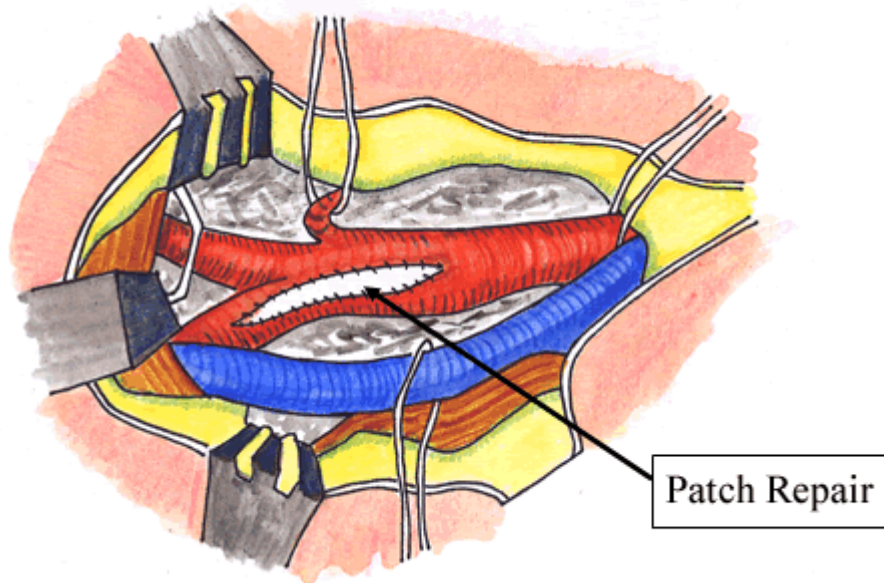
- For a general anaesthetic, a tiny needle is inserted in the back of your hand. The anaesthetic is injected through the needle and you will be asleep within a few seconds.
- A tube (catheter) may be inserted into your bladder to drain your urine.
- A drip is placed into a vein in your arm (usually your wrist) to give you some fluids during and following surgery.
- Sometimes, a second drip will be placed into an artery at wrist level to permit careful blood pressure monitoring during and just after the operation.

## The Operation

- You will have a cut running obliquely from near the angle of your jaw towards your breastbone. The incision is usually 7-10cm in length.
- The carotid artery is displayed. After clamping the branches of the artery, it is opened longitudinally and the narrowing carefully removed.



- When the inside of the artery has been cleared, it is closed with very fine stitches, either directly or sometimes with a patch to prevent narrowing. The patch, if used, may be a short length of skin vein taken from your thigh, or a special plastic sheet.



- The wound is closed with either a stitch under the skin that dissolves or by clips that will need to be removed about five days after the surgery.
- To protect the brain from interruption to its blood supply, while the artery is clamped, a shunt (narrow plastic tube – not shown in this diagram) 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.

## After the treatment

- You will usually be taken to the High Dependency Unit for up to 24 hours after your operation so that we can monitor your progress closely.
- You will wake up immediately at the end of the operation.
- Following this sort of surgery you are unlikely to feel sick, and you should be able to eat and drink again within a few hours.
- Blood transfusion is scarcely ever required.
- Your mobility will return to normal more or less immediately.
- There is often some swelling in the neck, but this settles within 7-10 days.
- The incision, although initially very visible, will subside to become virtually invisible within two to three months.

## Going home

- Most people stay in hospital between three and four days after carotid endarterectomy.
- If your stitches or clips are the type that need to be removed this is usually done whilst you are still in hospital. If not we will arrange for your GP's practice or district nurse to remove them and check your wound.
- Regular exercise such as a short walk combined with rest is recommended to provide a gradual return to normal activity.
- **Driving:** You will be able to drive when you can perform an emergency stop safely. This will normally be two to three weeks after surgery, but if in doubt check with your own doctor.
- **Bathing:** Once your wound is dry, after three to four days, you may bath or shower as normal.
- **Work:** If this applies to you, you should be able to return to work within three to four weeks of surgery. Your GP will advise you of this when you see him/her for your sick-note.
- **Lifting:** There are no limitations in this area.
- **Medicines:** You will usually be sent home on a small dose of aspirin if you were not already taking it. This makes the blood less sticky. If you are allergic to aspirin, or if it upsets your tummy, an alternative drug may be prescribed. No other changes to your medication are required.

## Possible complications

- **Chest infections:** These can occur following this type of surgery, particularly in smokers, and may require treatment with antibiotics and physiotherapy.
- **Wound infection:** Wounds sometimes become infected and this may need treatment with antibiotics. Bad infections are rare.
- **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.
- **Nerve damage:** These are uncommon. Skin nerves are interrupted by the incision leading to some loss of skin sensation which may recover over time. Movement 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) leading to a hoarse sounding voice. The hypoglossal nerve supplies the muscles of the tongue affecting speech slightly by reducing the tongue's mobility. 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.

- **Stroke:** A small number of people, between 1 to 3 in 100, having carotid endarterectomy will have a stroke during the operation. This stroke is often severe, and may lead to death. All possible precautions will be taken to prevent this eventuality.
- **Other possible 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% - in other words 98 in every 100 patients will make a full recovery from the operation.
- If your risk of a major complication is higher than this, usually because you already have a serious medical problem, then your surgeon will discuss this with you. It is important to remember that your surgeon will only recommend treatment if he or she believes that the threat of stroke without operation is much higher than the threat posed by the operation itself.

## What can I do to help myself?

- 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 risks of heart attacks, strokes, and problems with the circulation in your legs.
- General health measures such as reducing weight, a low fat diet and regular exercise are also important.

## Further Questions

- If you have further questions, please do not hesitate to ask either your Consultant or one of his team, or the Nurses who are looking after you on the ward.



We are currently working towards a smoke free site. Smoking is only permitted in the designated smoking areas.

For advice and support in quitting, contact your GP or the free NHS stop smoking helpline on 0800 169 0 169

### Help with this leaflet:



If you would like this information in another language, large print or audio format, please ask the department to contact Patient Information: 01223 216032 or [patient.information@addenbrookes.nhs.uk](mailto:patient.information@addenbrookes.nhs.uk)

### Polish

Jeżeli chciałbyś uzyskać te informacje w innym języku, w dużej czcionce lub w formacie audio, poproś pracownika oddziału o kontakt z biurem Informacji Pacjenta (Patient Information) pod numerem telefonu: 01223 216032 lub pod adresem [patient.information@addenbrookes.nhs.uk](mailto:patient.information@addenbrookes.nhs.uk)

### Portuguese

Se precisar desta informação noutra língua, em impressão de letras grandes ou formato áudio, por favor peça ao departamento que contacte a secção de Informação aos Doentes (Patient Information) pelo telefone 01223 216032 ou através do e-mail [patient.information@addenbrookes.nhs.uk](mailto:patient.information@addenbrookes.nhs.uk)

### Arabic

إذا كنت تود الحصول على هذه المعلومات بلغة أخرى، بالأحرف الكبيرة أو بشكل شريط صوتي، يمكنك أن تطلب من القسم الاتصال بمعلومات المريض على الرقم: 01223216032 أو عبر البريد الإلكتروني: [patient.information@addenbrookes.nhs.uk](mailto:patient.information@addenbrookes.nhs.uk)

### Cantonese

如您需以另一語言版本、特大字體或錄音形式索取本資料，請要求部門聯絡病人諮詢服務：電話 01223 216032，電郵地址 [patient.information@addenbrookes.nhs.uk](mailto:patient.information@addenbrookes.nhs.uk)

### Turkish

Eğer bu bilgileri başka bir dilde veya büyük baskılı veya sesli olarak isterseniz, lütfen bulunduğunuz bölümdeki görevlilere söyleyin Hasta Bilgilendirme servisini arasinlar: 01223 216032 veya [patient.information@addenbrookes.nhs.uk](mailto:patient.information@addenbrookes.nhs.uk)

### Urdu

اگر آپ کو یہ معلومات کسی دیگر زبان میں، بڑے الفاظ میں یا آڈیو طریقہ سے درکار ہوں تو برائے مہربانی اس شعبہ سے پیشینٹ انفارمیشن سے ذیل کے ذریعہ رابطہ کرنے کی درخواست کریں: 01223 216032 یا [patient.information@addenbrookes.nhs.uk](mailto:patient.information@addenbrookes.nhs.uk)

### Bengali

আপনি যদি এই তথ্য অন্য কোন ভাষায়, বড় অক্ষরে বা অডিও রেকর্ডিং পেতে চান তাহলে 'প্যাশেন্ট ইনফরমেশান' এর সঙ্গে 01223 216032 নম্বরে ফোন করে বা [patient.information@addenbrookes.nhs.uk](mailto:patient.information@addenbrookes.nhs.uk) ঠিকানায় ই-মেইল করে যোগাযোগ করার জন্য ডিপার্টমেন্টটিতে অনুরোধ জানান।

### Document history

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