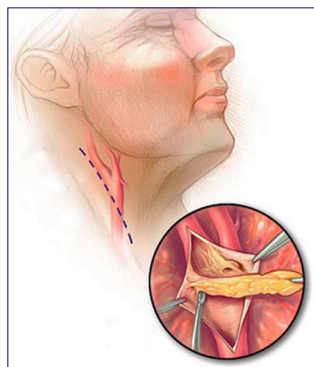
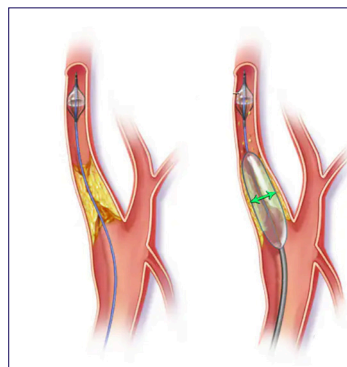


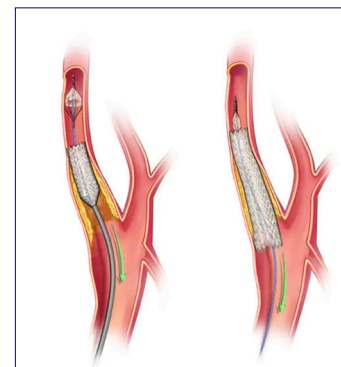
**Symptoms and Causes: Carotid artery**  
The carotid arteries are a pair of blood vessels. There's one on each side of the neck. The carotid arteries deliver blood to the brain and head.



**Carotid endarterectomy**  
In carotid endarterectomy, a surgeon opens the carotid artery to remove the plaques that block it.



**Carotid angioplasty**  
In carotid angioplasty, a surgeon sends a long, hollow tube, known as a catheter, through the arteries to the narrowed carotid artery in the neck. The surgeon puts in a filter to catch any debris that may break off during the procedure. Then, the surgeon inflates a tiny balloon at the end of the tube to open the narrowed area.



**Carotid stenting**  
In carotid stenting, a surgeon sends a long, hollow tube, known as a catheter, through the arteries to the narrowed carotid artery in the neck. The surgeon then puts a small wire mesh coil, known as a stent, into the vessel to keep the artery from narrowing again. Finally, the surgeon removes the tube and the filter that was used to catch debris that might have broken off during the procedure.

**Why is This Operation necessary ?**

Carotid endarterectomy (CEA) is surgery to treat carotid artery disease. The carotid arteries are the main blood vessels that carry oxygen and blood to the brain and are located on each side of the neck.

In carotid artery disease, these arteries become narrowed due to build up of fatty deposits in the inner lining (plaque or atherosclerosis). This reduces blood flow to the brain and could cause a stroke or transient ischaemic attack (TIA or mini stroke). The risk of stroke is related to the degree of narrowing.

Surgery is recommended for patients who have had a stroke or TIA and have a moderate or severe stenosis to prevent future strokes. The greatest benefit is seen in patients with severe stenosis (70 to 99 %). Surgery is not recommended where there is a very minor stenosis (<50%) or where carotid arteries are completely occluded.

Surgery is very occasionally recommended in patients who have not had symptoms, but who have progressive, severe disease.

**What Is a Carotid Endarterectomy?**

In this operation the plaque of cholesterol material causing the blockage in the carotid artery is removed completely by making an incision in the neck.

Once the artery has been controlled so that no blood flows

through it during the procedure, it is opened, and the plaque is removed. The artery is then closed with a fabric patch to widen it. If the surgeon believes that the brain will not tolerate having its blood flow through the artery interrupted for a few minutes a plastic pipe (shunt) will be inserted that allows the blood to flow to the brain during the operation. This will be removed at the end.

**Are there any alternative treatments available?**

Carotid angioplasty and stenting are an alternative to carotid endarterectomy. In this procedure, a long hollow tube (catheter) is passed through a blood vessel in your neck to the narrowed artery. A metal scaffold (stent) is placed across the narrowing and balloon angioplastied to open the narrowing.

If you choose not to have surgery, you will still be managed with best medical therapy. This is lifelong tablets that will help reduce your risk of stroke.

**Is the operation safe?**

Before you agree to the procedure, you should consider the risks that may be involved. Your procedure will be performed by a team of highly qualified and skilled professionals who will take all steps necessary to ensure a safe procedure and a successful result. However, there are risks involved with all procedures, even if these risks may be small

**What are the General Risks related to this procedure?**

There are risks for developing complications which are general, and which may occur with any surgical procedure. These complications include the risk of infection, bleeding, pain, wound breakdown, deep vein thrombosis, or complications affecting the heart, lungs, or kidneys.

**What are the specific risks related to this procedure?**

Some possible complications of carotid endarterectomy include:

- Stroke or TIA (3-6%)
- Pooling of blood into tissue around the incision site causing swelling
- Cranial nerve problems causing weakness of tongue, hoarseness of voice, difficulty swallowing. Numbness of earlobe is common
- Bleeding into the brain (intracerebral haemorrhage)
- Seizures (uncommon)
- Repeated blockage of the carotid artery or new blockage that develops in the artery on the other side of your neck.

- Bleeding at the incision site in the neck
- Infection
- High blood pressure
- Irregular heartbeat
- Blocked airway from swelling or from bleeding in the neck

**Pre-Admission and Registration**

Before your admission, you should register your details with the hospital's Pre-admission Clinic. This allows the hospital to register all your personal and medical aid details, which reduces the time and paperwork it takes to admit you on the day of your operation. If you are not a member of a medical aid you will be required to pay a deposit for the hospital costs on admission. If you are on a medical aid you will need to get pre-authorization for the procedure. Our staff will be able to assist you with the necessary details.

**What do I need to do before the operation?**

You will be referred to a Specialist Physician prior to your operation, and will have various blood tests, an ECG and chest X-Ray performed. This is usually

**Before you agree to the procedure make sure you know:**

- The name of the procedure
- The reason you are having the procedure
- What results to expect and what they mean
- The risks and benefits of the procedure
- What the possible side effects or complications are
- When and where you are to have the procedure
- Who will do procedure and what that person's qualifications are
- What would happen if you did not have the procedure
- Any alternative procedures to think about
- Who to call after the procedure if you have questions or problems
- How much will you have to pay for the procedure

done before the operation has been booked. Your surgeon may want you to stop certain medication such as clopidogrel, warfarin, Xarelto or other blood thinning medicines before the operation.

#### What happens when I get to the hospital?

Please report to the hospital reception on time for your admission. Bring along all the documents that may be required such as your medical aid card, ID, and contact details. When you arrive in the ward, you will be welcomed by the nurses or the receptionist and will have your details checked. Some basic tests will be done such as pulse, temperature, blood pressure and urine examination. You will be asked to hand in any medicines or drugs you may be taking, so that your drug treatment in hospital will be correct. Please tell the nurses of any allergies to drugs or dressings. The surgeon will have explained the operation and you will be asked to sign your consent for the operation. If you are not clear about any part of the operation, ask for more details from the surgeon or from the nurses.

The operation area may need to be shaved to remove excess hair. You may be issued with compression stockings that will help prevent blood clots in your legs. You will be taken on your bed to the operating suite by the staff. You will be wearing a cotton gown, wedding rings will be fastened with tape and removable dentures will be left on the ward. There will be several checks on your details on the way to the operating theatre where your anaesthetic will begin.

#### Visit By The Anaesthetist

The anaesthetist who will be giving your anaesthetic will ask about chest and heart troubles, dental treatment, and any previous anaesthetics before examining you. The anaesthetic procedure and the risks

associated with anaesthesia will be explained. We prefer a general anaesthetic for this procedure.

#### When Should I Stop Eating?

You can have your usual diet (solids) up until 6 hours before the operation. From then till 3 hours before the operation you are allowed to drink clear fluids like water and apple juice, after which you will be asked to take nothing by mouth. This will allow your stomach to empty to prevent vomiting during the operation.

#### What Time will My Operation Be?

The timing of your operation is pre-arranged, and the nurses will tell you when to expect to go to the operating theatre. Changes to the exact timing are common however, as emergency procedures must be accommodated, and the time taken for the operations can be unpredictable. We occasionally need to change the scheduling of cases on a particular day, but your operation will always be done on the day that it is scheduled. You may have to wait longer than we had hoped for reasons that are beyond our control.

#### The Operation

The operation will be performed as discussed with you beforehand. Occasionally the findings during surgery are unexpected, and the procedure must be modified. The surgeon will then complete the procedure as he sees fit, using his specialist expertise and experience to optimise your safety.

#### How Long Does the Operation Take?

Approximately 2 hours

#### What Happens When I Wake Up?

If you had a general anaesthetic, you will be conscious a minute or two after the operation ends but you are unlikely to remember anything until you are back in your bed in the high care unit. Some patients feel a bit sick for up to

24 hours after operation, but this passes off. You will be given some treatment for sickness if necessary. There is usually a small drain in the wound for 24 hrs to drain any ooze from the wound bed.

#### Will I Have Pain?

Some pain will be present, but this should be controlled to a level of mild discomfort with the painkillers that are prescribed. Ask the nursing staff for painkillers if you have pain.

#### How Soon After the Operation Can I Eat?

You can eat and drink as soon as you recover from the anaesthetic.

#### How Soon After the Operation Can I Get Out of Bed?

The next morning

#### Activity And Physiotherapy

Activity following surgery is recommended and helps to reduce chest complications. A physiotherapist may help with this process. Coughing and activity, although uncomfortable, will not harm your wound. Try to maintain flexibility of the neck by actively turning the neck to one side as far as you can go, and then to the other side a number of times during the day.

#### How Long Will I Stay in The Hospital?

Usually, you will feel fit enough to leave hospital after 3 days.

#### What Happens When I Am Discharged from The Ward?

Your surgeon will determine when you are ready to go home. You will be given a script for pain medication and will get an appointment for your follow-up in the surgeon's rooms in 1-2 weeks. You should ask for a sick certificate if you need this for your employer.

#### How Do I Manage the Wound?

The wound has a dressing, which may show some staining with old blood in the first 24 hours. The dressing will be changed for a clean one. It should stay in place for around

10 days. You can shower or bath with the dressing on. If the dressing comes off, just wash with soap and water, dry and replace. The skin is closed using staples or stitches. There may be some purple bruising around the wound which spreads downwards by gravity and fades over a few days.

The cosmetic appearance of the wound gradually improves for one to two months after the operation.

#### What Should I Be Aware of When I Get Home?

There are very few problems that arise after this type of surgery that only become apparent after you go home. Wound pain or redness, or any significant bleeding or drainage of excessive clear fluid from the wound should be reported. If you are unsure, then phone the doctor's rooms for advice.

Please contact the doctor's rooms immediately and go to the nearest emergency unit if there are any symptoms to suggest a stroke or mini stroke. This includes speech disturbance, face pulling skew, loss of vision or sudden weakness or sensory change in the leg or arm.


#### How Soon Can I Start Exercise?

Maintaining activity and gentle walking soon after the operation is important. Start slowly and gradually build up. Formal exercise is allowed when the wound has healed, and the pain and bruising has subsided. This may take 3-4 weeks.

#### How Soon Can I Drive a Car?

You can drive as soon as you can make an emergency stop without discomfort in the wound, i.e., usually after about 2 weeks. You can safely wear a seat belt.

#### How Long Will I Be Off Work?

You are likely to feel a bit tired for a few weeks. You can expect to return to work and your normal activities in 2-3 weeks. 

### What About Payment?

The procedure and its associated costs will have been discussed with you, and a quote provided. Where procedures need to be unexpectedly altered during the procedure, the fee may change. Similarly, emergency procedures may incur an additional cost. Surgeons are highly trained, highly skilled professionals and throughout your care a member of the practice is available to attend to you 24 hours a day. In return we expect prompt payment of your account. Although accounts may be submitted to the medical aid, the patient is responsible for payment.