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Calf Lengthening Surgery

Following your consultation with a member of the Foot and Ankle team you are considering calf lengthening surgery. This leaflet aims to give you additional information about your condition and the treatment. It is designed to give you some general details about the recovery from surgery if necessary and the common risks and complications. This leaflet is not for self-diagnosis. Please ask your surgeon if you have any further questions. If anything changes before the operation please let your surgeon or their secretary know (e.g. skin problems, infections, injuries).

What is it?

There are different operations to correct calf or gastrocnemius (one of the calf muscles) tightness. These include:

1. Medial head of gastrocnemius release (one part of the gastrocnemius)
2. Gastrocnemius and/or soleus (another calf muscle) aponeurosis (gristle covering) release.
3. Achilles tendon (heel cord) lengthening.

Why would they be done?

Sometimes calf tightness does not responded to stretches/physio. If the calf tightness is causing problems then your surgeon may recommend that you consider an operation to lengthen one or more of the muscles/tendons in the calf. It may be that you are suffering with heel pain (plantar fasciitis or Achilles tendinopathy) or a deformity of the foot. Many forefoot problems are made worse by calf tightness (e.g. bunions, neuromas). Often a calf lengthening operation is included as part of more extensive surgery. Calf lengthening can be perfomed on its own. The choice of operation depends on the type and severity of the problem.

A medial head of gastroc release (MHGR) is often performed for heel pain that is not responding to other treatments (Achilles tendinopathy or plantar fasciitis).

A Gastrocnemius/soleus lengthening is often used when hindfoot deformities are associated with calf tightness.

An Achilles tendon lengthening is usually used when there is severe deformity, often in children.

What does each operation involve?

Medial head of gastroc release

Often done under local anaesthetic. A small cut is made behind the knee. The thick gristle cover of the muscle is divided and allowed to stretch. Often this is described like 'cutting the rind of a rasher of bacon, allowing the meat/flesh to stretch'. Most patients walk straight away and do not need a plaster.

Gastrocnemius/Soleus aponeurotic lengthening (Strayer's, Baker's or Vulpius release)

Usually done under general anaesthetic. A cut is made on the back of the calf and part of the muscle/gristle is cut and allowed to lengthen. There are many variations to this operation. It allows for more stretch that 'MHGR' above. Most patients are kept in plaster for up to 6 weeks after surgery. Many will be given blood thinning medicine (Heparin, LMWH, Dalteparin, Clexane) to reduce the risk of blood clots. You can usually walk in your cast or boot.

Achilles tendon lengthening

This can be part of a larger operation and may be done in very little children as part of the treatment of club foot.

Can they be done as a day case operation?

If you are medically fit, have someone who can collect you and look after you after the operation and you are comfortable afterwards, the operation can be done on a day case

basis. However, if you have other medical problems such as diabetes, asthma or high blood pressure, you may have to attend the preoperative assessment clinic 2-6 weeks before your surgery. You may need to stay in overnight after your surgery. You must stay overnight to avoid complications if there is no one to collect and look after you. If you are having more extensive surgery, especially if both feet are involved, you may need to stay in for a day or two to allow swelling to go down. This will be discussed with you in clinic when you are offered surgery.

Will I have to go to sleep (general anaesthetic)?

The operation can be done under general anaesthetic (asleep). Alternatively, an injection in the back, leg or around the area can be given to make the area numb while you remain awake. Local anaesthetic injections do not always work and, in that case, you may have to go to sleep if the operation is to be performed. Your anaesthetist will advise you about the best choice of anaesthetic for you. In addition, local anaesthetic may be injected into your leg or foot while you are asleep to reduce the pain after the operation even if you go to sleep for the surgery. You will also be given painkilling tablets as required.

Will I have a plaster on afterwards?

Plaster is often required. Some people having only the medial head of gastroc release will not usually need a plaster.

What will happen afterwards?

The dressings on your leg will be removed 2 weeks after surgery in a nurse led clinic. You may have the plaster replaced then. Keep active even if you are keeping your affected limb elevated by doing simple exercises with your hips and knees. Usually, you will be seen at 6 or 8 weeks after the operation to check all is well. You can arrange to return if you are having any problems, or have any concerns.

How soon can I…

Walk on the foot?

You can walk on the foot immediately after surgery. For the first 2 weeks, you should avoid walking too much. When not walking, rest with your foot elevated to reduce swelling. It may be impossible to wear an ordinary shoe because of the dressings or plaster, so you will be provided with a special shoe if necessary.

Go back to work?

If your leg is comfortable, you could go back to work 2-3 weeks after surgery. In a manual job with a lot of dirt or dust around, you may need to take anything up to 2 months off work. How long you are away from work will depend on where your job fits between these two extremes and which sort of calf lengthening operation you have had.

Drive?

Most people should not to drive until the dressings/plaster are off, they can wear a shoe and are able to fully weight bear. Drive short distances before long ones. If you cannot safely make an emergency stop your insurance will not cover you in the event of an accident. If only your left foot is operated on and you have an automatic car, you can drive within a few weeks of the operation, when your foot is comfortable enough and you can bear weight through it.

Play sport?

After your bandage or plaster is removed you can start increasing exercise. Start with walking or cycling, building up to more vigorous exercise as comfort and flexibility permit. Most people can return to their previous level of activity within 3-4 months of surgery.

Risks

- COVID-19 infection increases the risk of complications and we recommend you read the separate leaflet about this. If you are in one of the vulnerable groups you should think very carefully about proceeding with surgery unless it is absolutely necessary
- Chronic regional pain syndrome (CRPS)
- One problem is recurrence of the calf tightness or deformity, usually to a much less severe degree than before. This occurs in about 1 in 20 people, but only a few of these will have to have further surgery.
- Most people's calves will be swollen after the operation and sometimes some swelling persists indefinitely. There is usually some bruising.
- The wounds usually heal quickly, but occasionally these can bleed, become infected or need antibiotics. The scars can 'dimple', though the effect is usually minor.
- There are general risks with any operation that include blood clots (DVT & PE), anaesthetic complications and tourniquet complications. Generalised pain, swelling and stiffness can occur.
- A small nerve called the Sural nerve gives feeling to a patch of skin on the side of the foot and may be injured as often as 5 in 100 times. In severely deformed ankles, all the vessels and nerves tend to be tethered. As a result, some feet may be a bit numb or sensitive afterwards. Very rarely, the blood supply to a foot may be so badly affected that it has to be amputated.

What can I do to help?

Most patients find that simple measures can make a big difference to the outcome of surgery. The evidence from studies and our experience supports this:

Take simple Vitamin C and vitamin D tablets or multivitamins – needed for healing.

STOP smoking – smoking slows down healing and is linked to increased complications.

Keep fit and a healthy weight – many foot problems are improved by loosing weight.

Further Information

The figures for complications given in this leaflet have been taken from information produced by the British Orthopaedic Foot Surgery Society using audits from all areas of the UK.

The British Orthopaedic Foot Surgery Society web site is available at: www.bofas.org.uk

Mann, Coughlin and Saltzman (2007) Surgery of the Foot and Ankle 8th edition, Elsevier, Philadelphia.

Myerson , S (Ed) (2000) Foot and Ankle Disorders, Saunders, Philadelphia.

NHS Constitution. Information on your rights and responsibilities. Available at www.nhs.uk/aboutnhs/constitution