AMIT AMIN
FOOT & ANKLE SURGEON

Ankle Ligament Reconstruction (Brostrum-Gould)

Diagnosis

The diagnosis is usually made from speaking to you about your injury, and performing a thorough clinical examination. After a recent ankle sprain, it will not be possible to fully test the stability of the ankle, as there will be pain and swelling.

In general, I will perform a test, called the 'anterior draw', which aims to assess the stability of the outer ankle ligaments. The foot is pulled forward whilst stabilising the leg and the amount of movement is compared to the other ankle. Occasionally there is a 'clunk' felt, indicating a very unstable ankle.

Your symptoms may also include pain, and this is very common. I will assess your ankle for signs of impingement (catching of the ligaments in the ankle joint). Occasionally we perform ankle ligament reconstruction in the absence of giving way, in patients with persistent pain, which does not settle with conservative treatment.

Treatment

1. Physiotherapy

This is the first line of treatment and is often very successful. This is directed at retraining the 'balance' fibres in the damaged ligaments, as well as strengthening the muscles around your ankle. Often, you will have been treated by a physiotherapist before my assessment, but if not, I will refer you to a specialist physiotherapist, with an interest in foot and ankle problems. It can take many months of hard work to compensate for an unstable ankle. You can discuss the relative merits of using an ankle brace with your physiotherapist and myself. Braces can help prevent on-going giving way episodes but can be quite restrictive, and cumbersome to use.

2. Podiatry

If you have a high arched foot that tilts your heel inwards, this will increase your tendency to suffer recurrent sprains. In this scenario, I will often recommend treatment from a podiatrist, and consideration to manufacturing a corrective orthotic insole for use in your shoes. The podiatrist will perform a gait analysis and determine if an insole will improve your dynamic function (your walking and running).

3. Surgery

If your ankle continues to give way, and the above measures have been unsuccessful, then we will discuss surgery. I would recommend a minimum of 3-6 months with your physiotherapist, before making such a decision.

The surgery is performed as a day-case or overnight stay, under General Anaesthesia. Typically we 'numb' the nerves that supply the foot/leg, which is called a 'block', when you are under anaesthetic. This is usually performed by my anaesthetist under ultrasound guidance. The end desired result is complete freedom from pain post surgery. The 'block' can last for 24-48 hours and in itself can be an unusual feeling, but much preferable to having pain. You should take regular painkillers for 72 hours and then stop and reassess. After this point only take as needed.

You will be placed into a plaster cast at the end of the procedure, and you will be prescribed a 2-week course of blood thinning medication, to reduce the chance of Deep Vein Thrombosis (DVT). The in-house physiotherapy team will get you up and about with crutches, non-weight bearing for 2 weeks.

It is vital to elevate the foot to heart level for 80% of the time during the first few weeks. This is to control swelling and optimise wound healing. Gently moving your toes is advisable. The hospital in-house physiotherapy team will advise on simple exercises for this 2-week period.

Brostrum-Gould Reconstruction

This is the most commonly performed procedure to detach, advance/tighten and re-attach the damaged ligaments to the fibula bone using specialised bone anchors. If pain is one of your symptoms as well, I will perform arthroscopic (keyhole) surgery to inspect the ankle joint for damage and to remove any inflammatory/scar tissue, which can develop with ligament instability.

The Brostrum Gould reconstruction is usually successful in 90-95% of patients.

Post-Operative Course

DAY 1
Below knee cast (backslab plaster) applied at end of surgery
Expect some numbness in foot for 24-48 hours if 'block' applied
Pain medication and elevation of foot
Mobilisation non-weight bearing with physiotherapist
No weight through operated leg for 2 weeks
Treatment with blood thinning injections/tablets for 2 weeks
Discharge home usually possible on day of surgery (otherwise overnight stay)
May shower / bath but cast must be kept dry

2 WEEKS
Outpatient review of wounds
Cast replaced with 'moon boot' or 'Aircast boot'.
Can start to touch weight bear through boot, and physiotherapy can begin
Gentle inversion/eversion (in and out) plantar and dorsiflexion allowed (down and up) – from here on – and physiotherapy can start

4 WEEKS
Can increase to full weight bearing by this point using boot and crutches for balance.

5-6 WEEKS ONWARDS
Wean out of boot into a trainer and a brace
Can start swimming and cycling.
Running to be reintroduced from 3-6 months based on progress with physiotherapist.
Reintroduction of sport from 6 months but return to cutting/twisting sports from 6-9 months.

INTERNAL BRACE

www.arthrex.com/foot-ankle/internalbrace-ligament-augmentation-repair

This is generally for patients, who have either failed a previous Brostrum Gould reconstruction, or have very loose ligaments throughout their body, and need extra re-inforcement. Internal brace is a strong piece of tape, which has been used in Shoulder Surgery for many years. Recently it has been used extensively in foot and ankle surgery, and most commonly in ankle ligament stabilisation. The principal aim in practice is too add stability to a very loose ankle, or an ankle with thin and weak ligaments. With the internal brace it potentially allows for a faster rehabilitation. I will discuss the benefits and indications for using this technique with you in clinic.

Main Risks Of Surgery

Swelling – Initially the foot and ankle will be swollen and needs elevating. The swelling will disperse over the following weeks and months but will remain evident for up to 3-6 months. Occasionally the ankle will demonstrate a very mild long-term swelling, but this usually reflects years of injury rather than the surgery.

Wound healing problems – The risk of serious wound healing problems is approximately 1%. It is important to keep the foot elevated over the first 2 weeks to reduce the swelling and risk of wound healing problems. In rare circumstances when the wound is problematic, further surgery can sometimes be required.

Scar sensitivity – The scars can be quite sensitive following surgery but this usually improves over 3-6 months. Regular massage can help make the scar less sensitive.

Infection – The risk of deep infection occurring is approximately 1%. You will be given intravenous antibiotics to help prevent this. It is important to keep the foot elevated over the first 10 days to reduce the swelling and risk of infection. Smoking increases the risk 16 times. If there is an infection, it may resolve with a course of antibiotics but may require a period of hospitalisation or rarely, further surgery.

Stiffness – this is common to begin, as you will be immobilised for 2 weeks in a cast, and then in a boot for about 4 more weeks. Long-term stiffness is rare, but does occur as we are also tightening the capsule (lining) of your ankle joint during the procedure. A small amount of stiffness is unlikely to cause any issues, but occasionally stiffness can be more significant. If physiotherapy input is unsuccessful, further surgery might be needed. Sometimes permanent stiffness requires you to modify life around the problem.

On-going pain / Instability – this is rare, but can be to due to further injury stretching out the reconstruction or failure to adequately rehabilitate. The balance fibres in the reconstruction need to be retrained and hence physiotherapy is essential to an optimum outcome. On-going pain can be due to scar tissue/inflammation, which is persistent, and this sometimes needs further treatment.

Nerve damage – The superficial peroneal and sural nerves are close to the incision. This supplies sensation to the top surface of the foot. This may rarely (1%) be damaged during the surgery and this may leave a patch of numbness on the top surface of the foot. This numbness may be permanent but usually does not affect function. Occasionally the nerve is injured and forms a neuroma (thickened nerve), which can be painful. This tends to settle with gentle massage, but further surgery might be necessary if persistent.

Chronic Regional Pain Syndrome – this is where the nerves around the ankle become overly sensitive. The ankle swells, changes colour and becomes stiffer than expected. It is exceptionally uncommon, but can be very debilitating. If this is diagnosed, then I will refer you to a specialist pain doctor. The outcome of surgery can be suboptimal in this situation.

Deep Vein Thrombosis (DVT) – This is a clot of blood in the deep veins of the leg. The risk of a clot occurring is reported as less than 1% after foot and ankle surgery which is generally substantially lower than after hip or knee surgery. Suspicion of DVT is raised if the leg becomes very swollen and painful. There are tests that can be performed to confirm / exclude the presence of a DVT. If confirmed, you will probably require treatment with a blood-thinning agent (heparin preparation and / or warfarin). The main concern with regards a DVT is that rarely (<1:1000 chance with foot and ankle surgery) a piece of clot can break away in the leg and travel to the lungs which is much more serious and can be life-threatening. This is called a pulmonary embolus and signs of this include chest pain and shortness of breath. For the first 2 weeks following surgery, you will be treated with a blood thinning agent (LMWH – low molecular weight heparin injections) to minimise the risk of DVT / PE but this does not afford total protection and exercises to keep the toes and knee moving are advised, as well as remaining generally mobile. If you are concerned that the leg has become more swollen and painful (some swelling always occurs after surgery), or if you experience chest pain / shortness of breath, then you should contact the hospital, general practitioner, or accident and emergency department immediately.

Sick Leave

In general 4 weeks off work is required for sedentary employment, 6-12 weeks for standing or work that requires a lot of walking and 12-16 weeks for manual / labour intensive work.

Driving

You will be able to return to driving following the 5-6 weeks review, based on satisfactory progress.

These notes are intended as a guide and some of the details may vary according to your individual surgery.