Achilles Tendon Rupture

Background
The Achilles tendon is the strongest tendon in the body. Its primary function is to move us forward, jump, dance, sprint, stand on one’s toes, go up and down stairs and walk normally.

Diagnosis
Achilles rupture is diagnosed by a history of a sudden injury often described by patients as having been hit in the back of the leg, this is often followed with pain, swelling over the tendon and difficulty weight bearing or walking. You can also rupture your Achilles if it has been inflamed for a period of time.

The rupture is confirmed by examination of the calf muscle. Ultrasound or MRI can also be used to confirm diagnosis. The most common place to rupture is 2 – 4 cm above where the tendon inserts into the heel bone.

Treatment
There are two ways to treat this condition. There is considerable debate amongst specialists as to which method of treatment is best. At Timaru Hospital the preferred option is usually non-operative due to a lessening of complications such as the risk of anaesthesia and wound problems, infection and evidence that non-operative regime is effective.

Operative: This involves a surgical repair of the torn tendon followed by immobilization in a cast initially and then probably to a protective boot for 10 weeks. This approach is usually only done if you are a very active sports person or have had a re-rupture of the Achilles or delay in diagnosis.

Non-Operative: Immobilization for approximately 10 weeks. This involves a below knee plaster of paris or synthetic cast being applied with the foot in forced equinus (your foot is pointing down). You will not be able to weight bear and will need to use crutches to assist with mobilization. You will be in this cast for 4 weeks.

The next appointment will involve having your cast removed and either commencing a regime of serial casting every few weeks, or moving into a special brace called a “Moon boot”. This will be set at an angle that continues to have your foot down approximately 30 degrees. Usually every 2 weeks your boot will be adjusted by 10-20 degrees until the boot is set at 0 degrees. At approximately 8 - 10 weeks post injury you will be able to weight bear. By week 10, the brace or cast will be removed and you will move into a shoe with a shoe raise inside. You will be advised to use this for a further month and to walk on flat surfaces, keeping away from rough ground or activities that might cause you to re-rupture the tendon. Depending on your occupation it is likely you will be unable to work until you can at least weight bear. Acc forms will be completed initially and updated as required. The risks associated with this type of treatment are re-rupture and potential of non-compliance with Moon boot usage.

Patients being treated in a moon boot
While you are in the boot it is recommended you do some exercises from around 4 weeks post injury with the boot on, about 6 – 8 times a day. These will improve the blood flow to the leg and aid in the rehabilitation process. Wriggle your toes, move your foot up and down within the confines of the boot, straight leg raising. Also at 4 weeks remove the boot 3 – 4 times a
day to gently exercise your leg by sitting with your foot hanging free and moving your ankle up and down within your comfort zone. You can also take the brace off for showering or bathing, be careful that you do not weight bear when the brace is off, the brace must remain on when you are in bed. In other words you will be wearing this brace for 23 hours a day! It is expected that each time your brace is adjusted you will experience some discomfort for a few days as the tendon is stretched a little. At present some of your visits for Moon boot adjustment may be with a specialist orthopaedic nurse only in the outpatient clinic.

**Tips for rehabilitation**

Remember each person is different and the regime above is the recommended course of your treatment. Please follow the advice from your consultant and follow the regime correctly. You will be assessed on an individual basis as treatment progresses.

If you have any problems or concerns between appointments please ring the orthopaedic secretary or Outpatient Appointment Office to bring your appointment forward or attend the Emergency Department for any urgent assessment.

Be positive that you will make a good recovery but also realistic that it will take time to recover fully perhaps 6 – 12 months.

Once the brace is removed be sensible what you do. You need to walk in safe areas on flat ground, do not play sport too early especially where you are likely to push off with your foot quickly.

It is likely that it could be a year post injury before you are ready to get back to at risk sporting activities.

**References**

http://www.emedx.comemedx/diagnosis_information/foot-ankle_disorders/achilles_

http://www.arthroscopy.com/sp09009.htm

http://www.wheelessonline.com/ortho/achilles_tendon_rupture_non_operative_treatm…


South Australian orthopaedic registrar handbook.