Dr Mayuran Suthersan

Achilles Tendon Ruptures

Achilles tendon ruptures occur most commonly in middle aged males and females playing recreational sports; most commonly basketball, netball and soccer. At the time of the injury, the patient describes a sensation like being kicked in the calf and often can hear a loud snap. There is often immediate pain and swelling and an inability to weight bear. It is important to determine whether there is a previous history of achilles pain, as achilles tendonitis is a predisposing factor for rupture.

Achilles ruptures occur in three locations:

- **Insertional ruptures:** Insertional ruptures are very uncommon. They occur where the achilles tendon inserts into the calcaneus. Often the ruptured tendon has an avulsed fragment of bone attached to it. These ruptures often require surgery.
- **Mid substance ruptures:** This is by far the most common type of rupture and occurs in the mid-substance of the achilles tendon, about 5-7 cm from the insertion. Traditionally these ruptures were treated with surgery, but now non-operative treatment has been shown to have equivalent outcomes.
- **Musculotendinous ruptures:** These ruptures in the area where the tendon coalesces with muscle. These ruptures are usually treated non-operatively.

Examination

The two key examination tests are:

- **Palpation:** It is important to palpate the tendon to determine the location of the defect. This will help determine whether the rupture is mid substance, insertional or myotendinous, and will help direct the management.
- **Thompson's Test:** In this test, the patient is positioned prone and the calf is squeezed. With an intact achilles tendon, the foot will plantarflex. If the tendon is ruptured, there will be no movement. It is important to compare with the normal side.

Investigations

I have an ultrasound performed with the foot in a neutral position and in plantarflexion. This helps to determine the site of rupture as well as the rupture gap. Ultrasounds are very technician dependent and can be performed and reported poorly, so I always have the scans repeated at a single centre.

Management

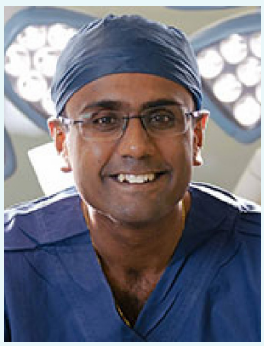
If it is a mid substance rupture and the gap is less than 2cm, then I offer the patient non-operative management. If greater than 2cm, an insertional rupture or if the patient is a high level athlete, then I offer surgical management. I now treat over 90% of patients with achilles ruptures, non-operatively with excellent results. Non-operative treatment is known as functional rehabilitation.

Functional rehabilitation can be broken into many stages, and it can vary slightly. This is my treatment strategy.

- 0-4 weeks: patient is placed in a plantarflexed (equinus) cast and are non weight bearing. If they have other risks for development of DVT's, they take anti-coagulation for 6 weeks.
- 4-12 weeks: Patient is weight bearing in a CAM Boot with 3x1cm heel wedges. One heel wedge is removed every 2 weeks. No physiotherapy is required and the patients are instructed on simple plantarflexion exercises only.
- 3-6 months: Patient commences wearing normal shoes and attends physiotherapy. Should gradually increase the resistance of the exercises. Aim for straight line jogging at 5 months and running at 6 months.
- 6-9 months: Introduce higher intensity exercises and return to normal function.

Surgical management

- Performed through a posterior approach. There are multiple techniques, but the original technique is still the most commonly used and has good results.
- The post operative recovery is nearly identical to functional rehabilitation, except that the period of cast immobilisation is 2 weeks rather than 4.



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Dr Mayuran Suthersan is an Australian trained Orthopaedic Surgeon specialising in foot and ankle surgery. He has a special interest in sports injuries, arthroscopic, reconstructive and trauma surgery.

Dr Suthersan manages patients across the Northwest of Sydney including professional and non-professional sports teams. Dr Suthersan grew up in Western Sydney and is committed to serving the people of Sydney's West and Northwest.

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