

# ACHILLES TENDON RUPTURE

# ORTHOSPORTS



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You have been diagnosed with an Achilles Tendon Rupture. This is a relatively uncommon condition, occurring in 2 out of every thousand people. Generally a rupture occurs while doing a physical activity, such as running, tennis, soccer, basketball etc. Patients are often surprised by what happened, as they usually do not feel any pain beforehand. They often report that it felt like someone kicked them from behind, but when they turned around to see who did it, no one was there.

The Achilles tendon is the largest and strongest tendon in the body. A normal, healthy tendon will withstand physical activities and generally does not rupture. Studies looking at biopsies of ruptured tendons have shown that these ruptured tendons have already been degenerating before the rupture happened. Prior to the rupture, even while there are no symptoms, the tendon has undergone a mucoid degeneration, which microscopically disrupts collagen fibers and weakens the tendon. Many athletes have played sport without any symptoms, only to have a sudden Achilles rupture occur. This happened recently to David Beckham, the world famous soccer player.

The diagnosis of an Achilles tendon rupture is based mainly on clinical examination. Pain and swelling occurs over the Achilles tendon. A defect is palpable at the sight of rupture (see figure 1). The Thompson Test is positive- when the calf is squeezed the tendon fails to move the foot. Finally, because the tendon is rupture, tension is lost and the heel falls away, allowing the foot to appear flat. If all of these signs are present, then the Achilles tendon is ruptured.



Figure 1: defect palpable

Investigations are seldom necessary to diagnose an Achilles tendon rupture. Ultrasound can be inaccurate, as a tendon may appear to be partially ruptured when in fact it is a complete rupture. MRI is an accurate test and sometimes helpful, but an unnecessary test in most cases. Xrays are often obtained to look for any bony detachment at the heel where the tendon inserts. This finding may alter the surgical procedure used.

An Achilles tendon rupture can be treated in many ways. It is important to note that the tendon will usually re-connect using the body's own healing potential. The goal of any

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treatment is to restore the length of the tendon. Without an operation, treatment is usually in a cast with the toes pointed downward, to bring the tendon edges together.

With non-operative treatment, a plaster is used and no walking is allowed on the foot for six weeks. Once the plaster is removed, walking is allowed and gradual stretching of the tendon, with restoration of full activity in six to nine months.

A recent study reviewed all of the literature on treatment of Achilles tendon ruptures. Evidence has shown that successful treatment can be obtained with both nonoperative or operative treatment. While surgery involves extra surgical risks, the repair is more predictable, and allows for earlier walking and restoration of function. The study found that early walking after surgery allowed for a quicker return to function and sport activities. In addition, re-rupture rates have been lower with operative treatment (5%) compared with non-operative treatment (20%).

For reasons above, I manage Achilles ruptures with surgical repair if the patient's health allows for a relatively low risk of surgery. An operation requires an open incision and a general anaesthetic. The surgery takes about ninety minutes. Patients may go home the same day, or remain overnight. Plaster is used and no walking on the foot for two weeks. Afterward, a special boot is used to immobilize the leg and weight bearing on the foot is allowed at two weeks.

In addition to general risks of surgery, a few risks are more common with Achilles ruptures and are worth mentioning. Infection and wound problems can be difficult to manage as the tendon lies just under the skin. Aseptic technique and antibiotics are crucial to minimize the risk of infection. A plaster slab for two weeks allows the wound time to rest and heal. Blood clots can occur in the deep veins and is more common after an Achilles rupture. I prescribe a blood thinner that is a daily injection after the surgery to help reduce the risk of deep vein thrombosis.

The goal of surgery is to restore the tension of the Achilles tendon and muscle so that the ultimate function of the Achilles tendon is restored. With proper rehabilitation, return to sports is allowed at six months, and full restoration of function can be expected with a 90% success rate.

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