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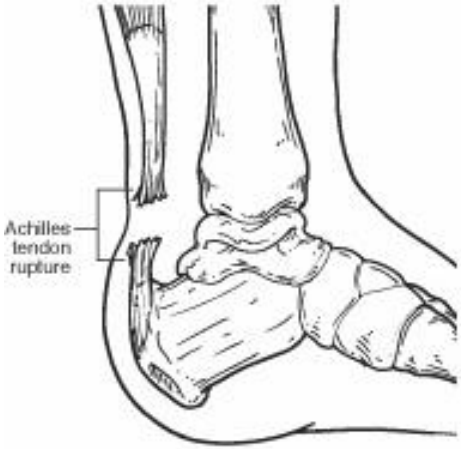
Achilles Ruptures

The Achilles tendon is the largest tendon in the body. It allows us the strength to push off with up to ten times body weight in force. Unfortunately, at these extremes, sometimes the tendon ruptures. The Achilles tendon very rarely partially ruptures. Patients complain of a popping sensation, like they were hit in the back of the heel with significant force. These can often be misdiagnosed as ankle sprains and delays in treatment are unfortunate but common.



Risk factors

These injuries commonly occur in the male "weekend warrior" such as 20–40-year-olds who play intense sports like tennis or basketball without daily stretching or training. Other risk factors include:

- High arch
- Obesity
- Diabetes
- Rheumatoid Arthritis
- Lack of Stretching
- Anabolic Steroid Usage
- Certain Antibiotics such as Ciprofloxacin and Levaquin.

Often, the Achilles is mildly painful, or the calf is tight leading up to the injury.

Diagnosis

An Achilles rupture is usually obvious to a trained specialist based on history and physical examination alone. X-rays are still obtained to rule out any fracture. An MRI is often performed to assess the quality of the tendon and the amount of retraction.

Treatment

Immobilization and rest are the first steps. Occasionally, an Achilles rupture treated within 24-48 hours can be treated nonoperatively. This requires a cast with the toes pointed downwards to allow the tendon ends to heal. However, this treatment results in about a 10% re-rupture rate and must be monitored with MRI.

More commonly, there is hematoma (pooled blood) and scar build-up at the site of the rupture that does not allow for nonoperative treatment. In these cases, and for patients who want to minimize the risk of re-rupture and a much more extensive surgery, a surgical repair is indicated. In this surgery, the ends of the tendon are held together with strong suture and the foot is immobilized in a cast and weight-bearing is not allowed until the tendon has healed adequately to be strong enough to bear weight. This usually means six weeks in a cast with the toes pointed downwards followed by 3-6 weeks in a boot, gradually working the foot to neutral. For optimal results surgery is performed within 7-10 days of the injury, but it can still be performed up to

6 weeks out. Beyond that point, a more complex reconstructive surgery may be necessary.

Specifics regarding pre- and post-operative protocol will be discussed in more detail if that is the appropriate option for you.

Ice and Anti-Inflammatories

To help to decrease the pain before and after surgery ice and NSAIDs may be used. Ice should be placed with a tea towel protecting the skin for no more than 20 minutes per hour. Ice is NOT advised in patients with neuropathy or any numbness in the feet. Speak to your doctor if there is concern for contraindications to anti-inflammatories such as naproxen or ibuprofen.

Physical Therapy

After the tendon has been repaired physical therapy is crucial to strengthen the muscles that have become weak and to improve balance after immobilization is complete. This will help to accelerate recovery once the tendon has healed. Running is not permitted until six months after repair whether in a cast or in surgery.

Maximizing Healing Potential

A healthy diet, abstinence from any nicotine products, and appropriate vitamin supplementation are critical to supply the tendon with the nutrients and oxygen it needs to heal. If you are interested in an anti-inflammatory diet, please request this information from Dr. Dixon's assistant.

Return to Play

To prevent further injury or reinjury, it is best to wait until your balance and strength have been regained and improved. This requires specific balance training as well as core strengthening. Your physical therapist and physician will be able to tell you when it is safe for you to return to sports.

Treatment Summary

1. Immobilization After Injury
2. Surgery
3. Ice and NSAIDs
4. Physical Therapy

References

https://www.footcaremd.org/conditions-treatments/ankle/achilles-tendon-tear

https://www.hopkinsmedicine.org/orthopaedic-surgery/specialty-areas/sports-medicine/conditions-we-treat/achilles-tendon-rupture.html

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