

Nonsurgical and surgical treatments provide successful outcomes for an Achilles tear

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A new literature review published in the *Journal of the American Academy of Orthopaedic Surgeons* (JAAOS) found successful outcomes for an Achilles tendon tear with either minimally invasive surgery or nonsurgical bracing with a removable boot, especially in recreational athletes. The use of platelet rich plasma (PRP), the injection of plasma-enriched platelets at the injury site, was not deemed an effective treatment.

A tear (rupture) of the Achilles tendon—the largest tendon in the body that connects the calf muscles to the heel bone—is among the most common injuries, affecting approximately 30,000 Americans each year, primarily recreational athletes age 30 to 49.

Earlier studies found a higher rate of re-injury, as well as a greater risk for related wounds and infection, with nonsurgical casting following an Achilles tear. Today, nonsurgical treatment options include [functional rehabilitation](#)—the use of an adjustable, removable boot that allows for movement and exercise—providing a lower risk for infection and re-rupture than immobilization with a hard cast. Surgical repair of an Achilles tendon tear, which also has evolved to minimize the risk of complication and infection, may still be optimal for high-performance athletes, or patients in physically-demanding professions.

Among the research findings highlighted in the review:

- Re-injury rates with functional rehabilitation were lower than previously reported; recent research found no difference in re-rupture rates between functional rehabilitation and minimally invasive surgical repair (a small incision with minimal disruption of the surrounding soft tissue).
- There were no significant long-term differences in ankle range of motion, strength, calf circumference, or functional outcome scores between patients undergoing functional rehabilitation and those with surgical treatment.
- Functional rehabilitation resulted in faster return to mobility and work compared with casting for eight weeks.
- Surgical treatment (full, open or minimally invasive) was associated with return to work up to 19 days earlier than nonsurgical treatment; however, specific criteria for returning to work were not defined in the research parameters and likely varied among the studies.
- Patients undergoing surgery had a small, yet statistically significant increase in plantar flexion (flexing of the ankle when pointing the foot and toes) strength at one and two years after surgical repair, which may be advantageous for high-performance athletes.

"The treatment of acute Achilles tendon ruptures has evolved over the last decade demonstrating improved outcomes with functional rehabilitation compared to prolonged cast immobilization," said Anish Kadakia, MD, associate professor of orthopaedic surgery at Northwestern University-Feinberg School of Medicine, and lead author of the article. "Given the high demands of the athlete, minimally invasive surgical treatment should be considered over non-operative management as it minimizes the soft tissue complications while maximizing the power and strength of the patient."

Finally, there is no existing research to support the use of platelet-rich

plasma injections for Achilles tendon tears, as studies, to date, found no improvement in functional outcomes with use. However, the use of bone marrow-derived stem cells has shown promising results in animal studies.

Provided by American Academy of Orthopaedic Surgeons

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