

## Achilles tendon rupture: What are the advantages and disadvantages of surgery?



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The Achilles tendon joins the two large calf muscles to the back of the heel. It is the strongest tendon in the body, but it can also tear (rupture). Usually this happens while playing sports, and it is men between the ages of 30 and 40 who more often have this injury. But it can also happen when someone falls off a ladder or while climbing stairs, for example.

There are then basically two options for treatment: conservative treatment or surgery. Conservative treatment involves putting the lower leg and foot in a plaster cast or a brace to keep it still for several weeks until the tear can heal on its own. The foot is positioned with the toes pointing downward to allow the ends of the tendon to reconnect. As the ends of the tendon grow back together, the foot can gradually be brought back to its normal position.

The second option is surgery, where the two ends of the torn tendon are sewn back together. There are essentially two ways of doing this. Open surgery involves making a large cut (incision) through the skin for the operation. A minimally invasive type of surgery is done through much smaller incisions in the skin with special instruments. There are a number of different techniques for stitching the ends of the tendon. The leg needs to be immobilized for several weeks after surgery as well.

But what are the advantages and disadvantages that surgery has compared to conservative treatment? And how do the different surgical procedures compare? Researchers from the Cochrane Collaboration, an international network of researchers, examined these issues by looking for trials that compared surgical procedures with conservative treatment or with one another. The researchers found a total of 12 trials involving about 850 participants.

## **Conservative or surgical: What the trials have to say**

Most trials studied how conservative and surgical treatments compared. The Achilles tendon was either operated on and then immobilized, or the leg with the torn Achilles tendon was put in a plaster cast or a brace without surgery.

The trials showed that an operation offered better prospects for a stable Achilles tendon. Here are the results in numbers:

- In 12 out of 100 people who had conservative treatment, the tendon tore again after the operation.
- In 5 out of 100 people who had an operation, the tendon tore again after the operation.

This means that surgery led to an extra 7 out of 100 people being spared a new tendon rupture.

However, surgery also has disadvantages compared with conservative treatment. Complications like wound infections, adhesions or numbness or tingling close to the surgery scar were more common. Out of every 100 people who had surgery, 29 had these kinds of complications. The frequency of complications for conservative treatment was 8 out of 100.

It is possible that minimally-invasive surgery might have a lower risk of wound infections, but research in this area is limited. There has not yet been any research done on whether minimally-invasive surgery has disadvantages when compared with open surgery. The researchers found no indications of surgery results depending on particular stitching techniques, but there was also very little research on this either.

The trials showed no clear advantages or disadvantages for either treatment as regards how quickly participants could go back to work after surgery or start up with sports again.

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**Glossary**

## Cochrane Collaboration

The Cochrane Collaboration is an international network of thousands of researchers and others. They work together in teams called Cochrane Review Groups to answer questions about health care by doing systematic reviews of evidence. To achieve this, the members of the Collaboration have developed systems and methods for systematically finding and analysing the results of trials of health care interventions. The goal of the Cochrane Collaboration is to help patients, health care practitioners and others make more informed decisions about health care. You can read more about the Cochrane Collaboration at their website.

## Sources

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Khan RJK, Carey Smith RL. Surgical interventions for treating acute Achilles tendon ruptures. *Cochrane Database of Systematic Reviews* Version 2010, Issue 9. CD003674 [PubMed summary (URL: <http://www.ncbi.nlm.nih.gov/pubmed/20824836> ) ]

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