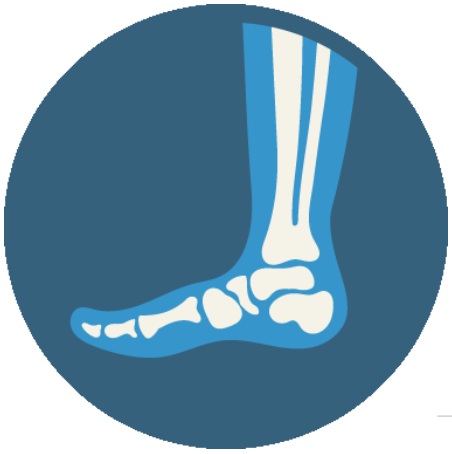
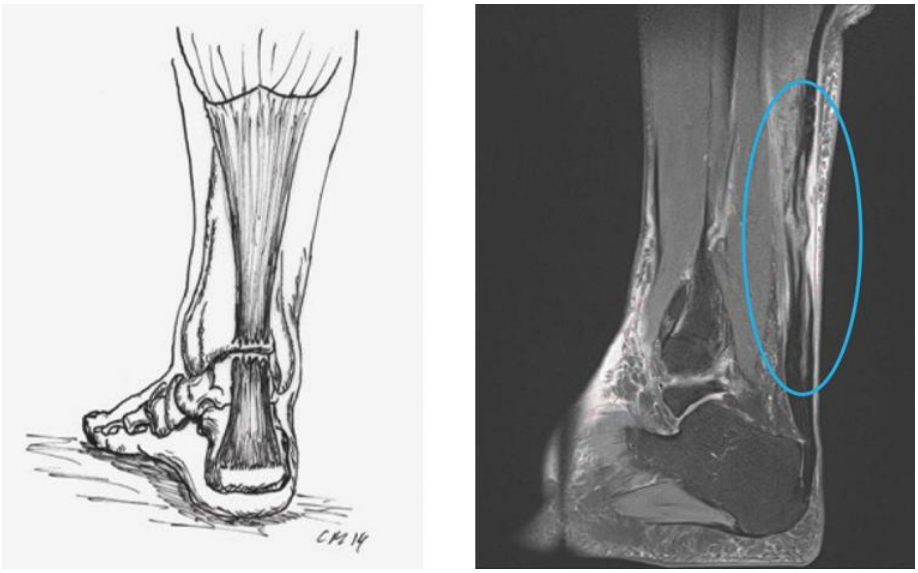
LEONARDO Ärzte für Orthopädie und Traumatologie



ACHILLES TENDON RUPTURE

DEFINITION

The rupture of the Achilles tendon is usually the result of an acute injury and is a common sports injury. However, there is often a degenerative change beforehand that reduces the resilience of the tendon, e.g. in diabetics or after cortisone injections into the tendon. Patients report a whiplash-like sound, which is occasionally even heard by accompanying persons. Patients are often convinced that they have received a violent blow from someone. The typical rupture site is 2 to 6 cm above the heel bone, where the tendon has the poorest blood supply, making it particularly vulnerable to injury (Fig. 1).



1 Achilles tendon rupture (left) and

MRI of a previously damaged tendon with a tear at the musculotendinous junction (right)

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SYMPTOMS

In the area of the tear, a bruise/hematoma and swelling quickly form. Occasionally, a dent is palpable. After the tear, the foot can usually hardly be moved downwards or only with severe pain in the heel and/or calf. Walking is typically very difficult, often resulting in a pronounced limp.

EXAMINATION

The diagnosis is usually made through patient history and clinical examination. In some cases, additional imaging may be required. MRI (see Fig. 1 right) or ultrasound scans can determine the extent and exact location of the injury.

TREATMENT

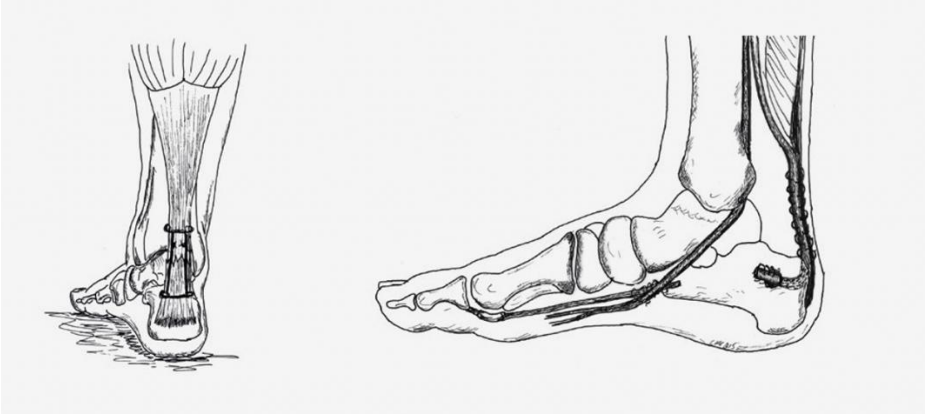
A) NON-SURGICAL

Not all Achilles tendon ruptures require surgery. In certain cases, if the tendon ends are well-aligned and maintain good tension, the tendon can heal with immobilization using a Vacoped boot (Fig. 4) or a cast with a wedge. This approach is particularly considered when surgical risks are high. However, the risk of re-rupture or poor tendon tension appears to be greater compared to surgical treatment. Therefore, surgery is generally recommended.

B) SURGICAL

To restore the correct length and function of the tendon, we prefer surgical reconstruction. In this process, the tendon stumps are brought back together and sewn together using special suturing techniques (Fig. 2 left). If the tear has occurred due to extensive degeneration, the defect of the tendon must be bridged with a tendon extension above the tear or even with a so-called tendon transfer (reinforcement with an additional tendon, Fig. 2 right), depending on the situation. Various surgical techniques are used here. The follow-up treatment must also be individually tailored in each case. Regardless of the approach, immobilization with a Vacoped boot (Fig. 3) or a cast for several weeks is always required.

IMPORTANT: Rehabilitation after Achilles tendon surgery is lengthy, it can take up to 2 years!



2 Suture of the tendon (left) and tendon transfer (right)

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RISKS AND COMPLICATIONS

All surgeries carry certain risks. Complications may arise during or after surgery, potentially delaying healing or requiring further intervention. These may include:

- Wound healing issues
- Infections
- Vascular injuries, postoperative bleeding, bruising/hematoma, blood loss
- Nerve damage
- Thrombosis, pulmonary embolism
- Loss of tendon tension with strength deficit or re-rupture
- CRPS (Complex Regional Pain Syndrome)
- Residual discomfort

FOLLOW-UP TREATMENT

Surgery is only one part of the treatment. Proper post-operative care is crucial for a successful recovery. Upon discharge, patients receive detailed rehabilitation guidelines for themselves and their physiotherapist.

Functional rehabilitation begins the day after surgery. A night splint is required for six weeks in a pointed-foot position. Patients should avoid standing on the foot initially but can mobilize using a special boot (Vacoped, Fig. 3). Over six weeks, the foot position is gradually adjusted from a 30-degree pointed-foot position to normal.

Initially, only partial weight-bearing is allowed. Weight-bearing is then slowly increased with full weight-bearing possible after six weeks, followed by weaning off the Vacoped boot. For up to three months post-surgery, no excessive tension should be placed on the tendon, meaning no stretching or excessive ankle movement beyond a right angle.

3 Vacoped with change of position from pointed foot to normal position

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DRESSING AND WOUND CARE

Patients are instructed on proper wound care during hospitalization. Until the wound is completely dry, dressings should be changed daily, and no ointments or powders should be applied until the stitches are removed. Disinfection is not necessary. Always remove the entire dressing when changing. The new dressing must be dry and must not slip.

Once dry, a simple adhesive plaster is sufficient. An elastic bandage can protect and cushion the operated area somewhat. This also reduces the swelling that still exists. If there are concerns about wound healing, you should contact your family doctor or us directly.

Stitches are usually removed about two weeks after surgery. This is usually done by the family doctor.

SWELLING AND PAIN MANAGEMENT

Swelling can persist for weeks, sometimes up to twelve months. Elevating the leg is the most effective way to reduce swelling. This is especially important in the first 2-3 weeks after surgery.

Short periods of getting up and moving around several times a day (walking, less standing) are recommended. If swelling and pain occur, the leg should be elevated.

However, despite these measures, pain in the operated Achilles tendon can occur in the first days and weeks after the operation. Painkillers prescribed by us or the family doctor can be taken if necessary.

WEIGHT-BEARING

In the first 2 weeks and until the wound is healed, partial weight-bearing is recommended. Then weight-bearing depends on the type of surgery. A Vacoped boot (Fig. 3) or cast must be worn for the first six weeks. Initially, patients should minimize standing to avoid excessive swelling and bleeding.

Partial Weight-Bearing

Partial weight-bearing allows the foot to bear about 15-25 kg, roughly the weight of the leg itself, and requires the use of crutches at all times. Physiotherapists provide training to ensure proper crutch use, including stair navigation.

Full Weight-Bearing

Full weight-bearing is allowed once the rehabilitation plan permits and pain levels allow. Crutches should still be used initially for stability.

PERSONAL HYGIENE

While stitches are still in place, typically for the first two weeks, the foot should be covered with a plastic bag when showering. Once stitches are removed and the wound is dry and closed, exposure to water is permitted.

THROMBOSIS PROPHYLAXIS

Thrombosis prevention begins during hospitalization and depending on the surgery generally must be continued at home. In most cases, Fragmin 5000 IU injections are used once daily.

Patients receive instructions on self-administration. If self-injection is difficult, oral medication such as Rivaroxaban may be an alternative after suture removal and consulting your family doctor. Depending on individual risks, prevention continues at least until full weight-bearing without a cast or boot is possible, which typically takes six to eight weeks.

WORK ABILITY

Rest is essential in the first two weeks post-surgery. The duration of work incapacity depends on the type of surgery and physical job demands. A temporary lighter-duty work arrangement may allow earlier return. The initial sick leave is an estimate, and extensions can be arranged if needed. Therefore, please contact your family doctor or us. If recovery progresses well, patients may return to work earlier.

DRIVING, TRANSPORTATION

Resumption of driving depends on the surgery type, affected foot, and vehicle transmission type. Driving is not allowed while weight-bearing is restricted or while using crutches or a Vacoped boot/cast, except for left-foot surgery with an automatic car. If in doubt, patients are advised to avoid driving.

FOLLOW-UP

A follow-up with the surgeon occurs six to eight weeks after surgery. At this stage, patients usually transition out of the Vacoped boot or cast and reduce crutch use. Continued physiotherapy is crucial. Most daily activities can resume after about three months. Return to sports should be gradual to prevent overuse injuries after the sports break. Sport-specific timelines should be discussed with your physiotherapist or doctor.

For the hand-drawn illustrations, we would like to thank Dr. med. Claude Müller.

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