

# Achilles tendon ruptures operated on under local anesthesia

## Retrospective study of 81 nonhospitalized patients

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**During a 6-year period, 97 patients with an acute rupture of the Achilles tendon were operated on under local anesthesia as outpatients. At follow-up, 5/81 patients had some discomfort. A rerupture occurred in 3 patients shortly after commencing weight bearing and after substantial traumas. We conclude that there is no need to hospitalize patients with an Achilles tendon rupture.**

Operative treatment of a fresh rupture of the Achilles tendon is often performed under general anesthesia with the patient hospitalized. Different methods of operation under local anesthesia have been described (Henry 1944, Ma and Griffith 1977, Cetti et al. 1981). To simplify treatment and minimize costs, a surgical outpatient treatment was introduced at Sorø Orthopedic Hospital (Denmark) in 1982 (Sejberg and Dalsgaard 1986). That the outpatient treatment was safe was confirmed by Andersen and Hvass (1986), who used a similar method.

In this paper, we present 97 patients with a ruptured Achilles tendon who were treated surgically as outpatients during a 6-year period.

### Patients and methods

From 1982 to 1988, 97 consecutive patients (76 men and 21 women, mean age 39 [20-71] years) with a subcutaneous rupture of the Achilles tendon were

operated on as outpatients at Sorø Orthopedic Hospital. Most of the ruptures had occurred in sports, notably badminton and handball.

The patients were operated on according to Cetti et al. (1981) within 6 hours under local anesthesia with adrenalin. A tourniquet was not used. Through a longitudinal incision, the tendon was sutured end to end with silk No. 1 ad modum Bunnell. A below-the-knee plaster splint was applied, and the patients were discharged with crutches and instructions to keep the leg elevated.

The sutures were removed after 1 week, and a circular plaster cast was applied. Six weeks post-operatively, the cast was removed, and the ankle joint was exercised for 2 weeks. Weight bearing was allowed after 2 months, gradually increasing to full weight bearing after 3 months. There were no wound infections, and all the wounds healed without complications. There were no deep vein thromboses.

In all, 81 patients were reexamined after 28 (7-61) months. Eight patients had moved too far away, 6 patients did not want to participate, 1 patient was ill, and 1 had died. The patients were asked whether they had any discomfort walking and about participation in sports before and after their rupture. The following were examined: dorsiflexion and plantar flexion of the ankle joint, ability to stand on the toes, the circumference of the calf, the length of the scar, scar adherence, and walking. Where a comparison was possible, the nonoperated on side was used as a control.

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## Results

Of the 81 reinvestigated patients, 10 did not participate in sports activities before and 31 at the follow-up. There were three reruptures, which occurred 2 months postoperatively. One patient slipped and put full weight on the forefoot. The second patient stumbled. They were both reoperated on with the same method, and they healed uneventfully. The third patient stumbled over a doorstep so violently that also the skin over the Achilles tendon burst. Because plantar flexion was possible, she was treated with a below-the-knee plaster cast for 5 weeks, and then had no further problems. At follow-up, the 3 patients with reruptures walked normally and without pain. All 3 had a 5° decrease in dorsiflexion of the ankle and normal plantar flexion. All of them had started with sports again, 2 at the same level as before the rupture, and 1 had changed from badminton to tennis and running.

At follow-up, 79 patients were able to walk normally, whereas 2 walked with a slight limp. Only 5 had some discomfort walking on uneven ground or climbing stairs. Weakness of the calf muscles was described by 16 patients. An adherent scar was found in 14 patients. The mean atrophy of the calf was 1.5 (0-4) cm. Only 1 patient was not able to stand on his toes.

Plantar flexion of the ankle was normal in 63 patients. In 14 patients, it was decreased 1°-5°; in 3, 5°-10°; and in 1, 11°-15°. Dorsiflexion was normal in 62 patients, and the rest of them had a decrease of 1°-5°.

## Discussion

Surgical treatment of an Achilles tendon rupture is preferred by many because the normal length of the

tendon is restored, the incidence of reruptures is lower than with nonsurgical treatment (Inglis et al. 1976, Nistor 1981, Wills et al. 1986), and with modern surgical technique the complications are few and mostly of minor significance (Wills et al. 1986).

Compared with customary surgical in-hospital treatment, we believe that the described method is an advantage: the results are equally good (Adam 1989, Inglis et al. 1976, Nistor 1981) and the patient avoids costly hospitalization.

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