

Functional Rehabilitation For Nonoperative Treatment of Acute Achilles Tendon Rupture

General Treatment Guidelines

- Weightbearing in the boot is progressed as tolerated starting at 2 weeks.
- The boot should be worn as instructed for 8 weeks.

Time Frame After Injury

0-2 weeks

- Plaster splint with ankle plantar flexed to approximately 20 degrees; non-weightbearing with crutches.

2-4 weeks

- Splint is removed in Dr. Dekker's office and the patient is transitioned to a walking boot with 2 heel lifts to maintain 20° of ankle plantarflexion.
- Weightbearing in the boot with 2 heel lifts is progressed as tolerated with assistance of crutches or a walker.
 - Begin with 50% weight for weeks 2-3, 75% weight for weeks 3-4, and full weight bearing by week 4.
- Active plantar and dorsiflexion range of motion exercises to ankle neutral, inversion/eversion below neutral.
- Modalities to control swelling (US, IFC with ice, Acupuncture, Light/Laser therapy).
- EMS to calf musculature with seated heel raises when tolerable.
- Knee/hip exercises with no ankle involvement (e.g. leg lifts from sitting, prone or side-lying position).
- Non-weightbearing fitness/cardio work (e.g. biking with one leg, deep water running - usually not started until 3-4 week point).
- Hydrotherapy (within motion and weightbearing precautions).
- Emphasize to patient the importance of using pain as guideline - If in pain, back off activities and weightbearing.

4-6 weeks

- Full weightbearing in the boot with 2 heel lifts.
- Wean from crutches as tolerated.
- Continue with physiotherapy 2-3 times per week.
- Continue 2-4 week exercises.
- Progress EMS to calf with lying calf raises on shuttle with no resistance as tolerated around week 5-6. **Please ensure that ankle does not go past neutral while doing exercises.**
- Emphasize to patient to do non-weightbearing cardio activities as tolerated.

6-8 weeks

- Remove both heel lifts over 2-3 days.
- **Do not go past neutral ankle position with weighted resisted exercises.**
- Active assisted dorsiflexion stretching, slow initially with a belt or towel in sitting position.
- Continue EMS on calf with strengthening exercises. **Do not go past neutral ankle position.**
- Graduated resistance exercises (open and closed kinetic chain, as well as functional activities) – start with Theraband exercises
- Gait retraining now that 100% weight bearing.
- Fitness/cardio to include weightbearing as tolerated (e.g. biking).
- Continue with modalities for swelling as needed.

8-12 weeks

**** Ensure patient understands that the healing tendon is still very vulnerable and he/she need to be diligent with ADLs and exercises. Any sudden loading of the Achilles tendon (e.g. trip, fall or step up stairs, etc.) may result in a re-rupture****

- Wean from boot into a comfortable tennis shoe full time (usually over 2-5 days).
- Continue physiotherapy 1-2 times a week depending on patient independence and access to exercise equipment.
- Continue to progress range of motion, strength and proprioception exercises.
- Add exercises such as stationary bicycle, elliptical, walking on treadmill as patient tolerates.
- Add wobble board activities – progress from seated to supported standing to standing.
- Add calf stretches in standing.
- Add double heel raises and progress to single heel raises when tolerated. **Do not allow ankle to go past neutral position.**

12-16 weeks

- Continue to progress range of motion, strength, and proprioception exercises
- Retrain strength, power and endurance.

16 weeks

- Increase dynamic weightbearing exercise, include plyometrics and sport specific training.

6 months

- Return to normal sporting activities.

Adapted from: Willits K, Amendola A, Bryant D, Mohtadi NG, Giffin JR, Fowler P, Kean CO, Kirkley A, Operative versus nonoperative treatment of acute Achilles tendon ruptures: a multicenter randomized trial using accelerated functional rehabilitation. J Bone Joint Surg Am. 2010 Dec 1;92(17):2767-75. Epub 2010 Oct 29.