

Physiotherapy Management Guidelines for Rehab of Ruptured Achilles Tendon

Aims of rehabilitation

- To allow the tendon to heal, reducing pain swelling and inflammation.
- To restore the tendon and muscles to their original flexibility and strength.
- To gradually return to normal activity and training levels.

There are two methods of treatment - surgery, and conservative. The speed at which a patient can progress with the rehabilitation will vary. Time frames should be considered approximate according to actual progression based upon clinical presentation. *If it is an Achilles reconstruction for late presentation of a rupture; although the principles are the same, be prepared that rehab will be slower.*

It will be a slow and gradual process and any attempt to rush it may result in re-rupture of the tendon.

This can be applied to both conservative and surgical repair of the Achilles tendon.

- Avoid forceful active + passive ROM for 10-12 weeks
- No running, jumping, ballistic activities for approx 6 months

At 6 weeks the scar is undergoing remodelling and vascularisation, patients should start Physiotherapy to avoid tendon contracture.

Outpatient physiotherapy guidelines

6-9 Weeks

Initial Physio appointment, the main aim is to ensure patient is achieving neutral / plantar grade.

Patient still in Vacoped boot until 9 weeks. Mobilise with crutches WBAT

Advice re skin care – daily moisture

Advice re not allowed to mobilise without crutches until they reach plantar grade as a minimum.

Relative rest, ice and elevation

Active ROM to be done hourly in the boot as this aids tendon repair. For the first week this should be done with the knee flexed over a pillow.

Massage to Achilles and calf – twice daily (teach pt/relative)

Seated calf stretch in boot

9-12 weeks

Warn patient that most re-ruptures occur in this phase

The patient should come out of the Vacoped boot at 9/52 and will be issued with Sorbothane heel pads.

Advise patients to avoid extreme dorsiflexion of the ankle combined with active plantar flexion

Advise the patient they will not return to sports which involve running until 6-8 months post injury.

Daily moisturising of skin and control of swelling as needed

- ROM exercises of the ankle and foot with the knee extended
- Gastrocnemius and soleus muscle length
- When plantar grade has been achieved, wean off crutches
- When plus 5 degrees has been achieved wean off heel pads
- Begin ankle Theraband exercises in all directions – three times a day, aim for 20 reps
- Wean in to regular shoe over 2-4 week period
- Gait re-education, encouraging heel strike and toe off
- Seated calf raise – three times a day, aim for 20 reps. Great care must be taken when commencing a strengthening program. There is a fine line between strengthening the tendon and re-injuring it. You can start strengthening exercises as soon as they can be tolerated. It may be a full month after the boot comes off before exercises can begin.
- Proprioception exercises should also be introduced as the sense of balance and positioning is often decreased after tendon or ligament ruptures' and if not re-gained, can lead to future injuries.
- Can use static bike and can go swimming provided scars are well healed and patient is safe to get into pool.
- Remember to apply cold therapy or ice after exercise; this will help keep inflammation down.
- Avoid explosive or ballistic movements or this may lead to a re-rupture.
- Hydrotherapy is particularly useful in this phase
- Gentle plyometric exercises
- If post surgical, take care of the scar, any break down of the scar, refer back to the clinic ASAP

3-6 months

Continue with soft tissue work and control of swelling as needed. Wean off heel pads (if not already)

- Standing calf stretches – three times a day, hold for 30 to 60 seconds, 2-3 repetitions

- Check FHL not tethered in scar tissue (close proximity)
- Start standing bilateral heel rises – three times a day, aim for 20 reps building towards single leg heel raise
- Closed chain exercises – controlled squats; lunges, rowing, Nordic Track
- Plyometrics – progress e.g. 2 foot jumps (bunny hops), jogging on trampet, PWB jogging (leaning on a table)

6 months

Progress training, jogging, running and jumping. Unless excessive fibrosis present they can be discharged with a home exercise programme.

- Introduce more dynamic balance/proprioception exercises
- Progress to eccentric lowering, if not already doing so
- Progress proprioceptive exercise as appropriate
- Progress to single heel raise if not already doing so
- Introduce sport specific exercise e.g. lunges for tennis. Start small initially and build up as tolerate
- Once able to do 10 single heel raise start to introduce gentle jog
- Start to return to sports

Return to fitness

When the athlete has gone at least a week without pain then they may begin to return to training.

If they feel pain when returning to training, then stop. Begin each training session with a walk to warm up followed by stretching.

Day 1: walk 4 minutes jog 2 minutes repeat four times

Day 2: rest

Day 3: walk 4 minutes jog 3 minutes repeat three times

Day 4: rest

Day 5: walk 3 minutes jog 4 minutes repeat 4 times

Day 6: rest

Day 7: walk 2 minutes jog 6 minutes repeat 4 times

Continue this gradual progression until they can confidently run and resume normal training.

The patient can return to competitive sports once they can:-

1 - Single leg heel raise

2 - Sprint with the toe off phase of gait

3 - Horizontal single leg hop X 3 is at least $\frac{3}{4}$ of good leg

4 - Vertical hop is at least 75% of good leg

8-9 months

Return to physically demanding sport

Warn them that the calf is likely to be slightly weaker than previously. Also it can take a full 12 months to fully recover.

How long until I am back to full fitness?

Most athletes can expect to be out of competition for 6 to 9 months after surgery.

This is increased to 12 months if the rupture was a delayed presentation or immobilized in plaster.