



Achilles Tendon Repair: Accelerated PT Rehabilitation Protocol

Week 0-2: First post-operative visit at 1 week for wound check and second at week 3 for suture removal

Treatment: Walker brace with 3 heel pads, weight-bearing through the heel as tolerated, use of 2 crutches. Referral to orthopedic technician for shoe heel-lift (use shoe with heel-lift on the healthy side). Wearing the walker brace while sleeping for 6 weeks.

Exercise program: home exercises daily wearing the walker brace

- Isometric submaximal plantar flexion (5x5 sec, once per hour)
 - Toe exercises, flexion-extension (3x20 repetitions, once per hour)
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After 2 weeks:

Treatment: Walker brace with 2 heel pads (take off the upper pad), full weight-bearing, use of 2 crutches if needed. Allowed to take off the walker brace for washing and aerating the foot. When the walker brace is removed, no weight-bearing or dorsal extension of the foot is allowed.

Exercise program: home exercises daily as described above (increase the intensity)

Visit to physical therapist 2 times per week:

- Exercise bike wearing the walker brace
 - Active range of motion (ROM) up to 15° plantar flexion without walker brace (the angle based on the heel-height)
 - Active plantar flexion with lowest resistance rubber-band (ROM as above)
 - Sitting heel-rise – no weight-bearing (starting position from the heel-height)
 - Gait training and balance exercises with the walker brace without crutches.
 - Squats (fitness ball behind the back)
 - Other knee/hip-exercises with no ankle involvement
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After 4 weeks:

Treatment: Walker brace with 1 heel pad (take off the upper pad), full weight-bearing

Exercise program: home exercises daily as described above (increase the intensity)

Visit to physical therapist 2 times per week:

- Exercise bike wearing the walker brace
 - Active range of motion (ROM) up to 10° plantar flexion without walker brace
 - Active plantar flexion with green rubber-band (ROM as above)
 - Sitting heel-rise – with light weight (starting position from the heel-height)
 - Supination- and pronation-exercises with rubber-band
 - Gait training and balance exercises with the walker brace
 - Squats (fitness ball behind the back)
 - Other knee/hip-exercises with no ankle involvement
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After 5 weeks:

Treatment: Walker brace without heel pad, full weight-bearing

Exercise program: home exercises daily as described above (increase the intensity)

Visit to physical therapist 2 times per week:

- Exercise bike wearing the walker brace
 - Active range of motion (ROM) up to 0° plantar flexion without walker brace
 - Active plantar flexion in a cable machine (ROM as above)
 - Sitting heel-rise – with weight
 - Supination- and pronation–exercises in a cable machine
 - Gait training and balance exercises with the walker brace
 - Squats (fitness ball behind the back)
 - Other knee/hip-exercises with no ankle involvement
 - Leg press
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After 6 weeks: 3rd Post-operative visit.

Treatment: Wean off walker brace. Use of shoes with heel-lift (bilateral) for 4 weeks, compression stocking to prevent swelling.

Exercise program: *Important that all exercises are performed slowly and carefully*

Home exercises: Active ankle exercises for ROM, ankle exercises (DE, PF, Sup, Pron) with rubber-band, balance exercises, sitting heel-rise, standing heel-rise (50% weight-bearing or less on the injured side), gait training.

Visit to physical therapist 2 times per week:

- Exercise bike
 - Active range of motion (ROM)
 - Sitting heel-rise – with weight (starting position from the shoe heel-height)
 - Standing heel-rise on two legs
 - Active plantar flexion in a cable machine (max 0° plantar flexion)
 - Heel-rise in leg press (max 0° plantar flexion)
 - Supination- and pronation – exercises in a cable machine
 - Gait training
 - Balance exercises
 - Squats
 - Step (walk slowly)
 - Other knee/hip-exercises with no ankle involvement
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After 8 weeks:

Treatment: Use of shoes with heel-lift until 10 weeks after surgery, compression stocking to prevent swelling.

Exercise program: *Important that all exercises are performed slowly and carefully*

Home exercises: As described above and walking 20 min per day

Visit to physical therapist 2 times per week:

- As described above, increase the intensity
- Sitting heel-rise – with weight (increase the load)
- Standing heel-rise on two legs - transcend gradually to one leg
- Active plantar flexion, supination and pronation in a cable machine



- Heel-rise in leg press
 - Cable machine standing leg lifts
 - Balance exercises (wobble-board, balance pods - weight bearing in the middle of the foot)
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After 12 weeks: 4th post-operative visit

Treatment: Use of regular shoes after 10 weeks, barefoot after 12 weeks, compression stocking to prevent swelling.

Exercise program: *Important to gradually increase the load considering the patient's status*

Home exercise: Walking 20 min per day

Visit to physical therapist 2 times per week:

- Intensify the exercises by increasing load (as before)
 - Increase the load gradually from two leg standing heel-rises to one leg standing heel-rises both concentrically and eccentrically
 - Quick rebounding heel-rises (start with two legs)
 - Start with gentle jog (thick mattress, in 8's, zig-zag)
 - Start with two-legged jumps and increase gradually
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After 14 weeks: Post-operative visit at 6 months

- Running outdoors, if the patient has a good technique as evaluated by the physical therapist.
- Return to sports earliest after 16 weeks (non-contact sports) and 20 weeks (contact sports)
- Possibility for the patient to be evaluated by the therapist and Dr. Mook before 6 months if readiness to return to sports is anticipated and clearance is needed.

The aforementioned protocol is a modification of the protocol developed by Olsson and colleagues.¹ It has been updated and modified to suit the needs of Dr. Mook's patients.

Reference:

1. Olsson N, Silbernagel KG, Eriksson BI, et al. Stable surgical repair with accelerated rehabilitation versus nonsurgical treatment for acute Achilles tendon ruptures: a randomized controlled study. *Am J Sports Med.* 2013;41(12):2867-2876.