

## Achilles Tendon Repair Dr. Souster

Pre-op:  
Gait training

Post-op:  
Week 2

\*Post-op splint is removed and removable boot is applied with heel lifts to maintain 20° plantarflexion.

Weight bearing is initiated and progressed as tolerated

Soft tissue/scar mobilization

ROM exercise: plantarflexion/dorsiflexion from 20° to full plantarflexion, 2 sets of 20 repetitions; circumduction (both directions), 2 sets of 10 repetitions.

Strengthening exercise: Isometric inversion/eversion, 2 sets of 10 repetitions with ankle at 20° of plantarflexion; toe curls with towel and weight; hamstring curls in prone with boot on for resistance, 2 sets of 10 repetitions.

Cryotherapy

Post-op:  
Week 3

Progress weight bearing to full weight as tolerated in boot with 2 heel lifts.

Soft tissue/scar mobilization

Begin stationary bike in boot with low resistance

Aqua therapy may begin without any weight bearing by using a flotation device. ROM, walking or running in the water are done to preserve fitness level.

ROM exercise: Continue as before, may progress to gentle stretch to neutral ankle position with use of strap or towel

Strengthening: Isometric inversion/eversion, dorsiflexion/plantarflexion two sets of 10 repetitions to progress to 2 sets of 20 reps over the course of week 3; begin light band resisted inversion, eversion, dorsiflexion and plantarflexion, 2 sets of 10 repetitions.

Prone knee flexion, 2 sets of 20 repetitions.

Cryotherap

Post-op  
Week 4 – 6

Weight bearing to full in boot brace with heel lift

- Take one lift out at week 5.

- Take the other lift out at week 6, therefore at 6 weeks you should be in the boot with no lifts.

Gentle cross fiber massage to Achilles tendon

Ultrasound, phonophoresis, electrical stimulation used to decrease inflammation and scar formation

Stationary bike up to 20 min. with minimal resistance and aqua therapy as outlined in week 3

Gentle stretching of Achilles tendon with towel or in standing (if limited to less than neutral position only). Stretch with knee extended and flexed to 40°.

Strengthening: Isometric exercise as on week 3; increase resistive band exercise for plantarflexion, dorsiflexion, inversion and eversion, 3 sets of 20 repetitions.

Hamstring curls to facilitate gastrocnemius muscle without flexing the ankle. May be done in prone or standing with light resistance, 3 sets of 20 repetitions.

Post-op:

Week 6 – 7

\*Patient progresses from boot to shoe with heel lift

Stationary bike without boot and with progressive resistance

Gentle stretching exercise to neutral ankle position

BTE PROM, isometric and isotonic exercise

Weight shifting and unilateral balance exercise seated on therapeutic ball

Closed chain, PWB strengthening of plantarflexors (neutral through full plantarflexion)

- seated heel raises
- total gym heel raises (low angle)
- hamstring curls with light resistance

Open chain strengthening of foot and ankle musculature-band (light to medium resistance)

Gait training with concentration on weight shifting heel to toe over involved foot and side to side weight shifting

Begin stair stepper with involved limb only

Aqua therapy (especially good for obese patients to initiate weight bearing activity and athletes to maintain conditioning): walking in water (waist deep or greater), standing heel raises (water at least waist deep or greater), flutter kick with kick board (with or without fins as tolerated), conditioning exercise

Soft tissue mobilization

Modalities to control edema and pain

Post-op:

Week 8 – 9



\*Patient is wearing shoe full time with heel lift  
Stationary bike – increased resistance and time  
Gentle stretching up to neutral ankle dorsiflexion if needed  
Gait training – step over progressively higher steps as able  
BTE isotonic and isometric exercise for plantarflexion strengthening (eccentric bias)  
Band resisted inversion and eversion in seated position with foot flat on the floor and band around ankle  
Band resisted dorsiflexion (open chain)  
Total gym with increased angle for heel raises and short arc squats. Begin unilateral eccentric plantarflexion exercise.  
Short arc squats in standing  
Hamstring curls (progressive resisted exercise- PRE)  
Progress to standing heel raises using uninvolved LE to assist involved LE.  
Progress to standing balance exercise in tandem and then single leg support  
- use perturbation to increase difficulty  
- close eyes  
Aqua therapy (obese patients may progress more slowly and refine ambulation quality in pool): walking in water, standing heel raises (water at least waist deep), flutter kick with kick board (with or without fins), plyometrics, conditioning exercise

Post-op:  
Week 10 – 12

\*Patient wearing shoe without lift  
Stationary bike (warm up and/or aerobic conditioning)  
Gentle stretching in standing past neutral  
BTE strengthening  
Standing balance exercise with / without eyes closed  
Perturbation:  
- BOSU ball  
- Airex pad  
- Band resist  
- Ball toss  
Squats with moderated resistance (limit ankle dorsiflexion)  
Hamstring curls with resistance  
Standing heel raises (two feet with progression to single limb for eccentric strengthening, then eccentric/concentric strengthening as able)  
Total gym single heel raise  
Resisted walking: free motion machine, pulleys, bands  
Elliptical trainer  
Aqua therapy (for obese patients to progress walking tolerance and endurance, heel raises and aerobic conditioning; for athletes to progress plyometrics and aerobic conditioning)

Post-op:

Stationary bike (warm up and/or aerobic conditioning)

Gentle stretching

Balance exercise with perturbation in single limb support unless WNL and equal bilaterally

Resisted bilateral heel rises with free motion, calf machine

Unilateral heel rises if able or eccentric unilateral heel rises.

Elliptical trainer

\*If patient is able to perform a single leg heel rise 10 times and has low pain rating may progress to:

Stair stepper

Plyometrics training (begin with two feet and progress to single limb jumps)

Jogging – slow speed and limited distance, with progression as symptoms permit