



## ACHILLES TENDON REPAIR

Progression to the next phase is based on Clinical Criteria and/or Time Frames as Appropriate

### IMMEDIATE PROTECTION PHASE (Week 0-4)

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**Goals:**

- Protect healing tissue
- Decrease pain and inflammation
- Retard muscle atrophy
- Control weight bearing forces

Weight-bearing: NWB with optimal ambulatory assistive device for 2 weeks and progress to partial weight-bearing at 3 weeks (use heel lift)

Splint/Brace: Posterior splint (foot positioned in 15-20 degrees of plantarflexion) worn all day and night.

Progress to walking boot at Week 3 (sleep in boot) with 3 heel wedges.

Treatment:

#### Weeks 0-2:

- Elevation and swelling control
- Patient education / precautions
- Gait training with appropriate assistive device

#### Weeks 3-4

- ROM
  - Begin AROM of toes, ankle inversion and eversion, knee and hip
  - NO active or passive DF (active begins at 4 weeks and passive at 6 weeks)
- Modalities as needed for pain and inflammation
- 4-way straight leg raising

### MODERATE PROTECTION PHASE (Weeks 4-8)

**Goals:**

- Protect healing tissue
- Control stresses applied to healing tissues
- Decrease pain and inflammation
- Retard muscle atrophy

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## Control weight bearing forces

### Precautions:

- No barefoot walking
- Dorsiflexion limited to 0 degrees

Weight-bearing: NWB in walking boot until Week 6. WBAT at Week 6 with goal of FWB in walking boot by Week 8.

Splint/Brace: Walking boot for ambulation and sleeping. Walking boot with 2 heel wedges with FWB progression.

### Treatment:

- Continue appropriate previous exercises
- ROM
  - Full plantarflexion, inversion, eversion
- Gentle plantarflexion AROM (NWB)
- Weight-shifting in walking boot
- Mobilization
  - Scar massage
  - Joint mobilization (hindfoot, midfoot, and forefoot)
- Modalities as needed

## **STRENGTHENING AND MOTION PHASE (Weeks 8-12)**

**Goals:** Normal AROM  
Normal gait  
Improve strength  
Normal balance

Weight-bearing: FWB without use of an assistive device. Progress patient into normal shoe wear with the use of a heel lift if prescribed.

### Treatment:

- Continue appropriate previous exercises
- ROM:
  - Gentle DF stretching may begin
  - A/PROM WNL by 10-12 weeks
- Aerobic Conditioning
  - Stationary Bicycle
- Isotonic strengthening
  - LE strengthening (i.e., 4-way SLR, clamshells)
- Theraband resistance strengthening
  - Theraband exercises x 4 – gradually increase resistance

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- Light-resisted plantarflexion with isometrics and theraband
- Proprioception Training
  - Standing balance, single leg stance activities
- CKC activities
  - Double leg heel raises (week 10)
  - ¼ Mini-squats, total gym, mini-band walking (forward, backward, lateral)
- Aquatic Therapy
  - Deep-water training, Aquatic treadmill (no jogging)

## **ADVANCED STRENGTHENING (Months 3-4)**

Criteria for entering advanced strengthening phase:

Minimum 4/5 ankle manual muscle testing  
 Symmetrical pain-free AROM/PROM  
 Pain-free ADL activities

**Goals:**

Full symmetrical lower extremity strength  
 Advance Proprioceptive drills  
 Gradually initiate return to sport training  
 Performance of dynamic movement patterns without deviations  
 (i.e., squatting, lunging, lumbo-pelvic dissociation)

Treatment:

- Continue appropriate previous exercises
- Aerobic Conditioning
  - Stationary bicycle, Treadmill, Stairstepper (14 weeks), Elliptical (16 weeks)
- Proprioception training
  - Single leg stance activities (including unstable surfaces), ankle sweeps, single leg RDL, perturbation training, single leg mini-squats
- CKC activities
  - Single leg heel raises
  - ½ squats to full squats by week 16
  - Leg Press
  - Mini-band walking
  - Forward step-ups and progressing to lateral step-ups
  - Forward and lateral lunges (week 16)
- Plyometrics
  - May begin light plyometric progression at week 16
- Aquatic Therapy
  - Aquatic treadmill running progression
  - Aquatic plyometric progressions

## **RETURN TO ACTIVITY PHASE (Months 5-7)**

- Goals:**
- Continue to increase strength, power, and endurance of lower-extremity
  - Gradual return to sport activities
  - Pass functional testing protocols prior to release to sports

**Treatment:**

- Continue strengthening program
- Aerobic conditioning
  - May begin land running program
- CKC activities
  - Initiate agility drills / sports-specific training and drills
  - May begin weighted squatting and lunging
    - Only if no deviations noted with functional dynamic movement patterns
- Continue plyometric program
  - Progress plyometric program as tolerated