



United States Military-Baylor University
Post-professional Sports Medicine-Physical Therapy Doctoral Program
Keller Army Community Hospital, West Point, New York
"Academic, Research, and Clinical Excellence"

ACHILLES TENDON REPAIR REHABILITATION GUIDELINES

Unless otherwise specified by the patient's surgeon, the following protocol will be utilized:

PHASE I:

Week 1

1. Weight-bearing Status:

- Total non-weight bearing
- Instruction in protection of surgical site

2. Exercise: Range of Motion:

- Out of splint active range of motion
- Plantar flexion/dorsiflexion: 2 sets of 5 repetitions, 3x daily (dorsiflexion to neutral only)

Week 2

1. Weight-bearing Status:

- Total non-weight bearing

2. Exercise: Range of Motion:

- Out of splint, painfree *active* range of motion, 3x daily:
 - i. Plantar flexion/dorsiflexion: 2 sets of 20 reps
 - ii. Inversion/eversion, 2 sets of 20 reps
 - iii. Circumduction (both directions), 2 sets of 20 reps

3. Strength Exercise:

- Isometric inversion/eversion, 2 sets of 20 repetitions (in neutral)
- Toe curls with towel and weight (1-3 lbs.)

4. Therapy Adjuncts:

- Gentle manual mobilization of scar tissue
- Cryotherapy with caution for any open areas of the wound

Week 3

1. Weight-bearing Status:
 - Progressive partial weight-bearing program in Cam Walker.
2. Range of Motion:
 - Previous active range of motion exercise continued
 - Gentle *painfree* passive stretching into dorsiflexion with strap or towel begins. Stretch for no more than 10 minutes 3-5x daily. During each stretch, hold the painfree stretched position for 15 seconds, then relax for 2-5 seconds, and repeat.
3. Strength Exercise:
 - Isometric inversion/eversion, 2 sets of 10 repetitions
 - Isometric plantarflexion, 2 sets of 10 repetitions, progression in 2 sets of 20 over course of week 3
 - One Theraband (light resistance) inversion/eversion, 2 sets 10 repetitions
 - One Theraband (light resistance) plantarflexion and dorsiflexion, 2 sets, 10 repetitions
4. Conditioning Activities:
 - Stationary cycling begins, 7 to 12 minutes, minimal resistance
 - Water exercise can begin under totally buoyant conditions with use of a flotation device
 - In the water, ankle range-of-motion and running or walking activities can be initiated to preserve fitness in the lower body
 - *No weight-bearing* activities can be done in the water
5. Therapy Adjuncts:
 - Manual mobilization of scar and cryotherapy continues.

PHASE II

Weeks 4 to 6

1. Weight-bearing Status:
 - Progressive partial weight bearing to full load by weeks 5 to 6, still wearing Cam Walker. Can unlock walker after 4 weeks within limits of painfree ankle DF/PF.

2. Range-of-motion:

- Previous range-of-motion exercise decreased to 1 set of 10 repetitions each in direction
- Passive stretch continues into dorsiflexion with progressively greater effort, knee at full extension and flexed to 35 to 40 degrees
- Begin standing calf stretch with knee fully extended and flexed at week 5

3. Stretch exercise:

- Decrease isometrics to 1 set of 10 inversion/eversion and plantarflexion
- Progress to 3 rubberband exercises. Eversion, inversion, and plantarflexion, 3 sets of 20 repetitions
- Stationary cycling to 20 minutes with minimal resistance.

4. Conditioning Activities:

- Cycling as previously outlined
- Water exercise continues in totally buoyant state

5. Therapy Adjuncts:

- Gentle cross-fiber massage to Achilles tendon to release adhesions between the tendon and peritenon
- Cryotherapy continues, ultrasound, phonophoresis and electrical stimulation may be added for chronic swelling or excessive scar formation

Phase III

Weeks 6 to 12

1. Weight-bearing Status:

- Full weight-bearing in Cam Walker, may D/C Cam Walker after 8 weeks unless otherwise directed by surgeon.

2. Range of Motion:

- Further progressed with standing calf stretch

3. Strength Exercises:

- Omit isometrics
- Continue three rubberband ankle strengthening in all directions
- Begin double legged toe raises with body weight as tolerated
- Balance board exercises are begun for proprioceptive training

4. Conditioning Activities:
 - Stationary cycling
 - Treadmill walking
 - Use of stair climber machine
 - Water exercises in chest-deep water

5. Therapy Adjuncts:
 - As needed

Phase IV

Weeks 12 and beyond

1. Strength exercises:
 - Toe raises should progress to use of additional weight at least as great as body weight and, in the case of athletes, up to 1.5 times body weight
 - Single-legged toe raises are begun as tolerated

2. Conditioning Activities:
 - Progress to jogging on a trampoline and then to treadmill running via a walk-run program
 - Eventually perform steady-state outdoor running up to 20 minutes before adding figure-eight and cutting drills
 - Water exercise performed in shallow water (waist deep). In the water, begin to include hopping, bounding, and jumping drills.
 - The completely rehabilitated Achilles tendon repair allows 15 to 20 degrees of dorsiflexion at the ankle, and this must be maintained with regular stretching of the gastrocsoleus group. Strength and endurance are developed to preinjury levels, and continued strength and flexibility work is advised

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