St Luke's Orthopaedic Specialists

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ACHILLES TENDON REPAIR REHAB GUIDELINES

DISCLAIMER: The intent of this protocol is to provide therapists with guidelines for rehabilitation based on a review of the best available scientific literature for this type of surgical procedure performed by Dr. Avallone using his operative technique. It is not intended to serve as a substitute for sound clinical decision making. Therapists should consult with Dr. Avallone if they require assistance in the progression of post-operative patients.

Post-Op Weeks 1 through 3

Contraindications: **NO passive dorsiflexion stretching past initial tendon tension**
NO active plantarflexion
NO weightbearing for 2 weeks

Bracing/Assistive Device/Weightbearing
- Non-weightbearing with bilateral crutches for 2 weeks
- Ankle/foot immobilized in splint/hinged brace with 1-1½ heel lift (angle, time and heel lift height determined by Dr. Avallone)
- Brace/splint is worn at all times including sitting, standing, walking, and sleeping. It may be removed for bathing (NWB) and exercise as described below.

Patient Education
- Gait, transfer, stair training

Exercises
- Seated active dorsiflexion within available ROM (**NO** stretching beyond initial Achilles tendon tension) with eccentric lowering into a plantarflexed position (**passive** plantarflex-ion). Have the foot off of the ground to allow movement.
- Proximal kinetic chain strengthening program
  - SLRs (hip abd/add/flex/ext) and prone hamstring curls in boot
  - Stationary bike in boot
  - Intrinsic strengthening ex's (towel curls, marbles, etc) with heel resting on towel roll
- Upper body conditioning program

Manual Therapy
- Gentle scar mobs along Achilles tendon (healed incision)

Modalities
- Moist heat allowed after 2 weeks post-op
- Edema control (Hi-volt, interferential, cryocuff)

Goals:
- Protect the repair
- Minimize scar tissue formation
- Decrease swelling

Post-Op Weeks 4 through 6

Contraindications: No passive dorsiflexion stretching beyond initial tissue tension

Bracing/Assistive Device/Weightbearing
- As the patient prepares for weightbearing, he/she must have a shoe for the contralateral foot with a heel height equal to the boot and heel lift.
- Week 4: Initiate weight acceptance/weight shifting in boot/heel lift in standing – feet side by side.

- Week 5: Progress to weight acceptance in boot/heel lift in staggered stance with weight shifting (walking progression)
- Week 6: Progress to ambulation in boot without crutches; the heel height on the contra-lateral shoe should equal the height of the boot and heel lift

Patient Education
- Reinforce repair protection and the necessity of wearing the boot/lift as directed by Dr. Avallone at **ALL** times including sleeping and weightbearing. The patient may now sit without the boot on for comfort.

Exercises
- Continue previous exercises
- Initiate sub-maximal isotonic ankle dorsiflexion, plantarflexion and eversion
- Initial active plantarflexion **in prone** with the knee flexed
- Seated BAPS board for dorsiflexion, plantarflexion and eversion

Manual Therapy – continue previous scar mobilization
Modalities – continue edema control

Goals:
- Continue to protect repair
- Increase plantarflexion strength
- Do not over stretch healing tendon

Post-op Weeks 6 through 8
Contraindications: NO passive dorsiflexion stretching
- Initiate ankle strengthening (Stress plantarflexion end range strengthening (0°-30°))
    - T-band all planes
    - End range isometrics
    - Leg press calf raise (week 8) with heel supported on ¾" lift
    - Step-ups 4-6 inches (step back down lowering with the **non-involved**)

Post-Op Weeks 7 through 9
Contraindications: NO passive dorsiflexion stretching
Bracing/Assistive Device/Weightbearing
- Dr. Avallone with lower heel lifts 25%
- Week 7
    - At PT: full weightbearing with sneakers and heel lifts
    - At Home: ambulate in boot
- Week 8
    - At PT: ambulate with sneakers and heel lifts
    - At Home: ambulate with sneakers and heel lifts
    - Outside: ambulate in boot
- Week 9:
    - D/C boot: ambulate with sneakers and heel lifts
    - Do not ambulate without supportive shoes

Patient Education
- Gait training on level surfaces and stairs (see below)

Exercises
- Continue/progress previous exercises
- AROM in all planes (dorsiflexion, plantarflexion, inversion, eversion)
- Initiate (B/L) balance activities
- Initiate swimming without fins (if available)

Manual Therapy – continue previous scar mobilization prn
Modalities – continue edema control

Goals:
- Improve fitness

- Moderate gastroc/soleus muscle control
- Ambulate with good gait pattern without boot

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Post-Op Weeks 9 through 12

Contraindications: No passive dorsiflexion stretching beyond initial tissue tension

Normalize Gait

- Gait training: patient will likely ambulate with decreased push off
  - Treadmill (forward and retro)
  - Marching
  - Lateral walking
- Dr. Avallone will lower heel lifts another 25% (50% of total)

Exercises (stress plantarflexion end range strengthening (0°-30°))

- Stairmaster (pushing through forefoot)
- Calf raises and eccentric calf lowering
  - Progress from supine position (on leg press with bilateral to unilateral support) to standing (bilateral to unilateral)
- Progress balance to single leg activities
  - BAPS
  - Decline board
- Steps
  - Lateral step-ups 6-8"
  - CAUTIOUSLY initiate step down leading the involved lower extremity - 4" step
- Isokinetics (if available)
  - Concentric (0°-30°) plantarflexion
  - Eccentric (0°-30°) plantarflexion
- End range strengthening
  - Bilateral decline board calf raise (NOT off the edge of a step)
  - Prone isometrics, isotonics
  - Leg press calf raises; begin with foot on plate at neutral

Goals:

- Restore normal gait
- Full active plantarflexion ROM
- Continue to progress gastro/soleus strength

Post-op Weeks 13 through 20

Gait

- Dr. Avallone will lower heel lifts another 25%
- Initiate treadmill jogging/retro jogging

Exercises (stress plantarflexion end range strengthening (0°-30°))

- Continue/progress previous exercises
- **Initiate passive Achilles stretching**
- End range plantarflexion strengthening
  - Progress calf raises: increase resistance on leg press or add hand weights in stand-ing as able
  - Single limb decline board calf raise (initially may only be an isometric)
- Jump progression
  - Leg press single limb leg press hopping; landing on forefoot
  - Bilateral mini hops
  - Unilateral mini hops (week 20)
- Trampoline bouncing progressing to hopping
- Forward, lateral stepovers (on box)
- Submaximal agility training (figure 8's, kareokees, shuffles)
- Resume regular biking
- Progress stepdowns

GOALS:

- Cross-over stair descent
- Jogging
- Full ROM

WEEK 20 TO 1 YEAR

Gait: Dr. Avallone will discharge heel lifts
Exercise:

- Progress strengthening through the full ROM
- Initiate plyometrics
- Initiate running, agility drills
- Return to sports with Dr. Avallone's permission