OSU Sports Medicine
Achilles Tendon Repair Guidelines
(Advanced > 30 yrs of age)

These are rehabilitation guidelines for OSU Sports Medicine patients. Please contact us at 614-293-2385 if you have any questions.

Phase I
0 – 2 weeks
1. Placed in post-operative splint
2. Wound care
3. Edema reduction – ice, elevation and compression
   • Out of splint 3x/day for icing
4. Crutches, non-weight bearing (NWB)
5. Recommended exercises (pain-free range)
   • Toe wiggles

Goals: Wound healing, edema reduction, ensure neurovascular integrity

2 – 3 weeks
1. Placed in post-operative boot to 30°
2. Continue ice (3x/day), rest and elevation
3. Range of motion (ROM) – begin active ROM
   • Alphabet
   • NWB gastroc stretch/ankle pumps to 0° dorsiflexion (DF), pain-free range
   • Eversion, dorsiflexion, and inversion isometrics

Goals: Continued wound healing, improve mobility to 0° DF (pain-free range)

Phase II
3 – 4 weeks
1. NWB in boot at 15° with ambulation.
2. Weight-bearing as tolerated (WBAT) in boot with physical therapy in clinic.
3. Vasopneumatic/cryocuff cooling boot, if applicable
4. ROM
   • Bike with boot (half to full revolutions per tolerance, no resistance)
   • Continue NWB gastroc stretching to 0° DF
5. Recommended exercises
   • Ant/post and med/lat weight shifts with upper extremity (UE) support in boot
   • Multi-directional straight leg raises (SLR)
   • Terminal knee extensions
   • Sub maximal eversion, DF and inversion T-band strengthening
   • Plantar flexion isometrics
   • Shuttle
     • Mini-squats – double leg: 25%-50% body weight (to 0° DF)
   • Leg extensions with light resistance

Goals: Improve ankle strength without exacerbation of symptoms, complete PWB exercises without increase in pain
4 – 6 weeks
1. Progress to full-weight bearing (FWB) in boot at neutral DF with 1-2 heel lifts per tolerance
2. Gradual discontinuation of crutches per tolerance and gait analysis
3. Scar mobilization
4. Vasopneumatic/cryocuff cooling boot
5. ROM
   • Biking without boot
   • Seated towel stretches (to 0° DF)
6. Recommended exercises
   (without boot)
   • Seated multi-directional ankle T-band strengthening; initiate plantar flexion to 0° dorsiflexion
   • Progress SLRs
   • Multi-directional weight shifts
   • Seated heel raise
   • Shuttle
     Bilateral LE heel raises 25-50% body weight to 0° DF
   (with boot)
   • Shuttle
     Mini-squats – single leg: 25%-50% body weight (to 0° DF)
   • Leg extensions
   • Bridges
   • Mini-lunges with UE support for balance

Goals: Increased strength with exercise without pain, improved scar mobility, no reactive effusion, normalization of gait in boot without use of crutches

6 – 8 weeks
1. WBAT in boot with no heel lift
2. Scar mobilization
3. Vasopnuematic/cryocuff cooling boot
4. ROM
   • Biking without boot
   • Seated or standing gastroc stretch
5. Recommended exercises
   (without boot)
   • Biking with light resistance
   • Seated heel raise with ankle weight on to of knee
   • Eccentric heel raise (up with two, down with affected side, 25-50%) – limit to 0° DF
   (with boot)
   • Shuttle
     Single-leg mini-squats: 50-75% body weight
   • Single-leg stance with upper-extremity support
   • Progress all NWB strengthening exercise
   • Lunges in boot without UE support

Goals: Normalization of gait without use of crutches, improved scar mobility, active ROM from 0° DF to full plantar flexion, no exacerbation with gains in multi-directional strength
Phase III
8 – 9 weeks
1. Discontinue use of boot
2. Initiate walking in shoe with one heel lift
3. Scar mobilization
4. ROM
   • Initiate standing gastroc and soleus stretches
   • Continue biking without shoe and progressive resistance
5. Recommended exercise
   • Shuttle/leg press
     PWB with both LE (75-100% BW)
     Bilateral eccentric heel raise (75-100% BW)
   • Lunges on stable surface
   • Treadmill walking
   • Leg extensions
   • Single-leg balance with perturbations (steamboats)
   • Bilateral LE heel raise with UE support at home

Goals: Equal weight distribution with exercise, increased tolerance with community ambulation, progression with controlled strengthening and balance activities, no graft attenuation

9 – 10 weeks
1. Reduce use or height of heel lift per tolerance
2. Scar mobilization
3. ROM
   • Bike and stretching
4. Recommended Exercises
   • Bilateral LE mini-squats on BOSU
   • Bilateral LE concentric shuttle heel raises (25-50% BW)
   • Standing eccentric heel raises with UE support
   • Lunges on unstable surface
   • Balance exercise without vision
   • Resisted side-stepping
5. Conditioning
   • 10 min treadmill walking (no incline)

Goals: Reduce UE support with standing strengthening exercise

Phase VI (10-12 weeks)
1. Discontinue heel lift
2. Scar mobilization
3. ROM
   • Bike and stretching
   • Joint mobilizations if neutral DF is not achieved
4. Recommended exercises
   - Progress strengthening on stable and unstable surfaces with emphasis on eccentric control of LE/hip/lumbosacral region
   - Bilateral LE Shuttle plyometrics (25-50% to 50-75% BW)
   - Hop downs at 10 weeks (ensure appropriate landing mechanics)
   - Standing eccentric heel raises with only UE support for balance

5. Conditioning
   - Progression of TM walking
     Increase incline per tolerance if no elongation of graft site
     Stepper exercise at 10 weeks

**Goals:** Normalization of active and passive ROM, progression of aerobic conditioning without lengthening of graft, DF strength 75% - 100% of uninvolved side, prone resting PF = 15-20°

**Phase V**

**3-6 months**

1. ROM
   - Continuation of self-stretching
   - Joint mobilizations as needed

2. Recommended exercises
   - Continued progression of strength/stability/balance exercise on stable and unstable surfaces
   - Plyometrics
     Single-leg shuttle plyometrics
     Bilateral LE straight plane
     Bilateral LE diagonal plane
     Rotational
     Multi-directional
   - Resisted jogging in place with resistance in all planes
   - Sports specific exercise/agility progression, emphasis on proper mechanics
   - Walk to jog progression
     Criteria to begin jogging
     1. Hop 10 times on involved leg with good mechanics
     2. Audible symmetry with foot strike
     3. Normalized functional ROM

3. Conditioning
   - Progress Stepper and walking progression
     Increase incline as strength and endurance improves

**Goals:** 80-100% plantar flexion isokinetic strength, normalization of movement without Achilles attenuation, completion of sports-specific exercise without exacerbation with or without functional bracing, no signs of excessive Achilles thickening
References


