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

**Goals:** Wound healing, edema reduction, ensure neurovascular integrity

2 – 3 Weeks
1. NWB in post-operative boot to 30°
2. Continue ice (3 times/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 – 6 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
   (Without boot)
   • Submaximal eversion, DF and inversion T-band strengthening
   • Plantarflexion isometrics
   (With boot)
   • Ant/post and med/lat weight shifts with upper extremity (UE) support in boot
   • Multidirectional straight leg raises (SLR)
   • Terminal knee extensions
   • Shuttle
     - Mini-squats - double leg: 25%-50% Body Weight
   • Leg extensions with light resistance
**Goals:** Improve ankle strength without exacerbation of symptoms, complete PWB exercises without increase in pain

**6 – 8 Weeks**
1. NWB in boot @ 7º in boot
2. Scar mobilization
3. Vasopneumatic/cryocuff cooling boot
4. ROM
   - Biking without boot
   - Seated towel stretches (to 0º DF)
5. Recommended Exercises
   - **(Without boot)**
     - Seated multidirectional ankle T-band strengthening; initiate plantar flexion to 0º DF
     - Progress SLRs
     - Multi-directional Weight Shifts
     - Seated heel raise
     - Shuttle
     
     *Bilateral LE heel raises 25-50% body weight to 0º DF*
   - **(With boot)**
     - Shuttle
     
     *Mini-squats- single leg: 25%-50% body weight (to 0º DF)*
   - Bridges
   - Leg extensions
   - 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

**8 – 10 Weeks**
1. Partial weight bearing to FWB with crutches per tolerance @ 0º in boot, 1-2 heel lifts
2. Scar mobilization
3. Vasopneumatic/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 top of knee
     - Shuttle/Total Gym/Aquatics
     
     *Bilateral LE heel raises 50% body weight to 0º DF*
     - Progress all NWB strengthening exercise
   - **(With boot)**
     - Shuttle
     
     *Single-leg mini-squats: 25-75% body weight*
   - Single-leg stance with upper extremity support
   - Lunges in with UE support if needed
**Goals:** Normalization of gait with 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**

**10 – 12 Weeks**
1. Discontinue use of boot
2. Initiate walking in shoe with 1-2 heel lifts
3. Scar mobilization
4. ROM
   - Initiate standing gastroc and soleus stretches
   - Continue biking without shoe and progressive resistance
5. Recommended Exercises
   - Shuttle/Total Gym
     PWB with both LE 50-75% BW
     Bilateral eccentric heel raise (50-75% BW)
   - Lunges on stable surface
   - Treadmill walking if no gross antalgia
   - 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

**12 – 14 Weeks**
1. Reduce use or height of heel lift per tolerance
2. Scar mobilization
3. ROM
   - Bike and Stretching
4. Recommended Exercises
   - May begin WB aquatic exercise
   - Bilateral LE mini-squats on BOSU or other unstable surface
   - Single 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:** Decrease UE support with standing strengthening exercise

**Phase VI**

**14 – 16 Weeks**
1. Discontinue any heel lifts
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% BW)
   - Hop downs at 10 weeks (ensure appropriate landing mechanics)
   - Standing eccentric heel raises with only UE support for balance
   *Emphasize strengthening at end range PF*
5. Conditioning
   - Progression of treadmill 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 degrees

**Phase V**
**4 – 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
   *Emphasize strengthening at end range PF*
   - 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
     - Hop 10 times on involved leg with good mechanics
     - Audible symmetry with foot strike
     - Normalized functional ROM
3. Conditioning
   - Progress Stepper and walking progression
     Increase incline as strength and endurance improves

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


