



## Dr. Brandon Scharer

### Ankle Fusions - Talonavicular, Subtalar, Double (TN and STJ) & Triple (TN, STJ, CC)

#### Phase 1 - Early Protective Phase (0-10 weeks)

##### Goals for Phase 1

- Minimize effusion
- ROM at home starting at weeks 6-8, instructed by MD
- Follow weight bearing schedule to ensure healing and minimize inflammation

##### Brace

- 0-2 weeks: NWB in a splint
- 2-6 weeks: NWB in a cast vs boot
- 6-10 weeks: Wean into WBAT in a CAM boot
- 10-14 weeks: Wean into WBAT in a lace up non-articulating ASO brace

##### PROM

- 6-8 weeks: As instructed by MD office
  - Plantarflexion and dorsiflexion only

##### Criteria for Progression to Phase 2

- Clearance from Physician to start Physical Therapy

##### Physical Therapy

- No PT for 10-12 weeks
- Based on when radiographically fused

##### Other Considerations

- Fusion Position:
  - 0-5° valgus, neutral DF/PF, 10-15° abduction (for all 3 procedures)

## Phase 2 – Intermediate Phase (10-14 weeks)

### Goals for Phase 2

- Start Outpatient PT at 10-12 weeks post-op
- WBAT out of boot and into shoe with ASO brace without compensation
- Minimize effusion
- Increase core, hip and knee strength

### Criteria for Progression to Phase 3

- Minimal pain with ambulation
- Minimal effusion
- Normalize gait mechanics in ASO

### Brace

- Brace dependent on patient need
- 10-12 weeks wean from boot into normal shoe with ASO brace on during all weight bearing activities per MD recommendation, including PT

### Weightbearing

- WBAT weaning from boot and into ASO brace to gradually increase time and distance without compensation

### PROM & AROM

- All planes to comfort
- Expect minimal to no inversion and eversion with subtalar fusion

### Manual Therapy

- Scar tissue mobility
- Grade 1-2 joint mobilizations to unfused joints
- No joint mobilizations at the fused joint

### Strengthening

- Progressive hip, ankle and core strengthening
- Ankle strengthening start isometric and work up to gentle isotonic
- Foot intrinsic strengthening

### Proprioception

- Low level balance and proprioceptive exercises starting with double leg and on a stable surface and progress as appropriate

### Aquatics

- Initiate aquatic therapy program when incisions are closed

### Modalities

- Heat for stiffness as needed
- Cryotherapy after activity
- Other modalities as needed for pain and swelling

### Edema Control

- Lymph massage

### Cardiovascular

- Stationary recumbent biking

## Phase 3 – Intermediate Phase (14-16 weeks)

### Goals for Phase 3

- Full weight bearing without compensation
- Wean from ASO brace at 14-16 weeks under PT guidance
- ASO brace used for patient comfort only after weaning period is complete. Patient may choose to wear for "high risk" activity

### Criteria for Progression to Phase 4

- Ambulation without brace and no compensation

### Brace

- Wean from brace at 14-16 weeks
- Brace used for patient comfort or during "high risk" activity
- May require a rocker bottom shoe at this point (optional)

### PROM/AROM

- LE flexibility restored

### Manual Therapy

- Scar tissue mobility
- Grade 1-2 joint mobilizations to unfused joints
- No joint mobilizations at the fused joint

### Strengthening

- Continue with progressing LE and core strength to tolerance

### Proprioception

- Continue progression:
  - Double leg to single leg balance
  - Progression to unstable surfaces, perturbations and/or dual tasking

### Modalities

- Heat for stiffness as needed
- Cryotherapy after activity
- Other modalities as needed for pain and swelling

### Cardiovascular

- Stationary bike (may consider ongoing recumbent due to limited DF range, otherwise may adjust seat position)
- Walking without brace when appropriate

## Phase 4 – Return to Function (16+ weeks)

### Goals for Phase 4

- Progress single leg muscle strength, endurance and balance
- Sport or work specific tasks, non-impact
- Full strength

### Brace

- Patient may continue to wear brace for "high risk" activity

### Strengthening

- Unilateral gym strengthening program
  - Single leg calf raises
  - Single leg squats
  - Step-up progression
  - Multi-directional lunges

### Proprioception

- Advanced proprioception
  - Un-stable surfaces with perturbations
  - Dual tasking
  - Sport specific balance tasks as able

### Core Strengthening

- Advance core strengthening

### Cardiovascular

- Upright bike
- Elliptical
- 20 weeks start impact activities (running, cutting, and jumping)

### Criteria for return to work, function, sport

- **Week 20-24: Return to function testing** if appropriate and per MD approval. Appointment must be scheduled with Aurora BayCare Sports Physical Therapy at the 1110 Kepler location. Please contact physician office if unable to make this arrangement for alternative testing.
- Pain-free, full ROM, minimal joint effusion, 5/5 MMT strength, adequate ankle control with sport and/or work specific tasks

This protocol was reviewed and updated by Dr. Brandon Scharer, Sarah Burton, NP and Katelyn Peterson, PT on 2/3/2025

## References:

1. Martin, R.L. Stewart, G.W. Conti, S.F. (2007), 'Post-traumatic ankle arthritis: an update on conservative and surgical management. Journal of orthopaedic & sports physical therapy', (v.35 (5) pp 253-259)
2. Smith, C.L. (1980), 'Physical therapy management of patients with total ankle replacement. Physical therapy', (v.60 (3) pp 303-306)
3. Knupp, M. Schuh, R. Stufkens, S.A.S. Bolliger, L. Hintermann, B. (2009), 'Subtalar and talonavicular arthrodesis through a single medial approach for the correction of severe planovalgus deformity'. Journal of bone & joint surgery, (v.91 (5) pp 612-615)
4. Deorio, J.K. Leaseburg, J.T. Shapiro, S.A. (2008), 'Subtalar distraction arthrodesis through a posterior approach'. Foot & ankle international. (v.29 (12) pp 1189-1194)
5. Lee, KB. Saltzman, C.L. Suh, JS. Wasserman, L. Amendola, A. (2008), 'A posterior 3-portal arthroscopic approach for isolated subtalar arthrodesis'. Arthroscopy. (v.24(11) pp 1306-1310)
6. Knupp, M. Skoog, A. Tornkvist, H. Ponzer, S. (2008), 'Triple arthrodesis in rheumatoid arthritis'. Foot & ankle international. (v.29 (3) pp 293-297 )
7. Jackson, W.F.M. Tryfonidis, M. Cooke, P.H. Sharp, R.P. (2007), 'Arthrodesis of the hindfoot for valgus deformity'. An entirely medial approach. Journal of bone & joint surgery. (v.89 (7) pp 925-927)