Foot & Ankle Center
BayCare Clinic®

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

Criteria for Progression to Phase 2

- Clearance from Physician to start Physical Therapy

Other Considerations

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

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

Physical Therapy

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

1110 Kepler Drive
Green Bay, WI 54301
920-288-5555

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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 isotonics
- 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

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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.
- **Criteria:** 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 Brandon Scharer, DPM, 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.2411) 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)