

* Special consideration to be taken if a Microfracture procedure is performed in conjunction with the Modified Broström Procedure. See below weight-bearing and impact restrictions to be considered. *

Phase 1 – Maximum Protection Phase (0-3 weeks)

Goals for Phase 1

Protect integrity of graft
Minimize effusion
ROM per guidelines
Prevent muscular inhibition
Scar tissue mobility

Precautions

No inversion or eversion
PROM or AROM to be performed in Phase 1
Boot to be worn at all times for ambulation

Post-Op Physical Therapy

1st physical therapy visit to occur 2 weeks post-op
Assessment of AROM into PF and DF only, proximal strength in NWB (hip, knee and core), swelling, and scar tissue mobility

Immobilization

Walking boot: worn 0-6 weeks at all times, including while sleeping

Weight Bearing

Full weight bearing in walking boot
Non-weight bearing when not wearing boot (therapy, bathing, changing attire, etc)
If Microfracture Procedure performed: NWB for 2-4 weeks, per physician

Range of Motion

Dorsiflexion: 0-10°
-AROM, AAROM, PROM
Plantarflexion: 0-20°
-AROM, AAROM, PROM

NO inversion or eversion to be performed in this phase
If **PASS** AROM check and patient has adequate proximal strength, as well as good understanding of restrictions and HEP begin follow-up in physical therapy at 4 weeks post-op
If **NOT** pass AROM and proximal strength check, begin physical therapy immediately with emphasis on early ankle ROM and talocrural joint mobility

Manual Therapy

Scar mobility following closure of incision
Gentle flexibility for lower extremity musculature
PROM/AROM ankle DF/PF within above listed ROM
Talocrural Joint mobilizations (Grades I-II)-**NO subtalar joint mobilizations**
Emphasis on enhancing DF ROM if patient does not pass above ROM check (10°-0°-20°)

Strengthening

Hip and core strengthening
Weeks 0-3: Multi-plane OKC SLR, straight leg bridging, etc.

Intrinsic foot strengthening in NWB position (i.e. toe extension, toe flexion, splaying of the toes)

Sub-max isometrics of the ankle initiate with neutral foot position and performed in long sitting (not inversion)

Modalities

Vasopneumatic compression for edema management, 2-3x/week (15-20 min)

Cryotherapy at home, 3 x per day for 20 minutes, ankle elevated above heart

Phase 2 – Maximum Protection Phase (3-6 weeks)

Goals for Phase 2

Protect integrity of graft
Minimize effusion
ROM per guidelines listed
Prevent muscular inhibition
Scar tissue mobility

Immobilization

Walking boot: worn 0-6 weeks at all times, including while sleeping

Weight Bearing

Full weight bearing in walking boot
Non-weight bearing when not wearing boot (therapy, bathing, changing attire, etc)

If Microfracture Procedure performed: NWB for 2-4 weeks, per physician

Range of Motion

Dorsiflexion: 0-10°
Plantarflexion: 0-40°
Initiate eversion AROM – no PROM to end range
NO inversion in Phase 2

Precautions

No inversion PROM or AROM
No kicking in pool for 10 weeks
Avoid twisting and pivoting motions for at least 12 weeks
Avoidance of impact activity for 10 weeks if isolated Modified Broström Procedure performed, 12 weeks if **Microfracture** procedure performed

Manual Therapy

Scar mobility when incisions closed
PROM within restrictions above
Joint mobilization to talocrural joint (Grades I-III)

Strengthening

Limited ankle and foot strengthening (towel crunches, marble pick-ups, DF/PF light band strengthening, etc)
Lower Extremity Strengthening

- Hip strengthening (continue OKC hip strengthening)
- Quad strengthening (quad sets, leg-press, wall squats, etc)
- Hamstring strengthening (prone hamstring curls, physio-ball curls, etc)

Core strengthening

Aquatics

Initiate aquatic therapy program when incisions closed
Focus on normalizing gait pattern at reduced body weight (<50%)

Neuromuscular Control

Double leg balance tasks
Stable surfaces only

Modalities

Vasopneumatic compression for edema management, 2-3x/week (15-20 min)

Cryotherapy at home, 3 x per day for 20 minutes, ankle elevated above head

Phase 3 – Moderate Protection Phase (6-12 weeks)

Goals for Phase 3

Protect integrity of graft
Restore full ankle ROM
Increase neuromuscular control tasks in a safe environment
Restore full strength of ankle and lower extremity

Precautions

No kicking in pool for 10 weeks
Avoid twisting and pivoting motions for at least 12 weeks
Avoidance of impact activity for 10 weeks if isolated Modified Broström Procedure performed, 12 weeks if **Microfracture** procedure performed

Immobilization/Weight bearing

6-8 weeks (WBAT): Soft ankle orthosis (ASO, Impact, etc) to be purchased for gradual progression out of walking boot

8-12 weeks (WBAT): Soft ankle orthosis (ASO, Impact, etc) to be worn when walking on uneven surfaces, busy environments, and during all athletic or sporting activities

Range of Motion

Restore full ankle ROM in all planes (can begin inversion)

Manual Therapy

Scar mobility when incisions closed

Joint mobilization to talocrural joint (Grades I-III)

- Emphasis on enhancing DF ROM to reach 10°
- Gentle rearfoot glides to be added in this phase

Strengthening

Stationary bike or elliptical

AROM of ankle in all planes (sitting rocker board, ½ foam roller rocks, BAPS board, etc)

Ankle and foot strengthening (band strengthening, bent & straight knee heel raises, supinated single leg stance, etc)

Lower extremity strengthening

Weeks 6-9: Focus on CKC activities in the sagittal plane

Weeks 9-12: Progression to multi-directional CKC activities as able (based on observed single leg strength and dynamic stability)

Aquatics

Continue aquatic therapy program prn

Neuromuscular Control

Continue proprioception training

Weeks 6-9: Focus on stable surfaces with decreasing UE support and progression to SL balance

Weeks 9-12: Progression to unstable surfaces, perturbations, and/or dual tasking (Double leg → Single leg)

Modalities

Vasopneumatic compression for edema management, 2-3x/week (15-20 min)

Cryotherapy at home, 3 x per day for 20 minutes, ankle elevated above heart

Phase 4 – Return to Activity Phase (12-24 weeks)

Goals for Phase 4

Progress single leg muscle strength, endurance and balance

Initiate impact activity
Sport or work specific tasks

Return to Function Testing

Week 12-16: per MD approval

Criteria to pass: pain-free, full ROM, minimal joint effusion, 5/5 MMT strength, jump/hop testing at 90% compared to uninvolved, adequate ankle control with sport and/or work specific tasks

Brace

PT to transition out of the brace as able with ROM, strength, and proprioceptive gains

Weight bearing/Range of motion

Full weight bearing without restriction
Restore full ankle ROM in all planes

Manual Therapy

Restore lower extremity flexibility
AROM and PROM in all planes, as needed
Joint mobilization to talocrural joint (Grades III-IV), as needed

Strengthening

Stationary bike or elliptical

Unilateral gym strengthening program (single leg calf raises, single leg squats, eccentric leg press, step-up progression, multi-directional lunges)

Initiate impact activities

- 10 + weeks: initiation to impact exercise, sub-maximal bodyweight → maximal (pool, GTS, plyo-press, Alter G), sagittal plane jogging only

12 + weeks: multi-directional agility drills, cutting, pivoting and plyometrics

If **Microfracture Procedure** performed sub-maximal impact not to start until 12 weeks, sagittal plane jogging at 12 weeks, multi-directional agility at 14 weeks

Core strengthening

Neuromuscular Control

Advanced proprioception

Un-stable surfaces

Perturbations

Dual tasking

Add sport/work specific balance tasks as able

Modalities

Cryotherapy after activity

Soft ankle orthosis (ASO, Impact, etc) to be continued during all athletic or sporting activities

This protocol was updated and reviewed by Dr. Devries of BayCare Foot & Ankle Center and Andrea Agen, PT, DPT, Corey Vogel, PT, DPT and Kim Kuehl, PT, DPT on 05/22/2024.

References:

- Clanton TO, Matheny LM, Jarvis HC, Jeronimus AB. Return to play in athletes following ankle injuries. *Sports Health*. 2012 Nov;4(6):471-4. Review.
- De Vries JS, Krips R, Sierevelt IN, Blankevoort L, van Dijk CN. Interventions for treating chronic ankle instability. *Cochrane Database Syst Rev*. 2011;(8):CD004124. Review.
- DiGiovanni BF, Partal G, Baumhauer JF. Acute ankle injury and chronic lateral instability in the athlete. *Clin Sports Med*. 2004;23(1):1-19, v. Review.
- Hall EA, Docherty CL, Simon J, Kingma JJ, Klossner JC. Strength-training protocols to improve deficits in participants with chronic ankle instability: a randomized controlled trial. *J Athl Train*. 2015;50(1):36-44.
- Petrera M, Dwyer T, Theodoropoulos JS, Ogilvie-Harris DJ. Short-to medium-term outcomes after a modified Broström repair for lateral ankle instability with immediate postoperative weightbearing. *Am J Sports Med*. 2014;42(7):1542-1548.
- Sandrey MA, Crockett NJ. Prophylactic ankle brace use during a high school competitive basketball season on dynamic postural control. *J Sport Rehabil*. 2015 Jan 5. Epublished.
- Wester JU, Jespersen SM, Nielsen KD, Neumann L. Wobble board training after partial sprains of the lateral ligaments of the ankle: a prospective randomized study. *J Orthop Sports Phys Ther*. 1996;23(5):332-6.