Modified Broström Procedure

* 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

Post-Op Physical Therapy
- 1st physical therapy visit to occur 2 weeks post-op (PROM check performed)

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: 0-20°
- **NO inversion or eversion** to be performed in this phase
- If PASS PROM check, begin follow-up in physical therapy at 4 weeks post-op
- If NOT pass PROM check, begin follow-up in physical therapy immediately
  - Emphasis on early ankle PROM 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
- Joint mobilization (Grades I-II)
  - Emphasis on enhancing DF ROM if patient does not pass above ROM check (10°-0°-20°)

Strengthening
- Quadriceps/Glut setting
- Hip strengthening
  - Weeks 0-3: Multi-plane OKC SLR, straight leg bridging, etc
- Core strengthening

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)
- PWB with supervision at therapy and while wearing soft ankle brace
- 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

**Manual Therapy**
- Scar mobility when incisions closed
- Gentle flexibility using deep tissue mobilization for lower extremity musculature
- PROM within restrictions above
- Joint mobilization to talocrural joint (Grades I-III)
  - Emphasis on enhancing DF ROM to reach 10°

**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 with soft ankle brace
- Stable surfaces only
- Allow UE support for balance as needed

**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
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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

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
- AROM ankle DF, PF, and Eversion
- Restore full ankle ROM in all planes

Manual Therapy
- Scar mobility when incisions closed
- Gentle flexibility using deep tissue mobilization for lower extremity musculature
- PROM in all planes with focus on restoring full ROM
- 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
- Focus on normalizing gait pattern at reduced body weight

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
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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

Weight bearing/Range of motion
• Full weight bearing without restriction
• Restore full ankle ROM in all planes

Manual Therapy
• Restore lower extremity flexibility
• 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 and Dr. Scharer of BayCare Foot & Ankle Center and Rebecca Yde, PT, DPT on 01/19/16.
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References:


