



## 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

#### 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

- 1<sup>st</sup> 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°
- Plantarflexion: 0-20°
- **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 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
- 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

#### 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



## Modified Broström Procedure

### 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

#### 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

#### 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

## Modified Broström Procedure

### 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

- 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

## Modified Broström Procedure

### 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

#### 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:

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