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You have had fasciotomies for exercised induced compartment syndrome. Find below some guidelines for rehab. On the day of your surgery you were given a post operative summary with early post operative instructions. Show that sheet to your therapist as it includes the diagnosis, the procedure performed, which compartments were released and some early post operate instructions. This will have specific instructions regarding weight bearing and range of motion (ROM) that may guide your rehab. When a patient returns to sport and work will be made on a case by case basis.

### **PHASE I (postoperative weeks 0 to 2)**

**Snapshot:** Crutches, WBAT  
Gait training  
Inspect incision  
PT modalities  
ROM: Hip, knee, ankle, foot  
Stretch: gastroc/soleus/toe down  
RICE  
Patient education

#### **Goals**

1. Decrease postoperative pain, inflammation, and swelling to limit scar formation.
2. Educate on importance of RICE (rest, ice, compression, elevation) and gentle motion respecting pain to reduce swelling and pain.
3. Provide progressive stress to soft tissue to encourage functional scar formation.

#### **General considerations/restrictions**

- Crutches and weight bearing as tolerated.
- Avoid activities that increase swelling, such as: prolonged positions/activities with limb in dependent position, heat, restrictive clothing or poorly applied wraps over or proximal to swelling.
- Oral pain medications as needed/prescribed
- Therapeutic modalities and cryotherapy to aid in reducing pain, inflammation, and swelling
- Compression to involved extremity as recommended and education on application is needed
- Use pillows or bolsters to elevate leg above the level of the heart to reduce pressure and swelling. Perform ankle pumps to encourage venous return.
- Retrograde massage, intensity and duration appropriate to wound healing, may be used if swelling persists.

- Incision site. Gentle desensitization and mobilization techniques consistent with wound healing as needed.

### **Exercise**

- Upper body low intensity cardiovascular activities with awareness of time spent with legs in dependent position.
- ROM: Respect pain! Educate on progression of range of motion, reps, sets, and frequency to regain normal hip, knee, ankle, and foot motion. Extremes of both inactivity and activity can cause prolonged pain and swelling and lead to over scarring, which may reduce functional outcome.
- PROM at ankle, knee, and hip performed early in rehabilitation but progression to active motion is encouraged as this enables more frequent independent mobilization.
- Stretching/mobilization: gastroc/soleus stretches, seated to quadruped toe down stretch, add inversion and eversion as tolerated, seated heel slide with foot flat (ankle DF/PF)
- Exercises: heel slides, four-way hip SLR on plinth, double to single leg hip bridge, ankle DF/PF supine with leg elevated, ankle alphabet, progress to light resisted ankle exercises as tolerated.
- Starting on postoperative day 3-4 you can start low intensity, low resistance stationary bike. This is to reduce adhesions and not for strengthening or aerobic training.
- Weightbearing: Progress weight bearing as tolerated with focus on normal gait. Use pain, swelling and function to guide progression. Gradually wean from crutch use for household, advance to community ambulation dependent on response.
- Weight shifting: Standing on involved leg with support as needed keep foot flat step forward/backward and side/side.
- Gait training: Encourage normal gait pattern, WBAT, respect pain.

### **For progression to next phase:**

1. Minimal soft tissue swelling of involved extremity.
2. Ability to independently ambulate 30 m with minimal gait deviations and 2/10 or less pain.
3. Demonstrate ability to ambulate at least 75% weight bearing with crutches community distances (600 m) without pain.

## **PHASE II (postoperative weeks 2 to 4)**

**Snapshot:** Progress to unassisted ambulation  
 PT modalities: cryotherapy  
 Scar/soft tissue mobilization  
 Bicycle → elliptical  
 Walking program  
 AROM  
 Initiate strengthening  
 Active functional exercise  
 Wobble board  
 Early sport-specific training

### **Goals**

1. Unassisted ambulation without gait deviations for 5 minutes
2. Full pain-free range of motion and strength of foot and ankle

3. Scar healed with good mobility and minimum discomfort
4. Continue to manage swelling, minimize scar formation, and maximize progressive return to function.
5. Appropriately stress soft tissue to ensure functional scar formation that does not restrict compartment(s) or limit function

### **General considerations/restrictions**

- Encourage independent gait respecting pain, swelling, and good function. Continue use of crutches/cane only if pain or swelling persist.
- Oral pain medications as needed for pain and swelling.
- Therapeutic modalities and cryotherapy as needed especially post exercise or increased activity.
- Compression continued as needed to manage swelling of the extremity.
- As swelling resolves, increase time spent with the extremity in dependent positions. Use elevation and ankle pumps when required to reduce swelling with decreasing frequency.
- Scar desensitization and mobilization techniques as needed
- Retrograde massage, intensity and duration appropriate to wound healing, may be used if swelling persists
- \*\*\*\*If swelling continues, inquire regarding daily activities/exercise and adjust as appropriate\*\*\*\*.

### **Exercise**

- ROM: Respect pain! Continue intelligent progression: ROM, reps, sets, and frequency to regain full pain free ankle and foot motion. Progress activity/exercise level but continue to caution regarding extremes of inactivity/activity and association with prolonged pain and swelling and negative effect on outcome. Progress loads from low to high with increasing speed and power: isometric, concentric, eccentric, plyometric.
- PROM: Only if the patient lacks full motion. Active motion and exercise encourages more functional and higher loads to tissues.
- Pre-exercise: Active stretching: Standing on involved extremity with foot flat step forward/backward at angles and side to side stepping in front/behind opposite leg
- Post-exercise: Standing gastroc and solues stretch, quadruped toe down stretch with increasing pressure and angle of inversion/eversion as tolerated
- Increase intensity and duration of upper body cardiovascular activities.
- Progress slowly to gradually increase duration, intensity, and resistance, based on patient response (during or post exercise pain or swelling).
- Progressively add elliptical trainer
- When nonpainful with stationary bicycle/elliptical and unassisted community walking, begin walking program documenting: pace, distance, and response (pain, swelling). The program can be progressed rapidly if asymptomatic. Stop the program if preoperative symptoms are reproduced and return to bicycle/elliptical.
- Progress to resisted ankle exercises as tolerated.
- Progress balance and proprioception exercises, vary level of support/surfaces.
- Progress to more functional loading, increase ROM, distance, speed, and power with exercises over time. (sidestep, grapevine, squat, lunges).
- Beginner plyometrics, progress as tolerated (supine to standing, double leg to single as tolerated)

- Once scar is healed and symptoms decreased, begin sport-specific training with the exception of running, impact activities, or other activities that produced symptoms before surgical release.
- Pool exercises: Once incision well healed can begin swimming, pool walking/running in deep → shallow water.

### **For progression to the next phase**

1. No soft tissue swelling or mild intermittent swelling of involved extremity following exercise. Swelling should resolve prior to the next exercise session.
2. Demonstrate ability to ambulate at least 5 minutes with normal gait and or less pain.
3. Scar healed with good mobility, minimal tenderness causing no limitation of foot and ankle motion

### **PHASE III (postoperative weeks 4 to 6)**

**Snapshot:** Normal unassisted ambulation  
 PT modalities as needed  
 Scar/soft tissue mobilizations as needed  
 Elliptical/bike as desired  
 Active/passive stretching  
 Walking program → walk/run program  
 Progress strengthening  
 Active functional exercise: increase speed/power  
 Plyometric shuttle exercises  
 Sport-specific drills  
 Cryotherapy following exercise

### **Goals**

1. Walk 12 minutes or more at moderate pace with minimal pain.
2. Perform sport-specific training, progressively adding jumping, lower extremity plyometrics, and progressive running activities.
3. Progress to walk run program when able to walk 20 minutes with minimal leg pain that resolves within 2 hours post exercise.

### **General considerations/restrictions**

- Therapeutic modalities as needed, cryotherapy post exercise to control pain and swelling.
- Scar desensitization and mobilization techniques as needed.

### **Exercise**

- Stretching and flexibility exercises pre and post exercise.
- Increase cardiovascular training (use cycling for higher intensity), closely monitor response to elliptical, then walk/run progression (document pain/intensity/duration, swelling) and adjust as needed.
- Continue progression of specific resisted exercises at ankle as needed.
- Progress functional weightbearing exercises using increased difficult, speed, balance and proprioception challenges.

### **For progression to the next phase**

1. Walking 12 minutes or more at moderate to fast pace with minimal pain.

### **PHASE IV (postoperative weeks 6 to 10)**

**Snapshot:** PT modalities as needed  
Elliptical/bike for high-intensity training  
Active/passive stretching  
Walking program → walk/run progression  
Strengthening as needed  
Plyometric shuttle  
Sport-specific drills  
Sprint progression

### **Goals**

2. Progress to walk run program when able to walk 20 minutes with minimal leg pain that resolves within 2 hours post exercise
3. Running distances as tolerated without reproduction of preoperative symptoms or swelling and minor post-exercise pain that resolves within 2 hours.

### **General considerations/restrictions**

- Cryotherapy post exercise as needed.

### **Exercise**

- Perform active warm up before running/exercise as desired, static stretching post exercise as previous.
- Continue progression of sport specific training, walk/run progression monitoring for return of any preoperative symptoms.
- Continue plyometric and sprinting progression being aware of any increase in pain or swelling. Progress to contact/collision activities.

### **PHASE V (postoperative weeks 10 to 12)**

**Snapshot:** Continue run progression  
Manage as needed