



## Extensor Mechanism Realignment/Fulkerson Osteotomy Post-op Rehab Protocol

### **GENERAL REHABILITATION GUIDELINES AND PRINCIPLES:**

#### **EXPECTED RECOVERY:**

- Begin CPM immediately after surgery. Use for 2-4 weeks at 0-120 degrees
- Begin Physical Therapy within 3 days of surgery
- Follow up with physician 10-14 days after surgery. Return to physician again in four weeks for follow up x-rays
- Brace locked in full extension for ambulating for 6-10 weeks
- NWB: weeks 0-2 (until first post-op visit)
- TTWB: weeks 2-8
- PWB: weeks 8-10
- FWB: week 10
- **No open chain knee extension for 3 months**
- No running until **at least 32 weeks. Risk of tibia fracture with premature advancement to running.**
- Back to work within 2-3 weeks following surgery for sit down jobs
- Back to light duty work within 2-3 months following surgery for labor type jobs

#### **WOUND CARE:**

- **Must** use shower chair
- Can shower as long as bandages covered with waterproof covering for 10-14 days (until seen in clinic for first post op visit). May use saran wrap around knee with tape securely on top and bottom.
- Change bandages daily
- May shower without covering wound at 14 days after surgery making sure to dry wound thoroughly. (No soaking in bath or hot tub for 28 days)
- If bandages are bloody may clean wounds using hydrogen peroxide. Pat dry. Some seepage may occur for several days following surgery.
- Reapply elastic/compression stocking until swelling is minimal.

#### **PAIN/SWELLING CONTROL:**

- Rest – Avoid long periods of standing/walking/strenuous activity
- Ice – 3 times a day for 20 minutes each, following rehab/activity/work or as needed to control pain and swelling
- Compression – Apply ACE bandage to involved knee (tighter at bottom).
- Elevation – Keep leg (knee) elevated as often as possible.
- Medication – pain and anti-inflammatory medications will be prescribed.

**PHASE I: INITIAL POST-OP – 0-2 WEEKS**

**Weight Bearing:** NWB with Crutches  
**Brace:** Locked in brace at 0 degrees when ambulating  
**ROM:** 0-90 degrees

**Therapeutic exercises**

**ROM:** heel slides, seated flexion, prone knee flexion, stationary bike for AAROM, prone hangs.  
**Strengthening:** Quad sets/ham sets/glut sets, SLR X 4 ways, ankle pumps, Ankle strengthening  
**Stretching:** Gentle stretching of hamstrings, calves  
**Modalities:** E-Stim for pain and swelling control  
E-Stim for quad contraction sub-max with quad set (only)  
Ice  
**Goals:** Achieve full knee extension equal to the uninvolved side.  
Eliminate swelling  
Achieve at least 90 degrees of knee flexion

**PHASE II: 2-8 WEEKS**

**Weight Bearing:** TTWB  
**Brace:** Continue brace locked at full extension when ambulating  
**ROM:** Knee flexion to 120 degrees

**Therapeutic Exercises**

**ROM:** heelslides, seated flexion, prone knee flexion, stationary bike for AAROM, prone hangs.  
**Strengthening:** SLR X 4 ways supine/sidelying and standing; Quad Set; ankle strengthening; seated hip ABD with t-band; seated hip AD with ball squeeze; standing hamstring curls; prone hamstring curls; Multi-hip with pad above knee(with surgical leg)  
**Core:** Supine strengthening i.e. pelvic tilt, dead bugs  
**Stretching:** Gentle stretching of hamstrings, calves  
Passive gentle stretching of quads and hip flexors  
**Modalities:** E-Stim for pain and swelling control  
E-Stim for quad contraction sub-max with quad set (only)  
Ice  
**Goals:** Achieve full extension equal to the uninvolved side  
Achieve at least 120 degrees of knee flexion  
Eliminate swelling  
SLR without quad lag

**PHASE III: 8-12 WEEKS**

- Weight Bearing:** PWB – Progress to full weight bearing (week 8-10)
- Brace:** May DC brace when has good quad control:
1. SLR without extensor lag
  2. Full extension ROM with active quad set
  3. 4" step up X 15 (slow and controlled i.e. no dropping hip, no forward trunk lean, and smooth movement with good quad control)
  4. Normalized gait pattern once brace has been DC'd
- ROM:** Full ROM to 135 degrees

**Therapeutic Exercises**

- ROM:** PROM as needed, stationary bike, Nu-Step level 1
- Strengthening:** ham curls, standing knee flexion, wall slides, heel raises, mini squats, Multi-hip bilateral, stool scoots, lunges, monster walk, side step with T-band, VMO strengthening
- Proprioceptive Ex:** Weight shifts with brace at 0 degrees extension (F/B, L/R, diagonals); Single limb stance. Progress as tolerated on gradually less stable surfaces, eyes closed, perturbation training, etc.
- Gait:** Gait training in clinic with brace open to facilitate quads
- Core:** Progress to standing exercises
- Stretching:** Gentle stretching of hamstrings, calves  
Passive gentle stretching of quads and hip flexors
- Modalities:** E-Stim for pain and swelling control as needed  
E-Stim for quad contraction sub-max with quad set (only)  
Ice
- Goals:** Eliminate swelling  
Full ROM 0-135 degrees/equal to uninvolved.  
FWB by 10 weeks

**PHASE V: 12-24 WEEKS**

- Weight Bearing:** Ambulate pain free with no gait deviations
- Therapeutic Exercises:**
- ROM:** Continue as needed
- Strengthening:** Leg press; step-ups multi directions; open chain knee extension, Stairmaster: forward and retro; mini-squat progress to under cord
- Proprioceptive Ex:** Begin static, dynamic SLB activities (eyes open/closed, head nods, arm movement), forward dips, ball tosses
- Stretching:** Continue as needed

**Modalities:** Continue as needed  
**Goals:** ROM equal to opposite knee  
Controlled effusion  
Pain-free  
Quad strength 4/5

**PHASE VI: 24-32**

**Therapeutic Exercises:**

**ROM:** Continue as needed  
**Strengthening:** Continue as above progress to Slide board and fitter  
**Proprioceptive Ex:** Static, dynamic SLB activities (eyes open/closed, head nods, arm movement), forward dips, ball tosses, etc.  
**Stretching:** Continue as needed  
**Modalities:** Continue as needed  
**Goals:** ROM equal to opposite knee  
Controlled effusion  
Pain free  
Quad strength 4+/5

**PHASE VII: > 32 WEEKS**

**Therapeutic Exercises:**

**Strengthening:** May begin jumping on leg press with both legs (light weight) and impact type exercises. Advance as tolerated.  
**Proprioceptive Ex:** Advance as tolerated  
**CV Conditioning:** Begin straight ahead jogging on "soft level surface". Gradually incorporate turns/cutting. Progress to cutting and agility drills  
**Sport Specific:** Begin Sport specific training  
**Stretching:** Continue as needed  
**Goals:** Running and cutting without limp  
Strength 5/5