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## FULKERSON OSTEOTOMY

### PHASE I

#### Goals

- Control inflammation and pain
- Protect soft tissue and tubercle fixation
- CPM to 90 degrees (60 degrees when medial imbrication is also performed)
- Full active extension and 90 degrees of flexion
- Achieve quadriceps control

#### 0-6 weeks

- Brace
  - Locked in extension for 6 weeks during ambulation
  - Sleep with brace locked for 4 weeks, then discontinue for sleep
  - May remove for CPM and exercises except straight leg raises
- Weight-Bearing Status
  - Weight-bearing as tolerated with crutches and brace locked in extension
- Therapeutic Exercises
  - Straight leg raises in all planes (use brace locked in extension for SLRs)
  - Heel slides to 90 degrees, calf pumps, quadriceps sets
  - Electrical stimulation and biofeedback to regain quad function
  - Patellar mobilization
  - Ankle ROM and resistive exercises with sports tubing (Theraband)

### PHASE II

#### Criteria

- Good quad set, straight leg raise without extension lag
- 90 degrees of knee flexion
- Full extension

#### Goals

- Increase ROM
- Establish normal gait with unlocked brace
- Brace/Weight-bearing status
- Continue with full weight bearing
- Use crutches and unlock brace for ambulation, when quad is ready
- May discontinue crutches and brace when normal gait pattern and quad control is achieved

6- 8 weeks

- Therapeutic Exercises
  - Increase ROM
  - Progress to SLRs without brace
  - Mini-squats (0-45 degrees)
  - Stationary Bike (high seat, low tension)
  - Closed chain extension (leg press:0-45 degrees)
  - Pool walking/jogging
  - Toe raises
  - Hamstring and gastroc/soleus stretches
  - Proprioception
  - Mini-tramp standing
  - Stable and unstable platform (BAPS) with eyes open and closed
  - Standing ball throwing and catching

### **PHASE III**

Criteria

- Normal gait
- Full range of motion
- Sufficient strength and proprioception to initiate functional activities

Goals

- Improve confidence in the knee
- Protect the patellofemoral joint
- Progress with strength, power, and proprioception
- Brace/Weight-Bearing Status
- Discontinue brace and crutches

8-12 weeks

- Therapeutic Exercise
- Continue with flexibility exercises
- Hamstring curls
  - Mini-squats and leg press to 60 degrees
  - StairMaster, elliptical trainer, cross-country ski machine, lap swimming
  - Stationary bike, increase resistance
  - Step-up, start 2 inches and increase to 8 inches
  - Continue to work on proprioception and balance (lateral slide board, ball throwing and catching on unstable surface)
  - Treadmill walking

### **PHASE IV**

Criteria

- Full, pain-free range of motion
- No patellofemoral irritation
- Sufficient strength and proprioception to progress to recreational activities

Goals

- Return to unrestricted activity by 4-5 months

### 3 months+

- Therapeutic Exercises
  - Progress with flexibility and strengthening program
  - Advance with closed chain exercises
  - Begin pool jogging and progress to running on land
  - Begin to incorporate cutting drills into agility training
  - Advance heights with plyometric conditioning
  - Sports specific drills (start a 25% on speed and advance as tolerated)
  
- Criteria for Return to Sports
  - Full range of motion
  - No effusion
  - Quad and hamstring strength 90% of contralateral side
  - No patellofemoral symptoms