



## ***Rehabilitation Following Lateral Retinacular Release and Medial Retinacular Thermal Shrinkage/Plication***

### **I. IMMEDIATE POSTOPERATIVE PHASE**

#### **Goals**

- Diminish swelling/inflammation (control hemarthrosis)
- Initiation of quadriceps muscle training
- Control stresses to medial retinacular
- Medial mobilization of patella
- Independent ambulation

#### **Weightbearing**

- Two crutches weightbearing as tolerated (50%-75%)

#### **Swelling/Inflammation Control**

- Cryotherapy
- Lateral "C" buttress pad
- Compression bandage
- Elevation and ankle pumps

#### **Range of Motion**

- ROM to 45-50°
- At least 45-55° flexion by day 2-3
- Patellar mobilization (especially medial), NO lateral glides\*

#### **Muscle Retraining**

- Quadriceps isometrics
- Straight leg raises (flexion)
- Hip adduction
- Knee extension (pain-free arc)

#### **Flexibility**

- Hamstring stretches
- Calf stretches
- AAROM knee flexion (to 45-55°)



## II. ACUTE PHASE (Week 0-4)

### Goals

- Control swelling/inflammation
- Control stresses to medial retinacular
- Gradual improvement in ROM
- Quadriceps strengthening (especially VMO)

*Note: Rate of progression based on swelling/inflammation and patellar stability*

### Weightbearing

- Two crutches for 2 weeks (75%)
- <sup>b</sup> Progression based upon pain, swelling, and quad control
- Progress to one crutch week 3
- Discontinue crutch at week 4

### Swelling/Inflammation

- Continue use of lateral "C" pad
- Compression bandage
- Cryotherapy, elevation 5-6 times/day

### Range of Motion

- Establish full passive knee extension
- Rate of progression based upon swelling/inflammation and patellar stability
- At least 60-65° flexion (week 1)
- <sup>b</sup>At least 90° flexion (week 2)
- <sup>b</sup>At least 105-110° flexion (week 3)
- <sup>b</sup>At least 110-115° flexion (week 4)
- Patellar mobilization (especially medial) (gentle lateral mobilization)

### Muscle Retraining

- Electrical muscle stimulation to quads
- Quad setting isometrics
- Straight leg raises (flexion)
- Hip adduction
- Knee extension (60-0°, pain-free arc)
- <sup>a</sup>Mini-squats with adduction (squeeze ball)
- <sup>a</sup>Leg press (40-100)
- Bicycle (stationary) if ROM/swelling permits
- Proprioception Training – cup walking, balance drills, balance beam, tilt board squats



### **Flexibility**

- Continue hamstring, calf stretches
- Initiate quadriceps muscle stretching (gentle)

### **Criteria to Progress to Phase III**

- Minimal inflammation/pain
- ROM (0-125 degrees)
- Voluntary quadriceps contraction
- Excellent patellar stability

## **III. SUBACUTE PHASE – MODERATE PROTECTION (Week 5-8)**

### **Goals**

- Eliminate any joint swelling
- Improve muscular strength and control without exacerbation of symptoms
- Maintain patellar stability and proper tracking
- Functional exercise movements

### **Range of Motion:**

- Continue stretching to maintain full passive knee
- Gradually improve knee flexion to 0-125°

### **Exercises**

- Continue muscle stimulation to quadriceps (if needed)
- Quadriceps setting isometrics
- 4 way hip machine (hip adduction, abduction, extension, and flexion)
- Lateral step-ups (if able)
- Front step-ups (if able)
- <sup>a</sup>1/2 squats against wall (0-60°)
- <sup>a</sup>Leg press (45-100°)
- Knee extension (90-0°), pain-free arc
- Bicycle
- Pool program (walking, strengthening, running)
- Proprioceptive training (continue balance training)

### **Flexibility**

- Continue all stretching exercises for LE
- Especially hamstrings and calf



### Swelling/Inflammation

- Continue use of ice, compression, and elevation, as needed

### Criteria to Progress to Phase IV

- Full non-painful ROM
- Absence of swelling/inflammation
- Knee extension strength 70° of contralateral knee

## IV. **ADVANCED PHASE – MINIMAL PROTECTION (Weeks 9-13)**

### Goals

- Achieve maximal strength and endurance
- Maintain patellar stability and proper tracking
- Functional activities/drills

### Exercises

- °Wall squats (0-70°) pain-free arc
- °1/2 vertical squats (0-60°)
- °Leg press
- Forward lunges
- Lateral lunges
- Lateral step-ups
- Front step-ups
- Knee extension, pain-free arc
- Hip strengthening (4 way)
- Bicycle
- Stairmaster
- Proprioception drills
- Sport specific functional drills (competitive athletes)
- Continue all stretching
- Continue use of ice as needed

### Criteria to Progress to Phase V

- Full non-painful ROM
- Appropriate strength level (80% or greater of contralateral leg)
- Satisfactory clinical exam
- Normal patellar stability



V. **RETURN TO ACTIVITY PHASE (Week 13-26)**

**Goals**

- Functional return to unrestricted work/sport

**Exercises**

- Functional drills
- Strengthening exercises (selected)
- Flexibility exercises

\* If patient is able to perform pain-free

<sup>a</sup> Exercise can be augmented by hip adduction contraction (ball squeeze)

<sup>b</sup> Progression based upon assessment of pain, inflammation, and quadriceps control