

**MENISCAL ROOT REPAIR/ MENSICAL RADIAL TEAR REPAIR**

This protocol provides general guidelines for initial stage and progression of rehabilitation according to specified time frames, related tissue tolerance and directional preference of movement. The intent is to provide the therapist with a general framework. Twin Cities Orthopedics staff will provide contact information for further individual-specific rehabilitation progression consultation and general questions regarding specific patients. Please fax initial assessment and subsequent progress notes directly to Dr. Corey Wulf at 952-944-0460.

**General Principles:**

- **Early Hamstring Precautions to Protect the Repair**
- **Early Resolution of Tissue Irritability/Effusion**
- **Slow/Progressive Loading into Knee Flexion ROM**
- **Gradual Return of Functional Strength & Conditioning**
- **Criteria-Based Return to Sport at 6+ Months**

**PHASE I: Weeks 0-6****Precautions**

- Non-weight bearing
- No Active Hamstring Contractions
- PROM: (full extension-90° flexion for 4 weeks then gradually progress as tolerated)
- Brace on except for showering (locked in extension when ambulating)
  - OK to unlock brace while non-weight bearing (i.e. seating, lying down)

**Interventions**

- Passive Heel Prop Terminal Knee Extension Stretch
- Passive Knee Flexion ROM (**No Hamstring Contraction**)
- Patella, patellar tendon, quadriceps tendon mobilizations
- Progressive Quadriceps activation with focus on terminal knee extension
- Passive Quadriceps Thomas stretch ROM 0-90° only
- SLR Series (**Excluding prone SLR**)
- NWB calf stretching and strengthening
- Core and upper body strengthening as appropriate

**Goals/Criteria to Advance**

- Achieve symmetrical terminal knee extension/hyperextension
- Successful management of joint effusion to trace amount
- Pain-free ROM

## **PHASE II: Weeks 7-9**

### **Precautions**

- Gradual progression of weight bearing as tolerated
- Gradual return of full knee flexion ROM
- Knee flexion <40° with Closed-Chain activity
- Closed-Chain activity limited to weight bearing status
- No WB flexion >90 degrees for 2-3 months

### **Interventions**

- Non Weight Bearing knee flexion ROM to full (monitor pain/effusion)
- Stationary bike (No resistance)
- Gait training/Walking Program to 30 minutes
- Progressive weight bearing balance training
- Calf raises and stretching
- Single/Double leg press up to WB status (pain-free, 0-40°)
- Core and upper body exercises as appropriate
- Continue Passive quadriceps Thomas stretch (within pain free)
- Continue Hip Strengthening/SLR Series (including prone SLR)

### **Goals/Criteria to Advance**

- Nearly normalized knee range of motion
- Resolve effusion and tissue irritability in full weight bearing
- Normalize gait on flat ground
- Tolerating 25-30 minutes of weight bearing activity

## **PHASE III: Weeks 10-15**

Note: Exercise dose should follow high-repetitive/low-load program of multiple sets with 30-60 second rest periods (ex. 3-4 sets of 15-25 repetitions)

### **Precautions**

- <70° of knee flexion with Closed-Chain exercise
- Closely monitor pain and swelling

### **Interventions**

- Stationary bike with resistance, elliptical, treadmill walking, light/protected freestyle swim (**starting week 12**)
- Single/Double leg press PRE's
- Double-to-Single Leg Squat in Protected Motion with Excellent Technique
- Static-to-Dynamic Lunge Series (Sagittal Plane Only)
- Step-up/Step-down series in protected ROM (anterior/posterior/lateral)
- Continue progressive weight bearing balance training
- Continue calf raises
- Continue hip strengthening/SLR series (including prone SLR)

### **Goals/Criteria to Advance**

- Symmetrical knee motion with absent knee pain/effusion

- Able to maintain single leg squat for 90 seconds at 45° of knee flexion (Excellent Control)
- Quad Index: 75-80%

#### **PHASE IV: Weeks 16-21**

Note: Exercise dose should follow moderate repetition/load program of multiple sets with 30-90 second rest periods. (ex. 3-4 sets of 8-12 repetitions)

#### **Precautions**

- Until week 17, no isolated hamstring strengthening
- Until week 17, maximum of 70° knee flexion with Closed-Chain exercise
- Until week 20, maximum of 90° knee flexion with Closed Chain exercise

#### **Interventions:**

- Single-leg squats
- Sling-leg deadlifts
- Multi-Directional Lunge Matrix with Progressive Load
- Return to Running Progression (**Starting Week 16 if >80% Quad Index**)
- Continue Single/Double leg press PRE's
- Continue Step-up/Step-down series with progressive load (anterior/posterior/lateral)
- Continue progressive, weight-bearing balance training
- Continue calf raises and stretching

#### **PHASE V: Weeks 22+**

#### **Precautions**

- No deep squatting for 6+ Months (this is very conservative and maybe change to no deep squatting with greater than body weight)

#### **Interventions**

- Progressive double and single leg jump training with excellent landing mechanics
- Ladder Drill Agility
- Lateral Hops with/without perturbation training
- Progressive cutting activities
- Sport-specific drills/conditioning

#### **6 Month Goals/Return to Sport Criteria**

- Quad index: 95-105% of contralateral side
- Functional Performance Testing: >90% Symmetry on hop testing with excellent mechanics
- Global Rating of knee: >90%
- Knee Outcome Score: >90%
- Psychometric Score: >90%