

## **Ronak M. Patel, MD**

# **Meniscal Root Repair**

## **Rehabilitation Guidelines**

Background: A root repair of the meniscus is unlike standard meniscus repair. Progression of motion and weight bearing are much slower. Please read all of the information below prior to beginning rehabilitation. The root attachments of the posterior horns of the medial and lateral meniscus are very important for joint health. When these are torn, the loading of the joint is equivalent to having no meniscus on the affected side. Thus, these patients can often have early onset arthritis, the development of bony edema, insufficiency fractures, and the failure of concurrent cruciate ligament reconstruction grafts. In order to avoid these issues, we repaired the root. However, in order for the root to heal proper precautions and rehabilitation are necessary. Please see below, if there are any questions please reach out to Dr. Ronak Patel and his staff.

### General Precautions:

- Avoid significant squatting, the combination of squatting and lifting and sitting cross-legged for 5-6 months
- Non-isometric isolated hamstring activity not allowed until 16 weeks

### **PHASE 1: Protection, 0-6 weeks**

#### GOALS:

- 🕒 Protect Surgical Repair → **NWB x 6 weeks**
- Decrease swelling/Resolve Effusion
- Re-establish quadriceps control
- Restore Symmetric ROM
- Begin PROM – 0-90 degrees flexion; do **NOT go past 90 degrees the first 2 weeks**
- Emphasize patellar mobility and regaining full knee extension

#### Guidelines:

- Bracing: Patient will be placed in one of two types of brace (braces can be removed for exercises unless otherwise noted):
  - Extension Lock Splint (ELS or TROM) locked at -10 degrees
  - Unloader brace. Please note brace **does not** have the capability of being locked.
    - ♣ Unloader brace will be set with unload/dial of 0 immediately after surgery.
    - ♣ Unload/dial will be adjusted to 2.5 at first post-operative visit by physician's staff.
- WB status: **Weeks 0-6 NWB**
  - ELS/TROM: **brace locked at -10 degrees** with assistive device.
  - Unloader brace: ambulation with assistive device. Brace will not be locked in full extension.
- PROM: Weeks 0-2: 0-90 degrees, Weeks 4-6: as tolerated/progressive
- Exercises: Quadriceps setting with e-stim as needed, SLRs – flexion, abduction, extension and adduction (in brace locked in extension if TROM), patellar mobilization, calf, quad and hamstring stretching-seated only, ankle pumps without/with band, seated knee flexion 0-90 degrees, Hip and core strengthening
- Other Precautions: Open Chains exercises in terminal extension until weight bearing status allows for Closed Chain, **NO isolated/isometric hamstring activity**

### **PHASE 2: Weight-Bearing Tolerance, 7-9 weeks**

#### GOALS:

- Achieve Full WB status (over 2-3 weeks)
- Muscle Control
- Normalize gait (peripheral) on flat ground
- Tolerate 25 minutes of standing and waking activity

Guidelines:

- Bracing: 4-6 weeks
- WB status: ¼ WB then progress to FWB
  - ELS/TROM: brace locked initially until good quadriceps control achieved
    - If pain and swelling increase with initial WB then do NOT increase, and hold progression
- AROM: As tolerated
- Exercises: Heel/toe raises, quarter/half squats, Multi-Hip Machine with proximal resistance, seated knee ext (no weight) 90-30 degrees, proprioception/balance activities (in brace), Progressive balance training, double leg squats (once WB), core and upper body strengthening, stationary bike without resistance once has 110 degrees knee flexion
- Other Precautions: Closed chain exercises only when WB, <40 degrees of flexion with Close Chain exercises, **Non-isometric isolated H.S. not allowed until 16 weeks**

**PHASE 3: Endurance, 10-15 weeks**

GOALS:

- Full knee flexion and extension ROM
- Normal gait without brace or assistive device
- Good quadriceps control
- Good proprioceptive control
- 90 second hold in single leg squat position at 45 degrees of knee flexion \*\*\*need to achieve prior to moving to phase 4

Guidelines:

- WB status: WBAT
  - ELS/TROM: can d/c per therapist when adequate quadriceps control achieved. D/c brace at night.
  - Unloader brace: patient to continue ambulation with brace. D/c brace at night.
- ROM: as tolerated
- Exercises: Continue quad strengthening (leg press, squats/hungers), stretching all directions, lateral step-ups/hungers step-downs, stationary bike, proprioception activities bilateral / unilateral, hamstring curls, double-leg squats, static lunges, dynamic lunges, stationary bike with resistance
- Individualized Cardiovascular Conditioning: Bike with resistance, Elliptical, Treadmill walk, swimming
- Other Precautions: **<70 degrees of flexion with Closed Chain activity**

**PHASE 4: Strength, 16-21 weeks**

GOALS:

- Quadriceps index >80%
- Anterior reach on Y Balance Test: <8cm difference when compared to uninvolved side \*\*\*need to achieve prior to moving to phase 5

Guidelines:

- Exercises: Single-leg squats, single-leg deadlifts, step-ups/step-downs, multidirectional lunges, stationary bike with resistance
- Other Precautions: Until week 20, maximum of 90 degree flexion with Close chain activity

**PHASE 5: Power, Running and Return to Sport 22+ weeks**

- Exercises: Slowly progress to treadmill walking / running in straight line, sport specific activities, progress proprioception activities as tolerated, Double-leg and single-leg jump training, ladder drill agility, lateral hops with and without resistance, progressive cutting activities
- No deep squatting for 6 months, **avoid significant squatting, the combination of squatting and lifting and sitting cross-legged for 5-6 months**
- Running Progression

