



## REHABILITATION PROTOCOL

### Meniscus Root Repair

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#### **Phase I: Protective Post-op Phase (Weeks 0 to 5)**

Goals: protect and minimize stress to the root repair; achieve full knee extension early; minimize effects of immobilization; decrease pain and swelling

- Non-weight bearing (toe touch for balance) of the operative extremity for 5 weeks postop
  - Patient will be in TROM brace locked in full extension with activity; the brace can be removed only while sleeping/resting, shower, and rehab exercises
- Emphasis on achieving full knee extension early; ROM for knee flexion limited to 90° for 5 weeks postop
  - Due to strict weight bearing and ROM restrictions patients typically don't start formal therapy until 2-3 weeks postop
- Isometric quadriceps exercises: quad sets, 4-way straight leg raise while laying supine and standing with TROM brace on and locked
- Other non-weight bearing leg exercises for the hip, hamstrings, and calf
- Modalities to minimize pain and swelling; electrical stimulation if needed for significant quadriceps weakness

#### **Phase II: Intermediate Post-op Phase (Weeks 6 to 10)**

Goals: restore full knee ROM; normalize gait pattern without assistive device; protect the root repair; progress in quadriceps strength

- Begin WBAT on the operative extremity; use progression from crutches w/TROM → TROM only (unlocked) → no assistive device
  - Normalize gait pattern with emphasis on proper mechanics
- Progress in knee ROM to restore full ROM by 10 weeks postop
  - Use patellar, soft tissue, and joint mobilizations to help restore ROM
  - Use stationary bike for ROM progression once 105°-110° knee flexion is achieved
    - Start with no resistance to focus on restoring motion; may then increase resistance once ROM is restored as warm-up and strengthening exercise
- Begin proprioceptive, balance, and sensorimotor exercises

- Begin closed kinetic chain exercises from 0°-60° knee flexion: mini squats, wall sits, leg press with light weight/resistance
- Continue with hip, hamstring, calf, and core strengthening exercises
- Can use stationary bike, treadmill walking, elliptical, and/or water running for training

### **Phase III: Strengthening Phase (Weeks 10 to 16)**

Goals: maintain full knee ROM; normalize gait; progress in quadriceps and leg strength; minimize post exercise pain and swelling; maximize independence with ADLs

- Maintain full knee ROM using mobilizations and stationary bike as needed
- Continued exercise for normalized gait with proper mechanics
- Progress in quadriceps open and closed kinetic chain exercises
  - Refrain from weight bearing activity past 60° for at least 4 months postop to prevent undue stress to the meniscus root
  - May begin lung progression and single leg strengthening exercises
- Continue balance, coordination, and proprioception exercises including single leg balance exercises
- Use ADLs as rehab exercise to increase/maximize independence
- May begin straight line light jogging at approximately 14-16 weeks postop
- Continue with hip and leg strengthening exercises

### **Phase IV: Advanced Strengthening Phase (Weeks 16+)**

Goals: progress in quadriceps and leg strengthening exercises; proper mechanics throughout the exercise; increase muscular endurance; return to desired activity level

- Continue with progression of closed and open kinetic chain exercises
  - May progress past 60° of weighted knee flexion, but should refrain from weighted knee flexion >90° after surgery
- Continue with balance, coordination, and proprioception exercises and progression of single leg exercises
- May progress in running program if patient is pain-free with current running level and without post-exercise effusion
- May initiate progressive plyometric program as indicated/desired
  - Emphasize proper mechanics and low amplitude landing
- May initiate light agility program as indicated/desired
- Initiate return to sport/activity progression as indicated
- Return to sport criteria: 85-90 strength of contralateral leg with objective strength testing (single leg hop for distance, timed single leg hop, side hop, single leg triple hop, etc.)