

## Physical Therapy Protocol: ACL Reconstruction with Meniscal Repair (Root Repair)

### Phase 1: Weeks 0 through 6 – Meniscus Repair Protection, Quad Activation

**Physician Goals:** Protect the ACL reconstruction and meniscus root repair which are at their most vulnerable during this time, decrease pain, prevent significant stiffness, re-activate the quadriceps muscle group

**Restrictions:** Nonweightbearing with crutches, range of motion 0 to 90°, brace locked in full extension for sleep and when moving around, otherwise unlocked 0-90° while nonweightbearing

**Exercises:** Patella mobilization, quad sets with brace locked at 0°, straight leg raises with brace locked in full extension until quad control is good, then straight leg raises unlocked, heel slides to maximum of 90° of flexion, ankle pumps, body weight core strengthening, isometric knee extensions (90-45°), no-load full-ROM knee extensions, progress to weighted knee extensions (1-2 lbs increments; must be pain free), Passive BFR at 100% LOP, 5-minute occlusion, 3-minute reperfusion cycles No exercise required during this phase. Focus on mitigating muscle atrophy. NMES during OKC exercises Parameters: 2-second ramp-up, 10-second contraction, 50-second rest

**Total Visits:** 12 – once to twice per week with daily at home range of motion exercises, quad sets, ankle pumps

### Phase 2: Weeks 6 through 12 – Range of Motion Recovery

**Physician Goals:** Gradually increase to full weight bearing by the end of week 10 (25% per week), regain full range of motion, begin to build lower extremity strength and endurance while minimizing impact, discontinue crutches completely, transition from postoperative brace to unloader brace

**Restrictions:** No weight bearing with the knee beyond 90° of flexion, unloader brace whenever weight bearing, no running, jumping, cutting, pivoting

**Exercises:** Short arc squats/weight shifts, start proprioceptive training, initiate step-up program and progress to step-down program, leg press, lunges, isotonic knee extensions, stationary bike with low resistance, retrograde treadmill ambulation, advance hip/core/glute strengthening; continue BFR with OKC exercises at 80% LOP, 30-15-15-15 rep scheme with gradual progression to 20-30% 1 rep max resistance. NMES with advanced resistance exercises Adjust intensity as needed for strength recovery; ensure proper patient comfort. Swimming / aquatic cardio OK at this phase

**Total Visits:** 12 – once to twice per week depending on patient's ability to perform HEP independent of PT sessions

### Phase 3: Weeks 12 through 24 – Strength Recovery

**Physician Goals:** Increase strength throughout the entire range of motion without restrictions

**Restrictions:** No cutting or pivoting, unloader brace whenever weight bearing

**Exercises:** Progress lower body strengthening with no restrictions, elliptical; swimming OK at this phase, return to run program beginning at 16 weeks, jump training beginning at 20 weeks, **Biodex testing once 6 months postop**

**Total Visits:** 24 – once to twice per week depending on patient's ability to perform strength training independently – goal is strengthening 3-4x per week

### Phase 4: 6 months to 8 months – Prepare to Return to Sport

**Physician Goals:** Use data from Biodex testing at 6 months to address residual muscular imbalance or weakness, continue to improve strength and conditioning in anticipation of full clearance at 8 months, wean out of unloader brace

**Restrictions:** No contact sports or contact sporting activities

**Exercises:** Exercises tailored to results of Biodex testing, plyometrics, cutting/pivoting/agility drills without restriction

**Total Visits:** 16 – once to twice per week depending on patient's ability to perform strength training independently – goal is strengthening 3-4x per week