**ACL Reconstruction with Meniscus repair**

**General Precautions:**

- Focus on protection of graft during primary revascularization (8 weeks) and graft fixation (8-12 weeks)

- Brace 0-90 degrees for ADLs until 6 weeks post-op

- Full weight bearing with the knee in full extension for 6 weeks

- Avoid squatting and flexion for leg press beyond 90 degrees until 4 months post-op

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| **Phase** | **Goals/Progression Criteria** | **Precautions** | **Suggested treatments** |
| **1.**  **0-4 weeks post-op** | 1. Minimize effects of immobilization  2. Good quad set, SLR without extension lag  3. Minimal swelling/inflammation  4. Normal gait on level surfaces  5. Protect graft and graft fixation  6. Educate patient on rehab progression  7. ROM 0-90 | - Delay hamstring strengthening 12 weeks (hamstring tendon autograft procedure only)  -Avoid SLR until able to perform without extensor lag | -Patellar/scar mobilization  -Hamstring curls-add weight as tolerated (patellar tendon autograft only)  -Heel slides (to 90 degrees only for hamstring tendon autograft)  -Quad sets (consider NMES for poor quad sets)  -Gastroc/soleus stretching  -Hamstring stretches (gentle for hamstring tendon autograft)  -Gastroc/soleus strengthening (for patellar tendon autograft)  -SLR, all planes, with brace in full extension until quadriceps strength is sufficient to prevent extension lag- add weight as tolerated to hip abduction, adduction and extension  -For patellar tendon autograft procedures only: Closed kinetic chain quadriceps strengthening (wall sit, step ups, mini squats, leg press 90-30), quadriceps isometrics at 60 and 90 degrees, balance/proprioception, stationary bike for ROM and progressing toward light resistance as tolerated |
| **2.**  **4-10 weeks post-op** | 1. Full PROM flexion/extension (flexion starting at 6 weeks)  2. No patellofemoral pain  3. Minimum 120 degrees flexion for progression  4. Restore normal gait with stair climbing after brace is discontinued at 6 weeks  5. Sufficient strength and proprioception to initiate treadmill running | - Protect graft and graft fixation | -Continue with ROM/flexibility exercise  -Continue closed kinetic chain strengthening as above for patellar tendon autograft and progress as tolerated- can include one leg squats, leg press, step ups at increased heights, partial lunges deeper wall sits, lunge walks  -Initiate CKC quad strengthening and progress as tolerated for hamstring tendon autograft (wall sits, step ups, mini-squats, leg press, lunges at 90-30 degrees)  -Stairmaster (begin short steps, avoid hyperextension)  -Nordic trac or elliptical machine for conditioning  -Stationary bike- progress time and resistance as tolerated  -Continue to progress proprioceptive activities for patellar tendon autograft: initiate for hamstring tendon: ball toss, balance beam, mini tramp balance)  -Continue hamstring gastroc/soleus stretches  -Continue to progress hip, hamstring and calf strengthening as tolerated  -If available, begin running in the pool (waist deep) or on an unweighted treadmill at 8 weeks. |
| **3.**  **10-16 weeks post-op** | 1. Full pain-free ROM  2. Improve strength, endurance and proprioception of the lower extremity to prepare for return to sport  3. Normal running mechanics  4. Sufficient strength and proprioception to initiate agility activities  5. Strength approximately 70% of uninvolved lower extremity per isokinetic evaluation (if available) | -Progress toward full weight bearing treadmill running at 12 weeks for BTB autograft and 16 weeks for hamstring tendon autograft  -Protect patellofemoral joint  -Avoid overstressing graft, for hamstring tendon autograft progressively increase resistance of hamstring strengthening | -Continue flexibility and ROM exercises as appropriate  -Initiate OKC knee extensions 90-30 degrees, progress to eccentrics  -If available, isokinetics (with anti-shear device)- begin with mid-range speeds (120o/sec-240/sec)  -Begin swimming if desired  -Recommend isokinetic test with anti-shear device at 12 weeks (14-16 weeks for hamstring tendon autograft) to guide continued strengthening  -Progress hip, quadriceps, hamstring, calf strengthening  -Cardiovascular/endurance training via stairmaster, elliptical, bike  -Advance proprioceptive activities |
| **4.**  **4-6 months post op** | 1. No patellofemoral or soft tissue complaint  2. Normal joint ROM, strength, endurance and proprioception to safely return to work/athletics  3. Symmetric performance of basic and sport specific agility drills  3. Single leg hop and 3 hop test 85% of uninvolved leg  4. Quadriceps and hamstring strength at least 85% of uninvolved leg per isokinetic strength test |  | - Continue and progress flexibility and strengthening program based on individual needs/deficits  - Initiate plyometric program as appropriate for athletic goals  -Agility progression including but not limited to:  -Side steps, crossovers, figure 8 running, shuttle running, one and two leg jumping, cutting, acceleration/deceleration sprints, agility ladder drills, progression of running distance based on patient needs, initiate sport-specific drills as appropriate, assessment of running on treadmill |
| **5.**  **6 months+** | 1. Physical therapy evaluation for return to sport  2. Gradual return to sports participation  3. Maintenance program for strength and endurance |  |  |