

ACL Patellar Tendon Graft Reconstruction: Postoperative Protocol

Hugh C. McLeod III, MD

Phase I: Acute

Purpose

- 1. Control edema
- 2. Decrease rate of atrophy
- 3. Maintain full extension and increase ROM
- 4. Decrease pain
- 5. Education

Post-op Day 1

- 1. ROM brace locked at 0 degrees on at all times except for exercise
- 2. CPM 0 degrees to tolerance (30 - 60 degrees)
- 3. Patella mobilization
- 4. Ankle pumps
- 5. Quad sets with concomitant hip adduction*
- 6. Straight leg raise
- 7. Hamstring stretch with concomitant heel cord stretch
- 8. Ambulation with 2 crutches WBAT
- 9. Ice and elevation (15-20 minutes every 1-2 hours)**
- 10. Ace wrap for compression
- *Use Biofeedback and / or electrical stimulation as needed
- **To be done with heel propped up and knee unsupported

Post-op Day 2

- 1. CPM 0 degrees to tolerance (60-90 degrees)
- 2. Continue with current exercises
- 3. Calf raisers
- 4. Mini squats (20-30 degrees)

Post-op Day 3-7

- 1. CPM 0 degrees to tolerance (0-100 degrees)
- 2. Heel slides
- 3. Continue with same exercises
- 4. Bike for ROM
- 5. Hip flexion (SLR), extension, abduction and adduction*
- 6. Knee extension (Isometrics as tolerated 90 degrees, 60 degrees and 45 degrees)
- 7. Knee flexion
- 8. Ice and elevation**
- *Use electrical stimulation as needed
- **To be done with heel propped and knee unsupported
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Post-op Day 8-14*

- 1. Continue with same exercises
- 2. Leg press (ROM as tolerated)
- 3. Start shuttle
- 4. Prone Hangs 5-15 minutes
- 5. Patellar mobs / scar massage
- 6. I.T. Band Stretch
- 7. Flexion to tolerance (90-105 degrees)
- *Constant check for full extension

Phase II - Maximum Protection

Purpose

- 1. Regain Full ROM
- 2. Increase strength
- 3. Non antalgic, independent ambulation
- 4. Improve stability
- 5. Minimize compromising factors:
 - A. Anterior tibial translation
 - B. Tibial rotation in terminal knee extension
- 6. Stimulate appropriate collagen formation

Post-op Day 15-30

- 1. Brace unlocked but on at all times except for exercise and sleep
- 2. Patella mobilization
- 3. Scar mobilization
- 4. Multi direction hip with involved leg
- 5. Knee extension with concomitant hip adduction (90-40 degrees)
- 6. Knee flexion
- 7. Calf raisers
- 8. Leg Press
- 9. PRE's 3-5 lbs. and progress as tolerated
- 10. ROM 110-120 degrees
- 11. Standing TKE's with tubing
- 12. Continue prone hangs 10-20 minutes
- 13. Hamstring / Achilles stretch
- 14. Quad stretch
- 15. Adductor stretch
- 16. IT Band stretch
- 17. Ice with heel propped and knee unsupported

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Post-op Week 5-8

- 1. D/C immobilizer
- 2. Increase cardiovascular work
- 3. Progress same exercises with more weight as tolerated
- 4. Initiate weight machines to include Leg Press, Knee Extensions & Hamstring Curls
- 5. Begin Stairmaster as tolerated
- 6. Progress to single leg step ups (2"-6")
- 7. Isokinetics:
 - A. Full ROM for hamstrings 180 degrees / sec, 240 degrees / sec
 - B. 90 - 40 degrees ROM for quadriceps 180 degrees / sec, 240 degrees / sec
- 8. Continue to increase PROM to WNL (0 - 135 degrees)

Phase III - Regain Function

Purpose

- 1. Progress functional activities
- 2. Enhance (Proprioception) Stability
- 3. Regain stability throughout the ROM
- 4. Achieve equal strength in comparison to uninvolved leg

Post-op Month 2-3*

- 1. Continue to progress exercises with increased intensity and ROM
- 2. Short arc quads in closed chain
- 3. Slide board
- 4. Progress proprioceptive exercise
- 5. Full ROM isokinetics (Velocity Spectrum 180 degrees / sec - 300 degrees / sec
- * At 3 months - Baseline isokinetic strength test at 240 degrees - 300 degrees / sec

Phase IV - Return to Sport

Purpose

- 1. Regain Sport Specific skills

Post-op Month 3-6

- 1. Increase functional drills
- 2. Progress proprioceptive drills (ie. 3 plane trunk with eyes closed)
- 3. Progress to plyometric activities as tolerated
- 4. Isokinetic testing 1 time per month until *
 - *Quads 90% or better. Hamstrings 100% better. Peak torque to body weight 70% or better
 - **KT 1000 test as ordered by MD
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Phase V - Independence

Post-op Month 6+

- 1. Patient returns to sport / activities of daily living
- 2. Satisfactory clinical exam by MD and PT
- 3. Satisfactory isokinetic test
- 4. Lateral bracing
- 5. Maintenance home exercise program
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