
Quadriceps/Patellar Tendon Repair Physical Therapy Protocol

Phase I: Immediate Post-operative (Days 1 to 7)

Goals

- Restore full passive knee extension
- Diminish pain and joint swelling
- Restore patellar mobility
- Initiate early controlled motion

Weight Bearing

- Immediate toe touch weight bearing with two crutches

Brace

- Brace locked at 0 during functional and weight bearing activities for six weeks
- Sleep in locked brace for six weeks
- Unlocked for non-weight bearing activities (0 to 50 for first two weeks, progressing 10 degrees each week after)

Range of Motion

- 0 to 45 degrees at week one

Days 1 to 4

Exercise

- Full passive knee extension
- Passive flexion to range of motion listed above
- Ankle pumps
- Quad sets
- Patellar mobilization
- Side lying hip abduction/adduction
- Cryotherapy with elevation for pain and inflammation every hour for 20 minutes

Days 4 to 7

Exercise

- Continue exercises as listed above
- Progress passive flexion to range of motion listed above
- Initiate gravity eliminated straight leg raises for flexion
- Continue cryotherapy for pain management

Phase II: Maximum Protection (Weeks 2 to 6)

Goals

- Control forces on healing tendon
- Gradually increase knee flexion
- Restore full passive knee extension
- Restore patellar mobility
- Retard muscular atrophy

Weight Bearing

- 50 to 75 percent weight bearing with two crutches at week two
- Weight bearing as tolerated with one crutch at week four
- Progress to full weight bearing at week five (wean from crutch as gait normalizes)

Range of Motion

- 0 to 60 degrees at week two
- 0 to 75 degrees at week three
- 0 to 80 degrees at week five
- 0 to 90 degrees at week six

Weeks 2 to 3

Exercise

- Continue exercises as listed above
- Progress passive flexion to range of motion listed above
- Neuromuscular electrical stimulation with quad sets
- Continue cryotherapy for pain management

Week 4

Exercise

- Continue exercises as listed above
- Progress passive knee flexion to range of motion listed above
- Weight shifts
- Mini squats (0 to 45 degrees)
- Proprioception drills
- Continue cryotherapy for pain management as needed

Weeks 5 to 6

Exercise

- Continue exercises as listed above
- Progress passive knee flexion to range of motion listed above
- Long arc quads (90 to 30 degrees)
- Multi-angle isometrics
- Four-way straight leg raises
- Initiate pool program
- Continue cryotherapy for pain management as needed

Phase III: Moderate Protection (Weeks 7 to 16)

Goals

- Control forces during ambulation and ADL's
- Progress knee flexion range of motion
- Improve lower extremity muscular strength
- Restore limb confidence and function

Brace

- Discontinue by week eight

Range of Motion

- 0 to 100 degrees at week seven
- 0 to 115 degrees at week nine
- Progress to full range of motion at weeks 10 to 12

Weeks 7 to 10

Exercise

- Continue exercises as listed above
- Long arc quads (90 to 0 degrees)
- Step ups
- Mini squats
- Leg press
- Wall squats
- Front/lateral lunges
- Hamstring curls
- Lateral walks with resistance
- Terminal knee extensions
- Bicycle
- Calf raises

Weeks 12 to 16

Exercise

- Continue exercises as listed above
- Elliptical
- Step downs
- Lateral step downs
- Backward lunges
- Walking program

Phase IV: Light Activity (Months 4 to 6)

Goals

- Enhancement of strength and endurance
- Initiate functional activities
- Improve tensile strength properties of the tendon

Exercise

- Continue exercises as listed above
- Continue emphasis on eccentrics and functional exercises
- Initiate plyometrics at month five
- Initiate agility drills at month five
- Initiate light running at month five to six

Phase V: Return to Sport Activity (Months 7 to 9)

Criteria to Progress to Phase V

- Satisfactory clinical exam
- Satisfactory strength
- Proprioception test to within 80 percent of contralateral side
- Appropriate rehab progression

Goals

- Gradual return to full, unrestricted sports
- Continue strength program
- Continue functional/agility drills

Maintenance Program

- Continue exercises as listed above
- Progress running program
- Progress agility program
- Progress sport specific training