

Rehabilitation Following Unilateral Quadriceps Tendon Repair

I. Immediate Postoperative Phase (Days 1-7)

Goals: Restore full passive knee extension
Diminish pain and joint swelling
Restore patellar mobility
Initiate early controlled motion
*Controlled forces on repair site

Postoperative Days 1-4

- **Brace:** Drop locked brace locked at 0° extension with compression wrap
Sleep in brace
- **Weight bearing:** Toe touch WB with two crutches
- **Range of motion:** 0-30°
CPM 0-45° as tolerated
- **Exercises:** Ankle pumps
Quad sets
Patellar mobilization
Hip abd/adductions
- **Ice and elevation:** 20 minutes of each hour at elevate

Postoperative Day 4-7

- **Continue use of brace** (sleep in brace locked)
- **Weight bearing:** Locked brace two crutches WBAT
- **Range of motion:** 0-45°
CPM 0-75° as tolerated
- **Exercises:** Continue all listed exercises
Initiate gravity eliminated SLR flexion (assisted)
- **Continue ice and elevation**

II. Maximum Protection Phase (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

Week 2:

- **Brace:** Continue use of locked brace (6 weeks)
Sleep in brace (6 weeks)
- **Weight bearing:** WBAT (usually 50-75% BW)
- **Range of motion:** PROM knee flexion only 0-60°
Full passive knee extension
Patellar mobilization
- **Exercises:** Electrical muscle stimulation to quads
Quad sets
Ankle pumps
Hip abd/adductions
Gravity eliminated SLR flexion
- **Continue ice, elevation and compression**

Week 3:

- **Continue above mentioned exercises**
- **ROM:** 0-75°
- **Continue use of two crutches – 75-80% BW**

Week 4:

- **Continue all exercises listed above**
- **Weight bearing:** Progress to one crutch (at 28 days)
- **PROM:** 0-75°
- **Exercises:** Initiate mini-squats (0-45°)
Initiate weight shifts

Initiate proprioception drills

Weeks 5-6:

- **Discontinue use of crutch** at 5 weeks postop
- **Unlock brace** for ambulation at 6 weeks
- **Range of motion:** PROM
Week 5: 0-80°
Week 6: 0-90°
- **Exercises:** Initiate pool exercise program
Active knee extension 90-30°
Multi-angle isometrics knee extension (subnex)
Continue all exercises listed above

Initiate anti-gravity SLR flexion

- Continue ice, compression and elevation as needed

III. Moderate Protection Phase (Weeks 7-16)

Goals: Control forces during ambulation and ADL's
 Progress knee flexion ROM
 Improve lower extremity muscular strength
 Restore limb confidence and function

Weeks 7-10:

- **Brace:** Use postop brace unlocked for ambulation until 7-8 weeks
 (or until determined safe)
 Discontinue sleeping in brace
- **Range of motion:** Week 7: 0-95/100°
 Week 8: 0-100/105°
 Week 10: 0-115°
- **Exercises:** *Gradually increase muscular strength
 Straight leg raises (flexion)
 Hip abd/adduction
 Knee extension 90-0
 ½ squats
 Leg press
 Wall squats
 Front lunges
 Lateral lunges
 Calf raises
 Hamstring curls (restricted ROM)
 Proprioception drills
 Bicycle
 Pool program

Weeks 12-16:

- **Range of motion:** Week 12: 0-125°
- **Exercises:** *Continue all exercises listed above
 Initiate lateral step-ups
 Initiate front step-downs
 Initiate backward lunges
 Walking program
 *No sports!

IV. Light Activity Phase (Months 4-6)

Goals: Enhancement of strength, endurance
 Initiate functional activities
 Improve tensile strength properties of tendon

- **Exercises:** Continue strengthening exercises
Continue emphasis on eccentrics and functional exercises
 - *May initiate plyometrics (month 5)
 - *May initiate agility drills (lateral shuffle) month 5
 - *If appropriate!
 - *May initiate light running months 5-6

V. Return to Sport Activity Phase (Months 7-9)

Criteria to Return to Activities:

- 1) Satisfactory clinical exam
- 2) Satisfactory strength
- 3) Proprioception test 80% > of opposite leg
- 4) Appropriate rehab progression

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

- **Exercises:** Continue strengthening exercises
Continue agility program
Continue sport specific training