

## QUAD TENDON REPAIR

### General considerations:

- Patients are weightbearing as tolerated with crutch use as needed postoperatively upon physician approval.
- Range of motion will be blocked at 0° in a brace for 2 weeks.
- Important not to push for flexion past 90° for 6-8 weeks postop to protect repair.
- Regular manual and self-mobilization of the patella, patellar tendon, and incision should be performed to prevent fibrosis, improve range of motion, and functional mobility.
- Regular attention to proper VMO recruitment and patellofemoral mechanics will optimize outcome.
- \*Return to sports and activities is dependant on passing a functional sports test.

### Week 1:

- MD office visit for dressing change, review of medications, and instructions on a home program.
- ROM limited 0-30°.
- Gait training with crutches, pain and edema control.
- Ankle pumps, quad sets.
- Light pain-free stretching to hamstrings, calves, and lateral musculature to maintain extension range of motion.
- Ice and elevation 15 minutes every hour for swelling control.

### Weeks 2-4:

- Continue to progress weightbearing in brace as tolerated.
- Submaximal quad, glute, and abduction/adduction isometrics within the range restrictions.
- Assisted straight leg raises with no gravity, calf raises, weight shifting, ankle exercises, balance, and proprioception exercises.
- Patella, suprapatellar pouch, and scar mobilization regularly.

### Weeks 4-6:

- Brace from 0-40° for day-to-day activities and exercises per physician.
- Brace unlocked as tolerated to 70°.
- Submaximal quad isometrics and ankle isometrics through multiple ranges.
- Initiate weight shifting, short-arc knee bends (mini-squats), and proprioceptive exercises within range.
- Pool walking and workouts as soon as incisions are well healed.

### Weeks 6-8:

- Increase range of motion to 0-80° in the brace and for exercises.
- Functional exercises should focus on eccentrics. Increase depth of knee bends and add step-ups.
- Continue to increase intensity and resistance of other exercises.
- Goals are to increase passive and functional range of motion. Passive flexion to 90° for stretching.
- Initiate anti-gravity straight leg raises as tolerated.
- Wean to 1 crutch. Brace unlocked by 8 weeks, if quad control good in standing/walking.
- Initiate two-legged bicycling for range of motion only and without resistance.

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### Weeks 8-12:

- Increase range of motion in brace to full and wean off as able.
- Initiate passive flexion stretching to increase range of motion.
- Add lateral exercises (i.e., lateral stepping, lateral step-ups, etc.).
- Continue all exercises with emphasis on closed chain, functional, and proprioceptive program.
- Increase resistance of cycling, stair machine, and pool programs.
- Wean to no crutch use all ADLs.

### Weeks 12-16:

- Goals are to increase strength, power, and cardiovascular conditioning.
- Sport-specific exercises and training program.
- Maximum eccentric-focused strengthening program.
- Begin light running program as able to demonstrate good strength and mechanics.

### 4-6 months:

- Goals are to develop maximum strength, power, and advance to sporting activities.
- Resisted closed chain rehabilitation through multiple ranges.
- Running program, balance drills, and agility program.
- Initiate plyometric training as able to demonstrate adequate strength and proper mechanics.