After Quadriceps Tendon Repair

Rehabilitation Protocol

Phase One- Maximum Protection (Weeks 0-6)

- 0 to 2 weeks
  - Brace locked in full extension for 6 weeks
  - Partial weight bearing for 2 weeks
  - Ice and modalities to reduce pain and inflammation
  - Aggressive patella mobility
  - Range of motion 0 degrees to 30 degrees flexion
  - Begin submaximal quadriceps setting

- Weeks 2 to 4
  - Weight bearing as tolerated; progressing off of crutches
  - Continue with inflammation control
  - Continue with aggressive patella mobility
  - Range of motion 0 degrees to 60 degrees
  - Heel slides and total knee extension with ankle on towel
  - 4 way leg lifts with brace locked
  - Weight shifting with brace on

- Weeks 4 to 6
  - Full weight bearing
  - Continue with ice and aggressive patella mobility
  - Range of motion 0 degrees to 90 degrees (by week 6)
  - Increase intensity with quadriceps setting

Phase Two- Progressive Range of Motion and Early Strengthening (Weeks 6-12)

- Weeks 6 to 8
  - Full weight bearing
  - Open brace to 45 degrees-60 degrees of flexion week 6, 90 degrees at week 7
  - Continue with swelling control and patella mobility
  - Gradually progress to full range of motion
  - Begin mutli-plane straight leg raising and closed kinetic chain strengthening program focusing on quality VMO function
  - Initiate open kinetic chain progressing to closed kinetic chain multi-plane hip strengthening
  - Normalize gait pattern
✓ Begin stationary bike
✓ Initiate pool program

❖ Weeks 8 to 10
✓ Wean out of brace
✓ Continue with patella mobility
✓ Normalize gait pattern
✓ Restore full ROM
✓ Progress open and closed kinetic chain program from bilateral to unilateral
✓ Increase intensity on stationary bike
✓ Begin treadmill walking program forward and backward
✓ Begin elliptical trainer

❖ Weeks 10 to 12
✓ Full ROM
✓ Terminal quadriceps stretching
✓ Advance unilateral open and closed kinetic chain strengthening
✓ Initiate core strengthening program

Phase Three- Progressive Strengthening (Weeks 12 to 16)
❖ Weeks 12 to 16
✓ Advance open and closed kinetic chain strengthening
✓ Increase intensity on bike, treadmill, and elliptical trainer
✓ Increase difficulty and intensity on proprioception drills
✓ Begin gym strengthening: leg press, hamstring curls, ab/adduction; avoid lunges and knee extensions
✓ Begin multi-directional functional core program

Phase Four- Advanced Strengthening and Functional Drills (Weeks 16 to 20)
❖ Weeks 16 to 20
✓ May begin leg extensions; 30 degrees to 0 degrees progressing to full ROM as patellofemoral arthrokinematics normalize
✓ Begin pool running program advancing to land as tolerated

Phase Five- Plyometric Drills and Return to Sport Phase (Weeks 20 to 24)
❖ Weeks 20 to 24
✓ Advance gym strengthening
✓ Progress running/sprinting program
✓ Begin multi-directional field/court drills
✓ Begin bilateral progressing to unilateral plyometric drills
✓ Follow-up appointment with physician
✓ Sports test for return to competition