Quadriceps and Patella Tendon Repair Rehabilitation Protocol

Phase I – Maximum Protection (Weeks 0 to 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 drills
- Range of motion – 0° to 30° knee flexion

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° to 30° progress to 60 by week 4
- Heel slides to 30 degrees
- Quad sets
- Hamstring stretches
- Foot/ankle mobility
- Ice/modalities PRN
**Weeks 4 to 6:**

Full weight bearing
Continue with ice and aggressive patella mobility
Range of motion – $0^\circ$ to $90^\circ$ (by week 6)
Increase intensity with quadriceps setting
Continue Heel slides
Quad sets, SLR all directions
Hamstring stretches
Ice/modalities PRN

**Phase II – Progressive Range of Motion and Early Strengthening (Weeks 6 to 12):**

**Weeks 6 to 8:**

Full weight bearing
Open brace to $45^\circ$ - $60^\circ$ of flexion week by week 8
Continue with swelling control and patella mobility
Gradually progress to full range of motion
Begin closed kinetic chain strengthening program focusing on quality VMO function.
Normalize gait pattern
Begin stationary bike
Initiate pool program

**Weeks 8 to 10:**

Open brace to 0-90, wean out of brace by week 10
Continue with patella mobility drills
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

**Phase III – 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 cord program

**Phase IV – Advanced Strengthening and Functional Drills (Weeks 16 to 20):**

**Weeks 16 to 20:**
May begin leg extensions; 30° to 0° progressing to full ROM as patellofemoral arthrokinematics normalize
Begin pool running program advancing to land as tolerated