**Quadriceps/Patellar Tendon Repair Rehabilitation Protocol**

**Phase I – Maximum Protection (Weeks 0-6):**

**0-2 weeks:**

* Brace locked in full extension for 6 weeks during ambulation
* 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
* Begin quad sets (no straight leg raise until week 3)
* \* No SAQ/LAQ until Phase II
* \* No bike until Phase II

**Weeks 2-4:**

* Weight bearing as tolerated; progressing off of crutches
* Continue with inflammation control
* Continue with aggressive patella mobility
* Range of motion – 0° to 60°
* Continue with quad sets/AA SLR in brace, use NMES as needed

**Weeks 4-6:**

* Full weight bearing
* Continue with ice and aggressive patella mobility
* Range of motion – 0° to 90° (by week 6)
* Continue with quad sets/AA SLR in brace

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

**Weeks 6-8:**

* Full weight bearing
* Open brace to 45°- 60° of flexion week 6, 90° at week 7
* Continue with swelling control and patellar mobility
* Gradually progress to full range of motion
* Begin multi-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 ≥115°
* Initiate pool program

**Weeks 8-10:**

* Wean out of brace
* 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 10-12:**

* Full ROM
* Terminal quadriceps stretching
* Advance unilateral open and closed kinetic chain strengthening
* Blood flow restriction therapy to build muscle mass and assist with quad activation

**Phase III – Progressive Strengthening (Weeks 12- 16):**

**Weeks 12-16:**

* 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
* **Core Program**
* Front plank – full, may advance to alternating leg lift
* Bridge – marching or single leg
* Side plank – full
* Dead bug progression
* Quadruped alternating arm-leg

**Phase IV – Advanced Strengthening & Functional Drills (Weeks 16-20):**

**Weeks 16-20:**

* May begin leg extensions; 30° to 0° progressing to full ROM as patellofemoral arthrokinematics normalize
* Begin pool running program advancing to land as tolerated
* \*No loaded deep knee flexion for 4-6 months
* \*Begin LAQ at 4 months at earliest

**Phase V – Plyometric Drills & Return to Sport Phase (Weeks 20-24):**

**Weeks 20-24:**

* 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 (Sport Cord Test @ 6mo if appropriate)

**RETURN TO ACTIVITIES**

Swimming free-style: 8-10 weeks when functional criteria are met

Shallow water pool running: 8-10 weeks when functional criteria are met

Outdoor Biking: 3 months when functional criteria are met

Running: 4-5 months when functional criteria are met

Golf: Short irons at 4 months, full swing with long irons at 5 months.

Delay 4-6 weeks if lead leg.

Pivoting/cutting sport: When functional criteria are met and cleared by surgeon, typically

7+ months at earliest