

Patella / Quadriceps Tendon Repair Rehabilitation Program

The Gundersen Sports Medicine Patella / Quadriceps Tendon Repair Rehabilitation Program is an evidence-based and soft tissue healing dependent program allowing patients to progress to vocational and sports-related activities as quickly and safely as possible. Individual variations will occur depending on the surgical technique and the patient's response to treatment.

➤ Phase I: Maximum Protection (week 0 to 6):

- **0 – 2 weeks:**
 - Partial weight bearing, brace locked in full extension
 - Range of motion – 0 to 30 degrees knee flexion
 - Ice and modalities to reduce pain/effusion/inflammation
 - Aggressive patella mobilizations
 - Begin submaximal quadriceps setting
- **2 to 4 weeks:**
 - Progress to WBAT with brace locked at 0, progressing off crutches by week 4
 - Range of motion – 0 to 60 degrees
 - Continue with pain/effusion/inflammation control
 - Continue with aggressive patellar mobility
 - Continue with submaximal quadriceps setting
- **4 to 6 weeks:**
 - WBAT with brace locked at 0.
 - Range of motion – 0 to 90 degrees by week 6
 - Continue with pain/effusion/inflammation control
 - Continue with patella mobility
 - Increase intensity with the quadriceps setting

➤ Phase II: Progressive Range of Motion and Early Strengthening (Week 6 to 12)

- **6 to 8 weeks:**
 - WBAT brace unlocked 0-45/60 deg at week 6, increase to 90 deg at week 7. Use crutches initially. D/C crutches when demonstrates heel to toe normal gait pattern with good quadriceps control.
 - Continue with swelling control and patella mobility
 - Gradually progress to full range of motion
 - Begin multi-plane straight leg raises 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

Adapted from Rosenberg Cooley Metcalf, Park City Utah

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- **8 to 10 weeks:**
 - Wean out of brace. Crutches as needed
 - Continue with patella mobility drills
 - Normalize gait pattern
 - Restore full ROM
 - Progress open and closed kinetic chain program from bilateral to unilateral
 - Increase intensity of stationary bike
 - Begin treadmill walking program forward and backward
 - Begin elliptical trainer

- **10 to 12 weeks:**
 - Full ROM
 - Terminal quadriceps stretching
 - Advanced unilateral open and closed kinetic chain strengthening

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

- **12 – 16 weeks:**
 - Advanced 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/addiction; avoid lunges and knee extensions.
 - Begin multi-directional functional cord program

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

- **16 to 20 weeks:**
 - May begin leg extension; 30 to 0 degrees progressing to full ROM as patellofemoral arthrokinematics normalize
 - Begin pool running program advancing to land as tolerated

➤ **Phase V: Plyometric Drills and Return to Sport Phase (Weeks 20 to 24)**

- **20 – 24 weeks:**
 - 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