

Rehabilitation Protocol: Quadriceps / Patellar Tendon Repair

Date of Surgery: _____

Repair: ☐ Quadriceps Tendon ☐ Patellar Tendon ☐ Augmentation

Protect the repair: No active knee extension/open chain for 6 weeks; no prone knee flexion; no pillow under the knee. Avoid stair descent until adequate quad strength. Progression is criteria-based. Outcome measures: LEFS, IKDC, NPRS. Please contact our office with any questions or concerns.

☐ **Phase I – Protection (Weeks 0–6)**

- **Weightbearing:** PWB or WBAT with brace locked at 0° extension and assistive device until gait normalized
- **Hinged Knee Brace:** Locked in full extension for ambulation and sleep; unlocked only within ROM limits for exercise
- **Range of Motion – PROM/AAROM:** weeks 0–3: 0–45°; weeks 3–6: up to 90°. Maintain full passive extension; seated AAROM progressing to stair stretch; wall heel slides once >70°
- **Therapeutic Exercises**
 - Quad sets with NMES/biofeedback (submaximal weeks 0–2, then progress); consider BFR
 - SLR series in brace locked in extension if lag
 - Submaximal isometrics at 60° once 90° passive flexion, progressing to multi-angle
 - Patellar, scar, and soft tissue mobilization; hamstring/calf flexibility
 - Core and hip PREs; bilateral weight shifting (brace locked); double-leg balance
 - Short crank bike once >85°
- **Criteria to Progress:** Pain-free WBAT with brace locked; full passive extension; 0–90°; SLR without lag; good patellar mobility

☐ **Phase II – Brace Wean and Strengthening (Weeks 7–12)**

- **Brace/Gait:** Unlock brace with a flexion stop once active extension to 0° and SLR without lag; discharge brace and crutches once good quad control in stance and normal gait
- **Precautions:** No aggressive knee flexion or quad stretching; no aggressive strengthening; no running, jumping, or sport
- **Range of Motion – Progress flexion** (seated, supine, wall slide, stair stretch, then prone); quad stretching once ≥120°; standard bike at 110–115°
- **Therapeutic Exercises**
 - Leg press double to single leg; eccentric leg press
 - Sit to stand, squat progression; step-up progression
 - Balance/proprioception; core and hip PREs
 - Retro, pool, or anti-gravity treadmill gait training
- **Criteria to Progress:** Minimal effusion; normal gait; no extensor lag; flexion ≥125°; controlled 6" step-up

☐ **Phase III – Strengthening (Weeks 13–18)**

- **Precautions:** No stair descent until adequate quad strength and control; no sport activity
- **Therapeutic Exercises**
 - Progress single-leg and eccentric quad strengthening; step-down progression
 - Advanced balance; elliptical; soft tissue work as needed

☐ **Phase IV – Running and Plyometrics (Weeks 19–24)**

- **Therapeutic Exercises**
 - Plyometric progression (double to single leg)
 - Return-to-run progression
 - Strength testing (limb symmetry)

☐ **Phase V – Return to Sport (Week 25+)**

- **Return to Sport:** Isokinetic quad strength $\geq 90\%$ of contralateral limb; forward hop $>90\%$ symmetry with good alignment and control; no pain or apprehension; physician clearance. Avoid premature return