

Rehabilitation Protocol: Multiligament Knee Reconstruction

Date of Surgery: _____

Ligaments: ☐ ACL ☐ PCL ☐ MCL ☐ PLC/LCL **Timing:** ☐ Acute ☐ Chronic

PLC/LCL: Non-weightbearing for weeks 0–2; avoid varus stress and tibial external rotation; no active hamstring strengthening until 4 months; PCL brace or varus unloader 3–4 months; return to sport typically ~1 year in a brace. **MCL:** avoid valgus stress for 6 weeks.

PCL: prevent posterior tibial sag – anterior tibial support during flexion; no active hamstring exercises early. Quad stim 4 hours/day during quad sets and SLR early. Please contact our office with any questions or concerns.

☐ Phase I – Early Protection (Days 0–13)

- **Weightbearing:** Two crutches, <50% days 1–4; 50% by day 7; 75% by day 12 (PLC/LCL: NWB weeks 0–2)
- **Hinged Knee Brace:** Drop-lock brace locked at 0° for ambulation and sleep, with compression wrap
- **Range of Motion – Days 1–4:** 0–45/50°; **day 5:** 0–65°; **day 7:** 0–70°; **day 10:** 0–75°; **day 14:** 0–90°. Restore full passive extension
- **Therapeutic Exercises**
 - Quad sets and SLR (flexion, abduction, adduction) in brace with NMES
 - Ankle pumps; patellar mobilization 5–6× daily
 - Ice, elevation (knee extended), and compression
- **Criteria to Progress:** Good quad set and SLR; full passive extension; 0–90°; good patellar mobility; minimal effusion

☐ Phase II – Maximum Protection (Weeks 2–6)

- **Weightbearing:** Weeks 2–3: ~75–80% with two crutches. Week 4: WBAT with one crutch. Weeks 5–6: discontinue crutches
- **Brace:** Locked at 0° for ambulation; discontinue sleeping in brace at week 4; **unlock for ambulation at week 6;** fit for functional brace
- **Range of Motion – 0–90° weeks 2–3; 0–90/100° week 4; 0–105° week 5; 0–115° week 6**
- **Therapeutic Exercises**
 - Multi-angle isometrics at 60° and 40°; quad isotonic 90–40°; mini squats 0–45°
 - Well-leg bike; **week 4+:** weight shifts, light leg press 60–0°, bike for ROM, pool walking, proprioception
 - **Weeks 5–6:** lateral lunges
- **Criteria to Progress:** PROM 0–115°; full weightbearing; quad strength >60% of contralateral limb; minimal effusion; no joint-line or patellofemoral pain

☐ Phase III – Moderate Protection (Weeks 7–12)

- **Brace:** Unlocked brace for ambulation; discharge weeks 7–8 (PLC: PCL brace or varus unloader)
- **Range of Motion – 0–125°**
- **Therapeutic Exercises**
 - Lateral and front step-ups (2" step, progressing)
 - Closed chain: squats 0–60°, leg press 90–0°
 - Swimming; proprioceptive training

☐ **Phase IV – Controlled Activity (Weeks 13–16)**

- **Therapeutic Exercises**
 - Eccentric quad emphasis; mini squats, step-ups/downs, lateral and front lunges, leg press
 - Hip abduction/adduction; calf raises; bike and Stairmaster
 - Pool running; walking program; isokinetics 100–40°
- **Criteria to Progress:** AROM 0–125°; quad strength 60–70% of contralateral limb; stable KT/clinical exam; no patellofemoral complaints

☐ **Phase V – Light Activity (Months 4–6)**

- **Therapeutic Exercises**
 - Plyometrics; agility; sport-specific training
 - **Running:** acute reconstruction at **4–5 months**, chronic at **5–6 months** – quad strength ≥80%, H:Q ≥70%, hop test >75%, stable exam

☐ **Phase VI – Return to Activity (Months 6–9)**

- **Return to Sport:** Satisfactory exam and stable KT; isokinetic testing and hop test >80%; physician clearance (PLC/LCL: typically ~1 year, with PCL brace)