ANDREW L. MERRITT, MD — PROLIANCE ORTHOPEDIC ASSOCIATES

YOUR MCL RECONSTRUCTION RECOVERY
A GUIDE TO PHYSICAL THERAPY

THE ROLE OF PHYSICAL THERAPY IN YOUR RECOVERY

The medial collateral ligament (MCL) on the inside of your knee was repaired and reconstructed. Both the repair and the new graft need protection during early healing. For six weeks, you are on crutches with limited weight. Getting your knee to bend past 130° by six weeks is critical — stiffness is the most common complication of MCL reconstruction, so your therapist works hard on motion throughout. After six weeks, weight-bearing advances and real strengthening begins.

Important: Avoid any valgus (outward) stress at the knee for 12 weeks — no wide-stance squats, lateral cutting, or pivoting. Your MCL resists this force; stress it early and you risk the repair.

YOUR RECOVERY TIMELINE

PHASE	TIMEFRAME	PT VISITS	WHAT YOU'RE WORKING ON
1	Weeks 1–2	2–3× per week	• Toe-touch weight-bearing — 15 lb maximum • Brace locked straight for all walking • Control swelling; daily kneecap mobilization to prevent stiffness • Quad sets and straight-leg raises to maintain muscle
2	Weeks 2–6	2× per week	• Gradual weight-bearing increase — progress toward toe-touch • Work toward 90° and then 130° bending by Week 6 (critical milestone) • Hip and quad strengthening within safe range of motion • Brace unlocked for exercises at rest
3	Weeks 6–12	2× per week	• Full weight-bearing once 130° bending milestone is met • Wean off crutches; normalize gait • Leg press, step-ups, stationary bike for progressive strength • Continue avoiding valgus stress
4	Months 3–9	1× per week + home program	• Sport-specific strengthening and agility training • Limb symmetry testing before return to sport • Cutting and pivoting activities at 6–9 months • Clearance by Dr. Merritt for full return to contact sport

Questions about your PT progress? Call our office or bring them to your next appointment. We are always glad to coordinate with your therapist.

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MCL RECONSTRUCTION WITH PRIMARY REPAIR PHYSICAL THERAPY PROTOCOL

Patient Name: _____ **Surgeon:** Andrew L. Merritt, MD
Date of Surgery: _____ **PT Start Date:** _____

Overview & General Principles

Dr. Merritt performs MCL reconstruction using semitendinosus autograft combined with primary repair of the native MCL when tissue quality permits. This combined approach provides both immediate structural repair of the ligament and durable graft augmentation for long-term valgus stability. The protocol is more conservative than non-operative MCL management due to the need to protect both the primary repair and the graft fixation during early healing. TTWB is maintained for 6 weeks. ROM progresses to 130° by Week 6. Full WB and strengthening advance after that milestone.

- VALGUS STRESS AVOIDANCE: The MCL resists valgus (outward) force at the knee. Any activity that opens the medial joint space — valgus-directed loading, lateral leg pressure, or pivot movements — stresses the repair and graft. Valgus stress avoidance continues through 12 weeks.
- PATELLAR MOBILIZATION: As with all prolonged bracing protocols, daily patellar mobilization prevents infrapatellar contracture and maintains patellar tracking during the NWB period.
- SEMITENDINOSUS HARVEST SITE: The semitendinosus is harvested from the ipsilateral extremity. Hamstring weakness from graft harvest is expected and addressed in Phase 3. Avoid aggressive hamstring stretching × 6 weeks to allow distal harvest site healing.
- ROM TARGET 130° BY WEEK 6: Achieving 130° of flexion by Week 6 is the criterion to advance to Phase 3. Stiffness is the most common complication of MCL reconstruction — aggressive ROM work within the safe range is essential throughout Phases 1 and 2.

PHASE 1 — NWB PROTECTION (Weeks 0–2)

INFORMATION FOR THE PATIENT — What to Expect This Phase

Your MCL repair and reconstruction need protection in the first weeks. You must stay non-weight bearing with crutches and keep your brace locked straight. The focus right now is controlling swelling, keeping your kneecap mobile, and activating your quad muscle. These early steps prevent stiffness that is difficult to recover later.

Goals:

- Strict TTWB — protect repair and graft fixation. 15lb WB max.
- Control swelling — limit inflammatory response at repair site
- Patellar mobilization — prevent infrapatellar contracture
- Quad activation — quad sets and SLR
- Maintain full knee extension

Weight-Bearing Status:

Strict TTWB × 2 weeks. Bilateral crutches at all times.

Range of Motion:
Brace unlocked 0-90°. Begin gentle passive ROM exercises: target 0–60° by end of Week 2. ROM performed supine with therapist support — no valgus stress. Full extension must be maintained and prioritized.

Bracing:
Hinged knee 0-90°. Remove only for exercises with therapist.

Exercises:
- Patellar mobilizations (superior, inferior, medial, lateral) — 2×2 min daily; begin Day 1
- Quad sets — 3×15, every 1–2 hours
- SLR (brace locked, 4 planes) — 3×10
- Ankle pumps — hourly
- Passive ROM (supine, therapist-assisted): 0–60° — 3×10
- Heel slides (active-assisted) — 3×15
- Hip strengthening: clamshells, supine abduction — 3×15
- NMES to quadriceps if inhibited — 20–30 min, 2× daily
- Ice and elevation — 20 min after exercises, frequently in Week 1

Progression Milestones:
- Swelling diminishing by end of Week 1
- Passive ROM to 60°
- Full extension maintained (0°)
- Quad set with VMO activation
- Patellar mobility full in all directions

PHASE 1 PRECAUTIONS — REPAIR PROTECTION
- Strict TTWB — axial load with any flexion generates valgus shear at the medial compartment that stresses the MCL repair
- NO valgus stress in any direction — no lateral-to-medial pressure on the knee, no cross-leg sitting, no unsupported standing
- No aggressive hamstring stretching — semitendinosus harvest site requires 6 weeks of protected healing

Rationale: The primary MCL repair relies on suture fixation for the first 2–4 weeks before collagen deposition begins. The semitendinosus graft provides structural augmentation but is not yet incorporated into bone tunnels. Both structures are vulnerable to valgus-directed forces during this window.

PHASE 2 — ROM PROGRESSION (Weeks 2–6)

INFORMATION FOR THE PATIENT — What to Expect This Phase
You remain toe-touch weight bearing through Week 6, but knee bending progresses significantly. The goal is 130° of bending by Week 6 — this is important to achieve before strengthening begins. Stiffness is the most common problem after this surgery, so ROM work is the priority in this phase. The brace begins to unlock gradually to allow increasing range of motion.

Goals:
- ROM to 130° by end of Week 6 — primary criterion for Phase 3
- Continue NWB with brace protection

- Progressive brace unlocking
- Quad strength maintained
- Patellar mobility preserved

Weight-Bearing Status:
TTWB continues through Week 6. Crutches for all mobility.

Range of Motion:
Progress ROM aggressively within safe parameters: Week 2: 0–90°; Week 4: 0–110°; Week 6: 0–130° (target). Brace unlocked for ROM exercises from Week 2. Stationary bike may be used when ROM reaches 100°+. No valgus stress during ROM work — all flexion and extension in a neutral plane.

Bracing:
Unlock brace progressively: 0–90° (Week 1-4) → 0–110° (Week 5) → unrestricted (Week 6). Brace locked in extension for sleep if struggling with extension.

Exercises:
- Passive ROM (supine, therapist-assisted) — 3×10, progress range per schedule
- Active-assisted ROM (heel slides, pulley) — 3×15
- Stationary bike — introduce at Week 3–4 when ROM ≥100°; low resistance, 15–20 min
- Quad sets — 3×15
- Short arc quads (SAQ, 0–45°) — 3×15
- SLR (4 planes) — 3×10 with light ankle weight by Week 4
- TKE with resistance band — 3×15
- Continue patellar mobilizations — 2×2 min daily
- Hip strengthening with resistance band — 3×15
- Hamstring passive stretch (gentle) from Week 6 — 3×30 sec
- Ice after exercises — 20 min

Progression Milestones:
- ROM to 130° by Week 6 (required to advance)
- Full extension (0°) maintained
- Stationary bike 20 min without pain
- SLR without extensor lag
- Surgeon clearance at Week 6 follow-up

PHASE 2 PRECAUTIONS
- TTWB strictly maintained through Week 6 — valgus load increases significantly with any weight bearing before Week 6
- NO valgus-directed ROM — avoid lateral-to-medial pressure during passive stretching
- If ROM is not reaching targets on schedule, increase frequency of passive ROM and consider prolonged low-load stretching — do not accept restricted ROM at Week 6. Extension Priority.
- No hamstring loading before Week 6 — semitendinosus harvest site

Rationale: Stiffness is the primary complication of MCL reconstruction. The medial capsular repair, combined with prolonged NWB and bracing, creates a strong fibrotic environment. Aggressive ROM work within the safe range (no valgus stress) is the primary treatment goal of Phase 2. Failure to reach 130° by Week 6 predicts a difficult ROM recovery.

PHASE 3 — WEIGHT BEARING & STRENGTHENING (Weeks 6+)

INFORMATION FOR THE PATIENT — What to Expect This Phase

Weight bearing begins at Week 6 and progresses to full walking over 2–4 weeks. Full strengthening begins once you can walk without crutches. The hamstring that was used for your graft will be weaker than the other side — strengthening it is an important part of this phase. Avoid any activity that puts a sideways valgus force on your knee for 12 weeks.

Goals:

- Full WB without assistive device by Week 8–10
- Normal gait — no valgus thrust
- Quad and hamstring strength 70–80% contralateral by Month 3
- Full ROM
- Return to low-impact sport by Month 4–6

Weight-Bearing Status:

Begin WBAT at Week 6. Progress: bilateral crutches → single crutch → no crutch by Week 8–10. Brace worn for ambulation until Week 8–10 then wean.

Range of Motion:

Full, unrestricted. Continue flexibility program.

Bracing:

Brace unlocked for all activities from Week 6. Wean from brace by Week 8–10 as WB and quad control normalize. Functional brace for sport may be used during return-to-sport phase.

Exercises:

- Gait training — heel-to-toe, symmetric step length, no valgus thrust
- Mini-squats (0–60°) → full squat progression — 3×15
- Leg press (bilateral → single-leg) — 3×12, progress resistance
- Step-ups (4–6 → 8 inch) — 3×10
- TKE with band — 3×15
- Hamstring curls (begin Week 6–8, light) — 3×15; address harvest site weakness
- Romanian deadlift — 3×12
- Sidelying hip abduction/adduction with band — 3×15
- Single-leg balance: firm → foam — 3×30–45 sec
- Stationary bike (progress resistance) — 30 min
- Elliptical — 20–30 min (Month 3+)
- Running program (Month 4–5 with surgeon clearance)
- Plyometric and agility progression (Month 5–6)

Progression Milestones:

- Full WB without crutch
- Full ROM

- Quad and hamstring strength ≥80% contralateral
- Single-leg squat ×10 without valgus collapse
- Surgeon clearance for return to sport

PHASE 3 PRECAUTIONS

- No valgus-loaded activities through 12 weeks — no lateral lunges, no side-step cutting, no contact sport
- Watch for valgus thrust in gait — indicates quad and hip weakness; address before advancing to sport
- Contact and pivoting sports: minimum 6–9 months with strength criteria met

Rationale: MCL graft ligamentization continues through Month 4–6. Valgus loading before adequate graft maturation risks graft elongation and recurrent medial instability. Semitendinosus weakness from graft harvest is a known deficit that requires specific rehabilitation attention through this phase.

RETURN TO SPORT CRITERIA

Criteria for Return:

- Quad strength ≥90% contralateral
- Hamstring strength ≥90% contralateral (including harvest-side deficit recovery)
- Hop test ≥90% limb symmetry index
- No valgus instability on clinical exam
- Full pain-free ROM
- Minimum 6 months for cutting and contact sport
- Surgeon clearance

Clinical Note

- Low-impact activity (cycling, swimming): Month 2–3. Jogging: Month 4–5. Non-contact sport: Month 5–6. Contact/cutting sport: Minimum 6–9 months. A functional hinged brace is recommended for return to contact sport for the first season.

Surgeon Notes / Special Instructions: