

Multiligament Knee Reconstruction:
ACL, MCL, PCL and Posterolateral Corner (PLC)
Reconstruction
Physical Therapy Protocol

David P. Trofa, M.D.

Assistant Professor of Orthopaedic Surgery, Columbia University Medical Center

Chief of Sports Medicine, New York-Presbyterian Westchester

Director of Clinical Outcomes, Department of Orthopaedic Surgery

Head Team Physician, Manhattan College

www.DavidTrofaMD.com

Patient Name: _____

Date of Surgery: _____

Procedure: Right / Left ACL, MCL, PCL and PLC Reconstruction

Associated Procedure (checked if performed):

- Partial Meniscectomy
- Meniscus Repair

Frequency: 2x per week for _____ weeks

Key Features of protocol:

- Weight Bearing: NWB x 6 weeks. Increase weight bearing 25% per week afterwards for full weight bearing by 10 weeks.
- Brace use: 10 weeks total. Locked in extension during ambulation and sleeping
- CPM: Starts POD 7. Start at 0-40°. Progress 5-10° per day as tolerated up to 90°. 6 hours per day in 2-hour increments.
- Return to Sport: 9-10 months.
- No resisted knee flexion or hyper-extension for 6 months.

Phase I (0-6 weeks): *Period of protection*

- **Weightbearing:** Non-weight-bearing. Touch down weight-bearing permitted for transfers only.
- **Brace:** Locked in extension during ambulation and sleeping. Removed only for PT and hygiene.
- **ROM:** Begin progressive passive and active-assisted ROM from 0-90°. Goal: Full extension to 90° by week 4; 120° by 6 weeks.
- **Therapeutic exercises:**
 - Patellar mobilization 5-10 minutes daily.
 - Quad sets
 - Straight leg raises with knee brace locked in extension.

- No restrictions to ankle/hip strengthening.
- No hamstring exercises

Phase II (6-12 weeks):

- **Weightbearing:** Gradually progression with brace progressively unlocked:
 - Week 6-7: 25% with brace locked in extension
 - Week 7-8: 50% with brace locked in extension
 - Week 8-9: 75% with brace unlocked from 0-30°
 - Week 9-10: Full weight-bearing with brace unlocked from 0-90°;
- **Brace:** Discontinued after week 10 if good quadriceps control. If not, may transition to short hinged knee brace
- **ROM:** Advance active and passive ROM as tolerated. End range stretching may be accompanied by weighted prone heel hangs if full extension not yet achieved.
 - **Goal:** Full motion by 11-12 weeks.
- **Therapeutic exercises as above plus:**
 - As above
 - Begin toe raises
 - Isometric quad and hamstring strengthening
 - Advance core and hip
 - 8 weeks: Initiate stationary bike. The goal of this exercise is to work on fluid motion rather than an increase in strength. The patient should first start out with a total of 5 minutes on the exercise bike every other day. They may increase their time on the exercise bike as well as work up to 20 minutes daily based on their knee response to this activity. If there is any significant soreness or effusions (swelling) developing, the patient should decrease the total minutes and days utilizing the exercise bike.
 - 10 weeks: Begin and advance closed-chain strengthening between 0-90°

Phase III (>12 weeks):

- **Weightbearing:** Full weightbearing with normal gait.
- **ROM:** Full and painless. May perform aggressive end-range stretching if full ROM not yet achieved.
- **Therapeutic exercises:**
 - Advance closed chain strengthening as tolerated
 - Continue with stationary biking
 - Stairmaster and elliptical at 4 months
 - Walk-Jog Program initiated at 5 months
 - Initiation of impact may occur if the involved leg has at least 80% of the strength of the uninvolved leg when measured using a single leg squat test.
- **Progression Criteria to Functional Sports Assessment:** Dynamic neuromuscular control with multi-plane activities without instability, pain or swelling; ability to land from a sagittal, frontal and transverse plan; leap and jump with good control and balance.