

VMO Advancement Or Medial Patellofemoral Ligament Reconstruction

Weeks One And Two	Weeks Two To Four
Initial Evaluation	Evaluate
Extension Range of motion Swelling Ability to contract quad/vmo Patella mobility Gait (WBAT in locked brace) Inspect for infection/signs of DVT Assess RTW and sport expectations	Range of Motion Ability to contract quad/vmo Signs of infection or DVT Patella mobility
Patient Education	Patient Education
Support Physician prescribed meds Ensure compliance w/ pre-op HEP Reinforce use of brace and assistive device Restate surgical precautions (flexion 0-30, WBAT in locked brace only) Discuss frequency and duration of treatment (2-3x/wk is expected for the first 8 weeks, followed by intermittent appointments over another 6-8 weeks)	Progress to FWB in knee brace locked in 0 degrees Progress flexion ROM to 90 degrees as tolerated Reinforce precautions (WB continues in extension only, caution with uneven surfaces) Consider core stability based exercises as appropriate
Therapeutic Exercise	Therapeutic Exercise
Review and update pre-op HEP (heel slides 0-30, ankle pumps, quad sets, multi plane leg raises in brace)	Continue quad sets and SLR activity Multi-angle, sub-maximal isometrics (if pain free) AROM to 90 degrees Weight shifting, heel raises in brace HS and gastroc stretching
Manual Techniques	Manual Techniques
No patella mobilization PROM into extension Incision mobilization when appropriate	No patella mobilization PROM to assist in achieving full extension and 90 degrees of flexion
Modalities	Modalities
NMES/Interferential/biofeedback an Ice	Modalities may be used as needed
Goals	Goals
Gain full knee extension Control pain Minimize swelling Restore voluntary quad contraction Independence with post-op precautions	Maintain full knee extension Restore voluntary quad contraction 0-90 degrees ROM

Weeks Four To Eight	Weeks Eight To Twelve
Evaluate	Evaluate
Gait Quad Contraction ROM Balance	Patella Mobility/crepitus ROM Gait HEP compliance
Patient Education	Patient Education
Progressively open brace staying 10 degrees less than available ROM, may D/C brace at 6 weeks if good quad contraction and normal gait May need single axillary crutch to normalize gait	Wean from brace No running or jumping is to be performed prior to strength testing and only with physician approval
Therapeutic Exercise	Therapeutic Exercise
May complete open chain isotonic exercise and multi-angle isometrics (hamstring curls and heel raises) Gentle closed chain exercises for quad contraction and proprioception 0-30 degrees at 4 weeks Initiate stationary bike as tolerated at 6 weeks Initiate Single leg stance	Advance closed chain exercises for quad contraction beyond 30 degrees as tolerated Bilateral dynamic balance activity Single leg dynamic balance activity on a stable surface Initiate squatting, lunging, and step-up progressions as tolerated through this timeframe
Manual Techniques	Manual Techniques
Gentle patella mobilizations as needed at 6 weeks PROM may be performed beyond 90 degrees	Any as indicated
Modalities	Modalities
Any as Indicated	Any as Indicated
Goals	Goals
Normal gait on all surfaces without brace Single leg stance with eyes closed for at least 10 seconds 0-120 degrees ROM	Full ROM No pain with ADL's Quad strength at least 4+/5

Weeks Twelve To Sixteen	Weeks Sixteen To Discharge
Evaluate	Evaluate
Any excessive joint laxity HEP compliance Patella mobility / crepitus Balance / single leg stance	Isokinetic Strength testing per physician request at 16 weeks Address any deficits that may limit return to work or sport goals
Therapeutic Exercise	Therapeutic Exercise
Progress balance activity to single leg dynamic activity and unstable surfaces at 14 weeks May begin CFA at 12 weeks (with physician approval) May initiate cardiovascular activity (walking, swimming, and elliptical) at 12 weeks with a physician approval	Sports specific exercises Encourage participation in the CFA Complete agility and running activity with good test results and physician approval at 16 weeks
Goals	Goals
5-/5 strength with manual testing by week twelve Good stability across tibiofemoral joint May complete exercise independently with intermittent follow up appointments when above criteria is met (Typically 10 to 12 weeks)	Strength of quadriceps and hamstrings no less than 85% per isokinetic test at 12 weeks Discharge with full return to work or sport activity