

VMO Advancement Or Medial Patellofemoral Ligament Reconstruction

Weeks One And Two	Weeks Two To Four
Initial Evaluation	Evaluate
<ul style="list-style-type: none"> ➤ 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 	<ul style="list-style-type: none"> ➤ Range of Motion ➤ Ability to contract quad/vmo ➤ Signs of infection or DVT ➤ Patella mobility
Patient Education	Patient Education
<ul style="list-style-type: none"> ➤ 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) 	<ul style="list-style-type: none"> ➤ 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
<ul style="list-style-type: none"> ➤ Review and update pre-op HEP (heel slides 0-30, ankle pumps, quad sets, multi plane leg raises in brace) 	<ul style="list-style-type: none"> ➤ 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
<ul style="list-style-type: none"> ➤ No patella mobilization ➤ PROM into extension ➤ Incision mobilization when appropriate 	<ul style="list-style-type: none"> ➤ No patella mobilization ➤ PROM to assist in achieving full extension and 90 degrees of flexion
Modalities	Modalities
<ul style="list-style-type: none"> ➤ NMES/Interferential/biofeedback an ➤ Ice 	<ul style="list-style-type: none"> ➤ Modalities may be used as needed
Goals	Goals
<ul style="list-style-type: none"> ➤ Gain full knee extension ➤ Control pain ➤ Minimize swelling ➤ Restore voluntary quad contraction ➤ Independence with post-op precautions 	<ul style="list-style-type: none"> ➤ Maintain full knee extension ➤ Restore voluntary quad contraction ➤ 0-90 degrees ROM

Weeks Four To Eight	Weeks Eight To Twelve
Evaluate	Evaluate
<ul style="list-style-type: none"> ➤ Gait ➤ Quad Contraction ➤ ROM ➤ Balance 	<ul style="list-style-type: none"> ➤ Patella Mobility/crepitus ➤ ROM ➤ Gait ➤ HEP compliance
Patient Education	Patient Education
<ul style="list-style-type: none"> ➤ 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 	<ul style="list-style-type: none"> ➤ Wean from brace ➤ No running or jumping is to be performed prior to strength testing and only with physician approval
Therapeutic Exercise	Therapeutic Exercise
<ul style="list-style-type: none"> ➤ 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 	<ul style="list-style-type: none"> ➤ 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
<ul style="list-style-type: none"> ➤ Gentle patella mobilizations as needed at 6 weeks ➤ PROM may be performed beyond 90 degrees 	<ul style="list-style-type: none"> ➤ Any as indicated
Modalities	Modalities
<ul style="list-style-type: none"> ➤ Any as Indicated 	<ul style="list-style-type: none"> ➤ Any as Indicated
Goals	Goals
<ul style="list-style-type: none"> ➤ Normal gait on all surfaces without brace ➤ Single leg stance with eyes closed for at least 10 seconds ➤ 0-120 degrees ROM 	<ul style="list-style-type: none"> ➤ Full ROM ➤ No pain with ADL's ➤ Quad strength at least 4+/5



**SEACOAST
ORTHOPEDICS
& SPORTS MEDICINE**

Frisbie Memorial Hospital Marsh Brook Rehabilitation Service Wentworth-Douglass Hospital Durham: Rehab and Sports Therapy Center

Weeks Twelve To Sixteen	Weeks Sixteen To Discharge
Evaluate	Evaluate
<ul style="list-style-type: none"> ➤ Any excessive joint laxity ➤ HEP compliance ➤ Patella mobility / crepitus ➤ Balance / single leg stance 	<ul style="list-style-type: none"> ➤ 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
<ul style="list-style-type: none"> ➤ 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 	<ul style="list-style-type: none"> ➤ 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
<ul style="list-style-type: none"> ➤ 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) 	<ul style="list-style-type: none"> ➤ Strength of quadriceps and hamstrings no less than 85% per isokinetic test at 12 weeks ➤ Discharge with full return to work or sport activity