

MPFL Reconstruction Protocol

Name: _____

DOS: _____

Doctor: _____



MPFL Reconstruction and VMO Advancement: _____	MPFL Reconstruction Only: _____
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	ROM:	WB:	Brace
Week 1	Full extension – at least 45 degrees flexion	WBAT	Locked in extension
Week 2-6	<u>2 weeks:</u> equal hyperextension to at least 90 degrees flexion <u>4 weeks:</u> equal hyperextension to at least 120 degrees flexion	WBAT	Unlock brace with good quad control Discharge crutches when FWB and normal gait is achieved May discharge brace after walking with it unlocked for 2 weeks
Week 6-12	Equal and pain free ROM	FWB	Discharge brace with good quad control and normalization of gait

*** If VMO advancement is also performed, hold flexion ROM to 90 degrees x 4 weeks**

Phase 1: Immediate Post-Operative Phase (~ post op weeks 0-2)

- Goals:
 - Protect the MPFL repair
 - Decrease pain and inflammation
 - Prevent the negative effects of immobilization: restore knee ROM and arthrokinematics
 - Initiation of quadriceps muscle training
 - Achieve ambulation with WBAT with brace locked in full extension with use of crutches
- Precautions/Contraindications:
 - Hold ROM to 90 degrees if VMO advancement is also performed to avoid overstretching the repair
 - Avoid lateral patellar glides; complete medial, superior, and inferior patellar glides only if passive knee flexion and extension is limited
 - Use of biofeedback to assist with quadriceps activation; avoid electrical stimulation unless minimal quadriceps activation is observed
- Exercise Suggestions:
 - Flexion: EOB flexion, heel slides, heel digs → HS curls
 - Extension: HS/Calf Stretching, heel props, QS → SLR when no lag is evident
- Criteria to Advance:
 - Controlled pain and inflammation with ambulation and exercise
 - Demonstrates full extension ROM and pain free flexion ROM

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Phase 2: Acute Phase (~post op weeks 2-6)

- Goals:
 - Continue to control pain, swelling, and inflammation
 - Gradual progression of ROM when VMO Advancement is performed
 - Develop neuromuscular control of the knee and maintain core stability
- Precautions/Contraindications:
 - Unlock brace when adequate quadriceps strength is observed (lagless SLR x 30)
 - Discontinue crutches with normal gait is achieved
 - Discharge brace at 6 weeks if normal gait is achieved and adequate quad strength is observed
 - Progressions are based on pain, swelling, and quadriceps control
 - Gradual progression of ROM to avoid overstressing the repair when VMO advancement is performed
 - Use of biofeedback to assist with quadriceps activation; avoid electrical stimulation unless no quadriceps activation is observed
- Exercise Suggestions:
 - Stationary Biking
 - Quad Sets → SLR
 - 4 way hip strengthening
 - CKC: start short arc pain free strengthening 0-30degrees and progress to 0-60 degrees as able
 - OKC: strengthening 90-60degrees to avoid PF compression and encourage PF stability
 - SLB/proprrioceptive training program
- Criteria to Advance:
 - Minimal inflammation and pain
 - Full and pain free ROM that is equal to the uninvolved side
 - Strong quadriceps contraction with no lag during SLR

Phase 3: Return to Function Phase (~ post op weeks 7-12)

- Goals:
 - Eliminate joint swelling
 - Improve muscular strength and control without exacerbation of symptoms
 - Improve dynamic muscle control
- Exercise Suggestions:
 - Progress closed chain functional exercises starting in single plane and moving into multiplane movements, Double Leg → Single Leg movements as able
 - Open chain knee extension- full arc of motion if no pain and proper patellar tracking is observed
 - Proprioceptive training
 - Progress towards power and endurance strengthening (if appropriate) later in phase
 - Ex. Intervals on bike, timed/interval strength training

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- Criteria to Advance:
 - Absence of swelling and inflammation
 - Demonstrates good body mechanics with functional activity

Phase 4: Advanced Strengthening Phase (~weeks 12-16)

- Goals:
 - Continue to progress strength and endurance on bilateral lower extremities
 - Continue to progress functional activities proprioception
 - Initiate Return to Running (if passes all functional testing)
- Exercise Suggestions:
 - Progress SL strengthening
 - Progress power strengthening and endurance
 - **12 weeks at the earliest:** Begin jogging progression if passes functional testing
 - Hamstring strength on biodex testing: within 10% difference when testing at 90deg/sec and 60deg/sec
 - Step Down Test, AM Balance Reach, Drop Jump Assessment, SL Hop Assessment, and Jogging Assessment
 - <20% deficit when compared to contralateral side, must demonstrate good form/body mechanics and soft landings during all testing
- Criteria to Advance:
 - Tolerates straight forward running without increases in pain or swelling/inflammation
 - Demonstrates quadriceps strength within < 20% of uninvolved side on functional testing

Phase 5: Return to Sport Phase (~post op week 16, if applicable)

- Goals:
 - Continue jogging progressions
 - Initiate agility, plyometric, and return to sport progressions
- Exercise Selection:
 - Continue SL strengthening
 - Continue proprioceptive strengthening
 - Continue power and endurance strengthening
 - Progression of agility and plyometrics as per USM packet
 - Progression of sport specific functional skills
- Criteria to Advance:
 - Passes all Return to Sport Testing
 - Quadriceps strength within 90% of uninvolved side on biodex testing at 60deg/sec and 90deg/sec
 - Functional strength within 90% of uninvolved side with: SL hop for distance, 6m timed hop, SL triple hop for distance, SL crossover hop for distance