**Physical Therapy Post-Operative Guidelines**  
Medial Patellofemoral Ligament Reconstruction

### Phase I: 0-4 Weeks

**Precautions:** Observe and correct for poor quadriceps activation; Avoid excessive joint and soft tissue stiffness

<table>
<thead>
<tr>
<th>Weight Bearing</th>
<th>Brace</th>
<th>ROM</th>
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</table>
| • PWB→WBAT  
• Crutch weaning per quad control, pain, swelling | • Locked at 10° KF when up  
*Gradually open brace per quad control  
• Discontinue brace for sleep at 2 weeks (unless otherwise instructed by MD)  
• Open when seated | • Emphasize full extension  
• Utilize P/AAROM for flexion progression  
*NO forceful flexion  
*Perform motion several times/day  
• Gentle stationary bike for ROM  
• Patellar and peripatellar joint and soft tissue mobilizations permitted |

**Therapeutic Exercise and Activity**

• Establish high quality quad set  
  *Superior translation of the patella  
  *Avoid co-contraction with hamstrings and proximal gluteal musculature  
  *Utilize NMES as needed  
• SLR x 4  
  *Flexion: begin in standing → reclined standing → supine  
  -Progress per quad control, no extensor lag  
• Abduction, Adduction, Extension  
• Beginner mat exercises for abdominal/lumbopelvic control and proximal hip strength  
• Gentle double legged partial squats to 30° KF max, with support or light leg press with double limb  
• Marching and balance moment  
• Calf raises

**Goals:** Control effusion and pain; Attain full knee extension; Normalize patellar joint and peripatellar soft tissue mobility; Attain good volitional quad set; No lag w/SLR; KF ≥90°; Able to perform ≥30 reps prior to fatigue with leg lifting
**Phase II: 4-8 Weeks**

**Precautions:** Continued effusion/pain control w/WB and HEP progression; Avoid pivoting on a planted foot; Observe/correct for knee/hip alignment w/CKC drills; Observe for knee hyperextension during stance phase of gait

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<thead>
<tr>
<th>Weight Bearing</th>
<th>Brace</th>
<th>ROM</th>
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<tbody>
<tr>
<td>• FWB per symptom control *Normal gait pattern; Avoid hyperextension thrust in early stance</td>
<td>• Gradually open/remove brace per quad control with gait, CKC activities</td>
<td>• Full extension • Progress flexion toward full ROM</td>
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**Therapeutic Exercise and Activity (Phase II continued)**

- Initiate bridging, planks
- Increase repetitions w/proximal hip strength and abdominals
- Progress CKC drills (step, lunge, leg press)  
  *Deeper angles KF (≥45˚) w/2 limb support as tolerated
  *Early KF angles (0-45˚) w/1 limb per control/tolerance
- OKC drills permitted:  
  *Isometric or isotonic strengthening of quadriceps 40˚+ KF
- Initiate L/E proprio/balance drills: single limb per control/tolerance
- Initiate low impact cardio (15-20 min, minimal intensity – bike, walk, elliptical)
  *Initiate cardio only if ROM, quad control, and symptoms are progressing well

**Goals:** Effusion resolved; Preserve full extension; Flexion ROM ≥120˚; Normalizing gait pattern with progressive speed and distance as tolerated; Normal LE kinematics w/2 legged CKC activities; Multi-planar hip strength = MMT grade 5/5; Returning to normal stair climbing

**Phase III: 8-12 Weeks**

**Precautions:** Continue to observe/instruct for proper L/E kinematics with CKC drills (avoid functional valgus); Avoid pivoting on a planted foot; No return of effusion

<table>
<thead>
<tr>
<th>Weight Bearing/Brace</th>
<th>ROM</th>
<th>Cardiovascular</th>
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<tbody>
<tr>
<td>• FWB</td>
<td>• Full symmetrical ROM</td>
<td>• Progress low impact cardio • Pool OK *Confirm incisional healing and avoid whip kick</td>
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<td>• Protective use when out of home: environmental hazards, crowds</td>
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**Therapeutic Exercise and Activity**

- Progress core/plank poses and bridging activities
- Increase workload with CKC drills  
  *Resistance with 2 legged squating
  *Progress depth with single limb (step, lunge, leg press)
  *Initiate large muscle group weight training (HS curls, calf raises, deadlift, etc.)
- Progress single limb proprio/balance drills  
  *Surface challenge, directional reaching, stepping

**Goals:** Able to perform 2 legged squat ≥60˚ KF x 20 reps w/kinematic and symptom control; Restore normal mechanics with single leg CKC L/E activities; Able to maintain single leg balance ≥60 seconds; Restore normal stair climbing

**Phase IV: 12-16 Weeks**

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MPFL Reconstruction
Precautions: Observe for return of effusion and/or pain with increased activity levels (modify as needed)

<table>
<thead>
<tr>
<th>Cardiovascular Fitness</th>
<th>Therapeutic Exercise and Activity</th>
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<tbody>
<tr>
<td>• Progress low impact cardio per symptoms; increase one variable at a time (intensity level, intervals, duration) – 15-20 min minimal intensity, steady pace</td>
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<td>• Initiate return to run program if criteria met (see addendum)</td>
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<tr>
<td>*Observe for any increase in effusion or knee pain &gt;24 hours post workout – reduce running program intensity or frequency in response</td>
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<td>• Progress resistance with 2 legged/1 legged strengthening drills</td>
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<td>• Introduce directional shuffling and agility footwork</td>
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<td>*Emphasize quick foot chopping action to avoid pivoting on planted foot</td>
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Goals: Quad girth and strength returning; Good tolerance for normal walking speed and distance; Able to perform 2 legged squat to 90°KF x 20 reps & 1 legged squat ≥45°KF x 20 reps with kinematic & symptom control

Patient to return to University of Minnesota Health Clinics and Surgery Center for physical performance testing at approximately 16 and 24 weeks post-surgery (prior to final clearance for return to sport)

***Please reference Return to Sport of High Physical Demand Occupation Protocol for return to further advanced activities***

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