



## Isolated Medial Patellofemoral Ligament Reconstruction Rehabilitation Protocol

Phase	Goals	Precautions / Restrictions	Treatment
<b>Weeks 0 – 2</b>	<ul style="list-style-type: none"> <li>• Protect surgical site</li> <li>• Reduce pain and swelling</li> <li>• Active ROM – 0 – 90°</li> <li>• Full passive extension</li> <li>• Active quadriceps control</li> <li>• Hamstring / glute activation</li> <li>• Reduce muscle atrophy</li> <li>• Safe use of assistive device</li> </ul>	<ul style="list-style-type: none"> <li>• Weight Bearing As Tolerated</li> <li>• Avoid Knee Valgus Forces</li> <li>• Perform standard ROM progression starting with PROM → AAROM → Active ROM 0 - 90°</li> </ul>	<ul style="list-style-type: none"> <li>• Progress ROM from 0 - 90°               <ul style="list-style-type: none"> <li>○ PROM → AAROM → AROM</li> </ul> </li> <li>• Quadriceps recruitment / NMES</li> <li>• Global LE / hip strengthening</li> <li>• Gait training with crutches</li> <li>• Cryotherapy / Modalities as indicated</li> <li>• Cryotherapy: 5-7 times per day</li> <li>• Initial Visit: FOTO, LEFS, PSFS</li> </ul>
<b>Weeks 2 – 6</b>	<ul style="list-style-type: none"> <li>• Full, symmetric and pain-free AROM               <ul style="list-style-type: none"> <li>○ 2 - 4 weeks: 0-120°</li> <li>○ 4 - 6 weeks: full ROM</li> </ul> </li> <li>• SLR without extensor lag</li> <li>• Normalized gait mechanics</li> <li>• DL squat with good mechanics</li> <li>• Progression of quadriceps strength/endurance</li> <li>• Increase functional activities</li> </ul>	<ul style="list-style-type: none"> <li>• Open kinetic chain limited to bodyweight leg extensions (weeks 2-6)</li> <li>• No resisted open kinetic chain exercises</li> <li>• Closed kinetic chain strength 0-45° flexion</li> <li>• No running, jumping, cutting, pivoting, or twisting</li> <li>• Avoid painful activities/exercises</li> </ul>	<ul style="list-style-type: none"> <li>• Progress AAROM to pain free AROM</li> <li>• Gait training progressing once adequate quad strength demonstrated</li> <li>• Core stabilization exercises</li> <li>• Closed kinetic chain strengthening within protected range of motion</li> <li>• Global LE strengthening               <ul style="list-style-type: none"> <li>○ Begin functional strengthening exercises (bridge, mini-squat, step up, etc)</li> <li>○ Stationary bike</li> </ul> </li> <li>• Optional therapies (if available/as indicated):               <ul style="list-style-type: none"> <li>○ BFR therapy</li> <li>○ Anti-gravity treadmill for walking gait</li> <li>○ Aquatic therapy once incision is healed and cleared by surgeon (2-4 weeks)</li> <li>○ NMES</li> </ul> </li> <li>• Week 6: FOTO, LEFS</li> </ul>
<b>Weeks 6 – 12</b>	<ul style="list-style-type: none"> <li>• Full, symmetric and pain-free ROM without assistive device</li> <li>• Progress quadriceps strength/endurance</li> <li>• Increase functional activities</li> <li>• Total leg strength</li> </ul>	<ul style="list-style-type: none"> <li>• Progress from assistive device as able</li> <li>• May initiate resisted open kinetic chain exercise               <ul style="list-style-type: none"> <li>○ 90-45° at 6 weeks</li> <li>○ 90-30° at 8 weeks</li> <li>○ 90-0° at 10 weeks</li> <li>○ 90-0° with progressive loading at 12 weeks</li> </ul> </li> <li>• No running, jumping, cutting, pivoting, or twisting</li> <li>• Avoid painful activities/exercises</li> <li>• Avoid patellofemoral pain</li> </ul>	<ul style="list-style-type: none"> <li>• End range flexion and extension</li> <li>• Aerobic training on stationary bike, elliptical, stair climber, UBE</li> <li>• Core stabilization exercises</li> <li>• Progressive double and single limb strengthening</li> <li>• Double limb to single limb balance/proprioception</li> <li>• Aerobic training:               <ul style="list-style-type: none"> <li>○ Walking program when walking with normal gait mechanics</li> </ul> </li> <li>• Single to multi-plane exercise</li> <li>• Progression of balance/proprioception</li> <li>• Modalities as indicated</li> <li>• Week 12: FOTO, LEFS, PSFS</li> </ul>

This protocol is not meant to be prescriptive but a recommendation to guide the rehabilitation process.

Each patient’s progress may vary based on specifics of their injury and procedure.



<b>Weeks 12 – 16</b>	<ul style="list-style-type: none"> <li>• Full, symmetric ROM</li> <li>• No effusion with increased activity</li> <li>• Increase intensity and duration of functional LE strength</li> <li>• Initiate return to jogging program</li> <li>• Begin low level plyometric and agility training</li> </ul>	<ul style="list-style-type: none"> <li>• Avoid painful activities/exercises</li> <li>• Jogging program initiated at 12 weeks if cleared by surgeon AND               <ul style="list-style-type: none"> <li>○ No effusion</li> <li>○ Full AROM</li> <li>○ &gt; 80 % LSI</li> </ul> </li> <li>• No jogging on a painful or swollen knee</li> <li>• Lateral support/buttress brace per MD or patient preference</li> </ul>	<ul style="list-style-type: none"> <li>• Increase loading capacity for lower extremity strengthening exercises</li> <li>• Continue balance/proprioceptive training</li> <li>• Week 12: begin return to jogging program               <ul style="list-style-type: none"> <li>○ If applicable, start with pool/anti-gravity treadmill</li> </ul> </li> <li>• Begin low level plyometric and agility training at 12 weeks</li> <li>• 3-4 month follow up with MD (SGYM)</li> </ul>
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<b>Weeks 16 – 24</b>	<ul style="list-style-type: none"> <li>• Continue to progress functional strengthening</li> <li>• Successful progression of the return to running program</li> <li>• Initiate higher level plyometric and agility training</li> </ul>	<ul style="list-style-type: none"> <li>• No jogging/running on a painful or swollen knee</li> <li>• Avoid painful activities/exercises</li> <li>• Avoid patellofemoral pain</li> <li>• No participation in sports unless specified by care team</li> </ul>	<ul style="list-style-type: none"> <li>• Progression of return to jogging program</li> <li>• Gradually increase lifting loads focusing on form, control, and tissue tolerance</li> <li>• Progress as tolerated               <ul style="list-style-type: none"> <li>○ Core Stability</li> <li>○ Strength</li> <li>○ Endurance</li> <li>○ Proprioception / Balance</li> </ul> </li> <li>• Increase intensity of plyometric and agility training</li> <li>• Foot speed and change of direction</li> <li>• Functional assessment at 6 months per MD</li> <li>• Month 6: FOTO, LEFS, PSFS</li> </ul>
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<b>Weeks 24 +</b>	<ul style="list-style-type: none"> <li>• Continue to progress functional strengthening</li> <li>• Sport-specific training</li> <li>• Begin gradual return to sport</li> <li>• Pass return to play criteria</li> </ul>	<ul style="list-style-type: none"> <li>• No participation in sports unless specified by care team</li> <li>• Avoid painful activities</li> <li>• Gradual return to full participation in sports</li> </ul>	<ul style="list-style-type: none"> <li>• Progress as tolerated               <ul style="list-style-type: none"> <li>○ Core Stability</li> <li>○ Strength</li> <li>○ Endurance</li> </ul> </li> <li>• Begin sport-specific training               <ul style="list-style-type: none"> <li>○ Proprioception / Balance</li> <li>○ Plyometric training</li> <li>○ Agility drills</li> <li>○ Sport-specific activities</li> <li>○ Single-to multi-task</li> <li>○ Reactionary drills</li> <li>○ Perturbation training</li> <li>○ Closed to open environment</li> </ul> </li> <li>• Gradual return to sport progression Functional assessment as needed per MD</li> <li>• Final visit: FOTO, LEFS, PRO</li> </ul>
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