

Medial Patellofemoral Ligament Reconstruction

REHABILITATION PROTOCOL

| Time | Goals | Precautions/Restrictions | Treatment |
|-------------|--|---|--|
| Weeks 0 – 2 | <ul style="list-style-type: none"> • Protect surgical site • Reduce pain and swelling • Active ROM: 0-90 degree • Full passive extension • Active quadriceps control • Reduce muscle atrophy • Safe use of assistive device | <ul style="list-style-type: none"> • WBAT with crutches • Avoid knee valgus forces | <ul style="list-style-type: none"> • ROM (as tolerated) <ul style="list-style-type: none"> ○ PROM – AAROM -AROM • Quadriceps recruitment/NMES • Global LE/hip strengthening • Gait training with crutches • Modalities as indicated <ul style="list-style-type: none"> ○ Cryotherapy: 5-7 times per day • Initial Visit: FOTO, LEFS, PSFS |
| Weeks 2 – 6 | <ul style="list-style-type: none"> • Full, symmetric and pain-free AROM <ul style="list-style-type: none"> ○ 2-4 wks: 0-120 deg ○ 4-6 wks: full ROM • SLR without extensor lag • Normalized gait mechanics • DL squat with good mechanics • Progression of quadriceps strength/endurance • Increase functional activities | <ul style="list-style-type: none"> • Open kinetic chain is limited to bodyweight leg extensions (weeks 2-6) • Closed kinetic chain strength 0-45 degrees flexion • No resisted open kinetic chain exercises • No running, jumping, cutting, pivoting, or twisting • Avoid painful activities/exercises | <ul style="list-style-type: none"> • AAROM - AROM • Gait training progressing once adequate quad strength demonstrated • Core stabilization exercises • Closed kinetic chain strengthening within protected range of motion • Global LE strengthening <ul style="list-style-type: none"> ○ Begin functional strengthening exercises (bridge, mini-squat, step up, etc) ○ Stationary bike • Optional therapies (if available/as indicated): <ul style="list-style-type: none"> ○ BFR therapy ○ Anti-gravity treadmill for walking gait ○ Aquatic therapy once incision is healed and cleared by surgeon (2-4 weeks) ○ NMES • Modalities as indicated • Week 6: FOTO, LEFS |

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Weeks 6 – 12

- Full, symmetric and pain-free ROM without assistive device
- Progress quadriceps strength/endurance
- Increase functional activities
- Total leg strength
- Progress from assistive device as able
- May initiate resisted open kinetic chain exercise
 - 90-45° at 6 weeks
 - 90-30° at 8 weeks
 - 90-0° at 10 weeks
 - 90-0° with progressive loading at 12 weeks
- No running, jumping, cutting, pivoting, or twisting
- Avoid painful activities/exercises
- Avoid patellofemoral pain
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- End range flexion and extension
- Aerobic training on stationary bike, elliptical, stair climber, UBE
- Core stabilization exercises
- Progressive double and single limb strengthening
- Double limb to single limb balance/proprioception
- Aerobic training:
 - Walking program when walking with normal gait mechanics
- Single to multi-plane exercise
- Progression of balance/proprioception
- Modalities as indicated
- Week 12: FOTO, LEFS, PSFS

Weeks 12-16

- Full, symmetric ROM
- No effusion with increased activity
- Increase intensity and duration of functional LE strength
- Initiate return to jogging program
- Begin low level plyometric and agility training
- Avoid painful activities/exercises
- Jogging program initiated at 12 weeks if cleared by surgeon
 - No effusion
 - Full AROM
 - >80% LSI
- No jogging on painful or swollen knee
- Lateral support/buttress brace per MD or patient preference
- Increase loading capacity for lower extremity strengthening exercises
- Continue balance/proprioceptive training
- Week 12: begin return to jogging program
 - If applicable, start with pool/anti-gravity treadmill
- Begin low level plyometric and agility training at 12 weeks
- 3-4 month follow up with MD (SGYM)

Months 4-6

- Continue to progress functional strengthening
- Successful progression of the return to running program
- Initiate higher level plyometric and agility training
- No jogging/running on a painful or swollen knee
- Avoid painful activities/exercises
- Avoid patellofemoral pain
- No participation in sports unless specified by care team
- Progression of return to jogging program
- Gradually increase lifting loads focusing on form, control, and tissue tolerance
- Progress as tolerated:
 - Core Stability
 - Strength
 - Endurance
 - Proprioception/Balance
- Increase intensity of plyometric and agility training
- Foot speed and change of direction
- Functional assessment at 6 months per MD
- Month 6: FOTO, LEFS, PSFS

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| Months 6 + | <ul style="list-style-type: none">• Continue to progress functional strengthening• Sport-specific training• Begin gradual return to sport• Pass return to play criteria | <ul style="list-style-type: none">• No participation in sports unless specified by care team• Avoid painful activities• Gradual return to full participation in sports | <ul style="list-style-type: none">• Progress as tolerated:<ul style="list-style-type: none">○ Core Stability○ Strength○ Endurance• Begin sport-specific training<ul style="list-style-type: none">○ Proprioception/Balance○ Plyometric training○ Agility drills○ Sport-specific activities○ Single-to multi-task○ Reactionary drills○ Perturbation training○ Closed to open environment• Gradual return to sport progression Functional assessment as needed per MD• Final visit: FOTO, LEFS, PSFS |
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