MEDIAL PATELLOFEMORAL LIGAMENT RECONSTRUCTION-FULKERSON PROCEDURE CLINICAL PRACTICE GUIDELINE

Rehabilitation Precautions: All restrictions and/or precautions will be set by the referring surgeon, based upon the stability of the repair and procedure performed. All precautions are subject to change per physician.

General Precautions
- WBAT in immobilizer first 4 weeks (and/or until no quad lag) May unlock with sitting
- Perform protected electrical stimulation program if warranted
- Patella Mobilizations: Passive superior glide and lateral to medial glide only until 6 wk
- No isolated hamstring strengthening if autograft used
- No OKC quadriceps strengthening for 6 weeks

Considerations:
- Edema/swelling control
- Scar massage
- Ankle, core, hip abduction and external rotation strength
- IT-Band stretch for tight lateral retinaculum
- Evaluate for excessive pronation of feet
- Patella taping only to exercise without pain (if needed)
- Hamstring/gastroc stretches

Post-Operative-2 weeks

| Gait | |WBAT locked in extension at 0 degrees @4 weeks |
|----------|-----------------------------------------------|
| ROM | • Patella Glides Superior and medial |
| | • No lateral patella glide |
| | • 0-60 degrees AAROM only |
| | • Heel slides (0-60 degrees) AAROM |
| | • IT-Band stretch and soft tissue work |

| Strengthening | • Quad sets |
| | • Glute Sets |
| | • SLR in Flexion, Abduction (Use brace if extensor lag in flexion) |
| | • NMES to quad |

| Goals to progress to next phase | 1. Full active quadriceps contraction with superior patellar glide |
| | 2. Full passive knee extension |
| | 3. WBAT in immobilizer (use crutches until safe without) |
### Weeks 2-4

**Gait**
- WBAT locked in extension at 0 degrees (0-4 weeks)

**ROM**
- 0-90 degrees AAROM/AROM
- Bike with **NO Resistance**
- Patella mobs with emphasis on superior/inferior glides

**Strengthening**
- Continue weeks 0-2
- Quad set progression (i.e. prone QS, supine, TKE)
- SLR flexion, abduction, adduction, extension (in brace if quad lag)
- NMES to quad

**Goals To Progress to Next Phase**
1. ROM to equal 0-90 degrees

### Weeks 4-6

**Gait**
- Hinged brace max 90 degrees flex with WBAT—Normalize gait

**ROM**
- 0-120 degrees AROM
- Patella Mobs

**Strengthening**
- Bike-light resistance
- Closed-chain ex (TKE, calf press, lateral step ups, side-stepping, etc.)
  - Wall squats/partial leg press (0-60 degrees)

**Aerobic**
- Treadmill (walking progress with speed and incline-6 weeks post op)

### Weeks 6-10

**Gait**
- Discharge brace if no quad lag and normal gait

**Strengthening/ Dynamic Control**
- Begin mild to moderate resistive quad exercise in protected range
- Initiate proprioception/coordination/stability
- Forward plyometrics
- Hamstring PRE’s (week 8)

### Weeks 10-16

**Strengthening/ Dynamic Control/ Functional Activities**
- Progress OKC and CKC quad strengthening
- Progress core and hip strengthening
- Functional agilities-progressing to sport specific drills
- Initiate walk to jog progression (when quadriceps index ≥ 80%, ROM is full, and pt is ≥ 12 weeks post op) if:
  - Full active knee extension
  - Normal landing mechanics
  - Strength to 80% of uninvolved side

**Goals to Progress to Next Phase**
1. No reactive effusion or instability with sport-specific exercise
2. Good strength with functional and isokinetic testing (Within 15% of uninvolved side)
3. Achieve MCID on patient self-report (LEFS, IKDC, etc.)
## Week 16

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<th>ROM</th>
<th>• Maintain ROM equal to uninvolved</th>
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| **Strengthening** | • Emphasize performance of the quadriceps, hamstrings and trunk dynamic stability  
• Emphasize muscle power generation and absorption  
• Focus on activities that challenge muscle demand in intensity, frequency, and duration of activity  
• Emphasize sport- and position-specific activities  
• Consider:  
  o Double leg and single leg activities and transitions  
  o Vary planes of movement and change of direction  
  o Perturbations and alter support surface (indoor and outdoor)  
  o Challenge multiple muscle groups (lower extremity and core) simultaneously  
• Examples:  
  o Weight lifting: squats, leg extension, leg curl, leg press, deadlifts  
  o Lunges-forward, backward, rotational, side  
  o Rotational trunk exercises on static and dynamic surfaces  
  o Unilateral shuttle jumping with increasing resistance and mid-air rotations |
| **Return to Sport Activities** | • Emphasize appropriate symmetry in weight-bearing, joint loading and technique during performance of all therapeutic activities and plyometrics.  
• Emphasize sport- and position-specific activities  
  o Add ball, racquet, stick  
| **Consider** | **Examples** |
| o Impact loading and appropriate attenuation strategy, cue regarding "hard" landings  
  o Double leg and single leg activities and transitions  
  o Vary planes of movement and change of direction | o Single-leg hop downs from increasing height (up to 12" box)  
  o Single-leg hop-holds (stable surface à Airex pad)  
  o Double and single-leg hopping onto unstable surface (i.e. Airex pad) Tuck jumps (focus on increasing multi-joint flexion during landing and holding stable position)  
  o 90º to 180º jumps |
| • Begin agility exercises between 50-75% (utilize visual feedback to improve mechanics)  
  o Side shuffling  
  o Hopping  
  o Carioca  
  o Figure 8 | o Zig-zags  
  o Resisted jogging (Sports Cord) in straight planes, etc  
  o Back pedaling |
| **Goals to Progress to Independent Program** | **Functional Test** |
| o Single leg and 3 cross-over hop test for distance (within 15% of uninvolved limb)  
  o Isokinetic Testing  
  o ≤10% deficit in isokinetic peak torque with knee extension and knee flexion (60º/sec, and 300º/sec) compared to uninvolved limb  
  o Quadriceps to hamstring isokinetic strength ratio ≥ 60%  
  **Complete sport-specific drills without compensatory movements, exacerbation of symptoms or reactive effusion** | **Isokinetic Testing** |

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