



Return-to-Sport after ACL with MCL Involvement Reconstruction Protocol

- This protocol is a criterion-based protocol, with a goal of maximizing healing and strength recovery, while minimizing risk of re-injury, so the athlete can return, as quickly and safely as possible, to athletic activities at the pace that each individual progresses.

*****This is a summary of a clinical reference protocol, use the link below to view the protocol in its entirety*****

- (Non-Operated) MCL tears in the proximal or mid range of the ligament tend to heal with increased stiffness and no residual laxity. So tears in this location progression to restore ROM should be slightly accelerated to prevent the excessive scar tissue from forming
- If however, there is a distal insertion tear, they tend to have decreased healing response and increased valgus laxity. Distal ligament tears should be progressed more cautiously.
 - Grade I- No ROM restrictions
 - Grade II- 0°-90° week 1, 0°-110° week 2
 - Grade III- 0°-30° week 1, 0°-90° week 2, 0°-110° week 3

Immediately Post-Operative Phase: (Week 1, approx. days 1-7 post-operatively)

Goals of this phase are:

- **Restore full passive knee extension**, and gradually ↑ knee flexion to 90°
- Diminish joint swelling and pain
- Restore patellar mobility
- Re-establish quadriceps control- active quadriceps contraction with superior patellar glide
- Improve ambulation to FWB/ ↓ assistive device use

Treatments: Perform/increase number and duration of exercises as tolerated

- Restrict motion to the sagittal plane only, until 4-6weeks post-op to allow for healing of the MCL
- Gait Training:
 - Patient is WBAT in full locked extension brace with bilateral crutches
- Exercise Guidelines: Consider using the brace with exercises if MCL Sprain was > grade II
 - Straight Leg Raises (flexion and extension only-Sagittal Plane)
 - Active and passive Knee Flexion exercises to tolerance not pushed (**See Rom Restrictions for spain severity**)
 - Gentle overpressure into full extension (PT or pt. actively)

Early Post-Operative Phase: (Week 2 – Week 4)

Criteria for entering this phase is:

- 1- Quadriceps voluntary initiation with quad set and SLR
- 2- Full passive knee extension, Knee A + PROM of 0°-90°
- 3- Independent ambulation

Goals of this phase are:

- Knee ROM 0-110°-120°
- Increase muscular training, restore proprioception, maintain patellar mobility
- Use a recumbent cycle without difficulty
- Perform a SLR with no extension lag
- Reciprocal stair climbing
- KOS-ADL Score of >65%

Treatment: - If medial knee pain persists, continue use of brace with exercises

- Gait Training: WBAT with a goal of discontinuing use of crutches by day 10-14 post-op discontinue brace when voluntary quad control is demonstrated. ***May be subject to change by MD**
- Exercises: (**continue/progress all exercises from previous phase**)
 - o SLR in 2 directions (same as previous phase)- progression with 1# weight/week (***Proximal loading**)- if tolerated,
 - o **OKC** –Knee Extension 90° to 40° eccentric
 - o Mini Squats 0°-30° DL (BW only) Progress to unstable surface such as tilt board (Med./Lat. & Ant./Post.) or foam with 3-5 second holds ***Forward trunk tilt- recruit H/S & unload ACL**, Wall Squats/Sits to 45°-60°
 - o Forward Mini Lunges (30°-40° of flexion)- **if patient has good quadriceps control**
 - o DL Press- Sub Maximal

Intermediate Post-Operative Phase: (Week 4 – Week 12)

Criteria for entering this phase:

- 1- P & AROM knee flexion to $\geq 110^\circ$
- 2- Mild Laxity on clinical examine

Goals of this phase are:

- Quadriceps strength to $\geq 75\%$ of the non-injured leg, H/S $\geq 75\%$ non-injured leg
- Restore knee ROM to 0°-125°, or knee ROM to within 10°-15° of non-injured leg
- Improve lower extremity strength and muscular endurance, enhance proprioception, balance, and neuromuscular control,
- Get an Post-Op score for IKDC or KOOS (age appropriate version)

Treatments:

- Gait Training: Unlocked brace, discontinued use if sufficient quad strength is present. Retrain with normal walking gait pattern- **Determined by MD**
- Exercises: (**Continue/progress all exercises from previous phases as tolerance/as needed**)
 - o Knee concentric and eccentric 90°->40°
 - o Pool exercises if available: forward & backward walk/run (***forward at week ≥ 6**), hip & leg exercises- at slow speeds of mvmt. (Graft protection)
 - o Begin testing/training for proprioception
 - o Progress bike and walking, or stair stepper (if available)- min of 10 minutes, increasing 10min/wk (walk)
 - o Perturbation training - DL→SL Balance- Tilt Board (stabilized to level position), BOSU®, Airex®- progress with ball toss & catch/reaching (UE & LE), external tapping on hips and trunk- ***With knee slightly flexed**

Late Post-Operative Phase: (Week 12 – Week 16)

Criteria for entering this phase:

- 1- Active knee ROM 0°- $\geq 125^\circ$
- 2- Quadriceps Strength & Girth $\geq 75\%$ of non-injured leg (dynamometry & tape measure), Hamstring Strength $\geq 75\%$ of non-injured leg (dynamometry)

Goals for this phase:

- Restore full knee ROM
- Continue to improve lower extremity strength, balance, proprioception, neuromuscular control, muscular endurance
- Quadriceps strength to $>80\%$, Hamstring Strength $>80\%$ of the non-injured leg
- Normal gait pattern
- Get a baseline FMS® and Y-Balance™ score at ≥ 10 weeks post-op- when appropriate

- Patient is tested with the Landing Error Scoring System (LESS): **See Attached Sheets: - Test at Patient's individual max vertical jump height, not standard measure on the LESS- may be too high or too low for accurate individual jump assessment score, no sooner than 12-14 weeks post-op**
- Perform hop testing at no sooner than 12-14 weeks post-op

Treatment:

- Exercises: (**Continue/progress all exercises from previous phases as tolerance/as needed**)
 - o Progress exercises in intensity and duration
 - o Dynamic/Plyometric Leg Press (Begin at ≥ 10 Weeks- To learn technique and control ground reaction forces, "land softly on toes with knees slightly flexed" for dissipation of force and to avoid hyperextension)
 - o Isokinetic exercises at (90° - 40°) ($120^{\circ}/s$ - $240^{\circ}/s$)

[Link to clinical reference protocol](#)