



Return-to-Sport after ACL with LCL 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.

- Rehabilitation is usually slower with ACL+LCL, than ACL+MCL. ROM protocol is not different, however return to FWB may be slower (approx. 4 Weeks Post-OP).

- 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

- Gait Training:
 - Patient is WBAT in full locked extension brace with bilateral crutches
- Exercise Guidelines: ISOLATED HS STRENGTHENING SHOULD BE DELAYED 6-8 WEEKS
 - Straight Leg Raises (flexion and extension only-Sagittal Plane)
 - 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- FWB may not be allowed for up to 4 weeks post-op, length of time wearing the brace is also determined by MD. ***May be subject to change by MD**
- Exercises: (**continue/progress all exercises from previous phase**)
 - SLR in 2 directions (same as previous phase)- progression with 1# weight/week (***Proximal loading**)- if tolerated, Hip Adduction maybe be added if patient has no knee pain- progress cautiously
 - OKC –Knee Extension 90° to 40° eccentric

- 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°
- Forward Mini Lunges (30°-40° of flexion)- **if patient has good quadriceps control**

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

Criteria for entering this phase:

- 1- P & AROM knee flexion to $\geq 110^\circ$

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**)
 - Knee concentric and eccentric 90°<->40°
 - Pool exercises if available: forward & backward walk/run (***forward at week ≥ 6**), hip & leg exercises- at slow speeds of mvmt. (Graft protection)
 - Begin testing/training for proprioception
 - Progress bike and walking, or stair stepper (if available)- min of 10 minutes, increasing 10min/wk (walk)

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 ≥ 12 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 14-16 weeks post-op**
- Perform hop testing at no sooner than 14-16 weeks post-op

Treatment:

- Exercises: (**Continue/progress all exercises from previous phases as tolerance/as needed**)
 - Progress exercises in intensity and duration
 - 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)
 - Isokinetic exercises at (90°-40°) (120°/s-240°/s)

Please refer to full clinical RTS protocol for specific exercise recommendations and further information.

References included.