

Medial Knee Reconstruction Protocol

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Restrictions:

- NWB & Long lever hinged knee brace 0-90 for 6/52.
- No knee extension machine for 12/52.
- Jogging from 16/52.

0 – 2 Weeks

Goals: Control pain and swelling; preserve patellofemoral mobility.

- Check for evidence of distal neurovascular deficit, DVT or infection.
- POLICE protocol for management of pain and swelling/effusion.
- NWB for 6 weeks.
- Long lever brace fitted ROM 0-90° to be worn at all times apart from washing/dressing and to perform ROM exercises.
- Gentle passive/active-assisted ROM between 0-90° (CPM if available).
- Emphasize full extension.
- Patella mobilisation (superior/inferior, medial/lateral).
- TAQ's, SLR in brace (30 reps 4-5x daily).
- Precautions: Avoid valgus and internal/external rotation of the knee.

2 – 6 Weeks

Goals: Resolve effusion; SLR no lag; ROM 0-115° by 6/52 post-op.

- ROM = Full extension, progress flexion as tolerated.
- Brace to be worn when mobile and when sleeping.
- NWB hip/lumbo-pelvic muscle maintenance exercises.
- Prone or standing hamstring curls.
- Static bike no resistance from 4 weeks.

6 – 8 Weeks

Goals: Restore full ROM and normal walking.

- WBAT with 2 EC's, progress to FWB if no limp by 8 weeks.
- Open brace to allow full ROM.
- Double leg closed kinetic chain (CKC) exercises $\leq 70^\circ$ of knee flexion.
- Start double legged perturbation exercises (e.g. wobble board).
- Continue to progress hip/lumbo-pelvic exercises.

8 – 12 Weeks

Goals: Restore normal gait; able to perform single-leg squat of 45° knee flexion with normal mechanics.

- FWB, no restrictions.
- Wean of brace as confidence allows from 12 weeks.
- Progress CKC exercises ($\leq 70^\circ$ flexion) and perturbation exercises to single leg as able.
- Add bilateral support for large muscle group weight training.
- Start static bike with light resistance.
- Precautions: No use of knee extension machine.

12 – 16 Weeks

Goals: Able to perform single-leg squat of 60° knee flexion with normal mechanics.

- No Brace.
- Progress weight training to single leg.
- Progress difficulty of perturbation and neuromuscular exercises.
- Progress cardiovascular exercise with bike, walking, flutter kick swimming.

16 – 20 Weeks

Goals: Good lower extremity alignment with closed-kinetic chain and impact drills.

- Consider brace for dynamic activities only.
- Directional lunging.
- Basic agility/footwork drills.
- Basic double leg plyometric drills.
- Dynamic and directional challenge to lower extremity proprioception and balance drills.
- Interval jogging (straight line, no hills).

20 Weeks +

Goals: Return to sport when >90% LSI for quadriceps strength, hamstrings strength and battery hop tests (e.g. hop for distance, hop for time, cross over hop).

- Continue weight training.
- Progress plyometric drills.
- Progress speed/intensity of agility drills.
- Initiate acceleration/deceleration/cutting drills.
- Sport-specific drills.

References:

Laprade, R. and Wijdicks, C. (2012). The Management of Injuries to the Medial Side of the Knee. Journal of Orthopaedic & Sports Physical Therapy, 42(3), pp.221-233.

Wijdicks, C., Griffith, C., Johansen, S., Engebretsen, L. and LaPrade, R. (2010). Injuries to the Medial Collateral Ligament and Associated Medial Structures of the Knee. The Journal of Bone and Joint Surgery-American Volume, 92(5), pp.1266-1280.