



POST-SURGICAL MEDIAL COLLATERAL LIGAMENT REPAIR REHABILITATION PROTOCOL:

This rehabilitation protocol was developed for patients who have had medial collateral ligament (MCL) major graft reconstructions. Any major reconstruction to the medial side of the knee carries a high risk of joint contracture. Quadriceps and hamstring control are critical to avoid valgus thrust loading and abnormal external tibial rotation during gait early postoperatively.

The overall goals of the reconstruction and rehabilitation are to:

- Control joint pain, swelling, hemarthrosis (minimal or none).
- Regain normal knee flexion and extension.
- Regain a normal gait pattern and neuromuscular stability for ambulation.
- Regain normal quadriceps, hamstring lower extremity muscle strength.
- Regain normal proprioception, balance, and coordination for desired activities.
- Achieve optimal functional outcome based on orthopaedic and patient goals.

POST-OP DAYS 1 - 7 (20REPS)

GOALS:

- Pain reduction.
- Full active extension.
- Flexion to 90 degrees.
- Prevent quads atrophy.
 - o Ankle toe movements/ calf pumping.
 - o Isometric quads.
 - o Gradually pain free passive assisted knee bending 60-90 degrees.
 - o Active knee extension.
 - o Straight leg raise (SLR).
 - o **No stationary bike x 6 weeks**
 - o Abduction and adduction ROM at hip.
 - o Ice Pack application 15mins every 3hours with knee in full extension, compression and elevation.
 - o Walking on walker with partial weight bearing long knee brace accordingly.

DAYS 8 – 14 (20REPS)

GOALS:

- ROM 0-120 degrees.
- No effusion.
- No extensor lag.
 - o Good quad control.
 - o Ice application as prescribed.
 - o No active hamstring exercise.
 - o Active knee bending 90- 120 degrees.
 - o Active knee extension.

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- o Active dynamic knee extension edge of the bed (90-0 degrees).
- o Isometric quads and dynamic VMO strengthening.
- o SLR
- o Glutes, hip abductor and adductors strengthening.
- o Heel and toe raises.
- o Walking with full weight bearing walker/tripod stick support.
- o Staircase climbing.

WEEKS 2 – 5 (accordingly)

GOALS:

- Full painless ROM.
- Restore strength.
- Normal Gait
 - o Active full range knee bending.
 - o Co-contraction quads and hamstring.
 - o Continue appropriate previous exercises.
 - o Mini squats and wall squats 0-45degrees.
 - o Standing SLR and hip movements with light Theraband bilaterally.
 - o Forward, lateral and retro step downs in parallel bars
 - o Walking without support with hinge knee brace.

WEEKS 6 – 9

GOAL:

- Walk 2 miles at 15 min/mile pace
 - o D/C Brace.
 - o Continue appropriate previous exercises.
 - o Wall squats 0-90 degrees.
 - o Proprioceptive training – Single leg BAPS, ball toss and body blade.
 - o Stationary bike – 10-15 minutes at a time.
 - o Treadmill – Walking progression program.
 - o Elliptical trainer.
 - o Pool therapy – Walking / running (no kicking)

WEEKS 9 – 12

GOAL:

- Walk 3 miles at 15 min/mile pace.
 - o Continue appropriate previous exercises with progressive resistance.
 - o Fitter.
 - o Slide board.

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Let's Begin to Live Again...

- Proprioceptive training – Grid exercises.
- Functional activities – Figure 8s, gentle loops, large zigzags.
- Stairmaster – Small steps.
- Pool therapy – No swimming laps.
- Quad stretches.

MONTHS 3 – 4

GOAL:

- Run 2 miles at easy pace.
 - Isokinetic testing at 180 and 300 degrees/sec.
 - Must have 80% of opposite leg to clear for straight line running.
 - Continue appropriate previous exercises.
 - Knee extension weight machine.
 - Short arc quads.
 - Agility drills / Plyometrics.
 - Treadmill – Running progression program if cleared.
 - Pool therapy – Swimming laps.

MONTHS 4 – 6

GOAL:

- Return to all activities.
 - Repeat Isokinetic testing as needed.
 - Continue appropriate previous exercises.
 - Sit-up progression.
 - Running progression to track.
 - Transition to home / gym program.

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