



POSTERIOR CRUCIATE LIGAMENT SUBSTITUTION SURGERY (Dr. Akbar Nawab)

PRE-OP

- Perform pre-operative evaluation
- Begin pre-operative rehabilitation program to regain ROM, strength, and normal gait pattern.
- Explain pre- and post-surgery goals
- Patient and family education regarding surgical procedures and current pathology
- Demonstrate post-op rehabilitation program which patient will initiate day 1-3

GENERAL PROTOCOL GUIDELINES:

- Caution against posterior tibial translation.
- No open chain hamstring isolation exercises for 6 weeks.
- TTWB with crutches in the brace for 6 weeks.
- Limited ROM brace should be locked at 0° for first 4 weeks with a posterior tibial pad or towel, then ROM 0-30° from weeks 4-6. Flexion ROM should be done mainly in prone position starting at week 6.
- Elevate lower extremity with knee straight (no pillows directly underneath the knee, but try to prevent posterior sag of tibia at rest)
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0-6 WEEKS POST-OP

Guidelines

- May shower after all the postoperative dressing is removed (usually day 2) but keep incisions dry for at least 5 days.
- Wear LROM brace locked at 0°. Brace may be removed for showering, exercises, and PT as needed.
- Cryotherapy as often as tolerated without direct contact to the skin.
- Notify physician if fever of 100° or more.

Rehabilitation

- AROM of the ankle/ankle pumps >>> calf press with bands
- Emphasize functional knee extension, unless posterior-lateral complex injury. Passive knee extension with a towel roll under heel or prone leg hangs for 10-15 minutes, 3 times a day (do not force hyperextension past 5-6°)
- Hamstring, ITB and calf stretching.

- Quad strengthening/isometrics as tolerated.
- 3-way open chain leg lifts >>> independently if less than 15-20° of knee extension lag (otherwise needs assistance). Resistance should be placed above the knee for hip ABD/ADD once tolerated.
- Standing hip EXT from neutral.
- Patella mobilization as tolerated.

6-12 WEEKS POST-OP

Guidelines

- Continue elevation and cryotherapy as needed
- Maintain functional extension.
- Transition to full weight-bearing in brace weaning from assistive devices as tolerated.
- Allow brace to be unlocked

Rehabilitation

- Goal: > 90° of flexion with at least 0° extension
- Continue all exercises from phase I, progress to 4-way hip machine, resistance above knee.
- Side-lying hip ER strengthening
- Begin closed chain exercises as weight-bearing is tolerated.
- Initiate bilateral calf raises, mini-squats (0-45°)
- Gait training, in-line walking, cones >> forward and lateral
- Stationary bike at 8 weeks, as ROM allows (foot forward on the pedals to minimize hamstring activation)
- Begin forward step ups: Start at 4 inches >> 6 inches >> 8 inches
- Begin single leg stance exercises for proprioception/balance, static >> dynamic
- Modalities as needed for pain/effusion

12-24 WEEKS POST-OP

Rehabilitation

- Advance previous exercises as tolerated
- Increase range of motion to within normal limits
- Normalize gait
- No running, jumping, sport or plyometric activities until cleared by MD
- Initiate aquatic therapy for water walking, jogging in deep end of pool, swimming (no breast stroke kick or frog kicks)

- Advanced stationary cycling to endurance training >> interval training
- Advanced balance and proprioceptive retraining
- Elliptical machine, stairmaster, treadmill as tolerated without PF pain.

6-12 MONTHS POST-OP

- Continue strengthening, add plyometrics, advance proprioception and agility training; sports running program
- Advance sport specific drills
- Return to normal activity would release by physician.