
Dr. McCormack's Posterior Cruciate Ligament Rehabilitation Guidelines

Phase 1: Protection & Early Passive ROM/Prevention of Stiffness (0-2 Weeks)

Brace and Weight Bearing:

- Brace, locked in extension when ambulating; worn 24 hours per day
- Flat foot feather touch weight bearing with crutches ROM:
- Prone or supine assisted knee flexion 0-90 degrees with proximal tibia protected against gravity
- No hyper extension
- Patella mobilization – medial/lateral and inferior/superior glides

Exercise Suggestions: NO ACTIVE HAMSTRINGS/KNEE FLEXION X 6 WEEKS

- Isometric Quad contractions, gluteal activation (supine or standing), isometric hip adduction/abduction, ankle pumping

Modalities: Ice, compression and analgesics as needed to reduce pain and swelling

Phase 2: ROM & Muscle Activation (2-6 Weeks)

Brace and Weight Bearing:

- Transfer to Ossur PCL Rebound brace once soft tissue swelling allows
- Flat foot partial weight bearing with crutches
- Prone or supine assisted knee flexion 0-90 degrees with proximal tibia protected against gravity
Patella mobilization – medial/lateral and inferior/superior glides

Exercise Suggestions: NO ACTIVE HAMSTRINGS/KNEE FLEXION X 6 WEEKS

- Isometric Quad contractions (+/- muscle stimulation)
- Gluteal activation (supine or standing), isometric hip adduction/abduction, ankle pumping
- Progress to mini squats, 0-30 degrees with brace on (can weight bear as tolerated during this exercise)
- Non-weight bearing hip stability exercises: abduction, extension, external rotation, clam shells, supine bridging on Swiss ball
- Ankle theraband plantar flexion, sitting calf raises

Modalities: Ice, compression and analgesics as needed to reduce pain and swelling

Phase 3: ROM & Strengthening (6-12 Weeks)

Brace and Weight Bearing:

- Continue Ossur PCL Rebound brace
- Weight bear as tolerated until normal heel toe gait
- Full range of motion
- Patella mobilization – medial/lateral and inferior/superior glides

Exercise Suggestions: CAN START ACTIVE HAMSTRINGS/KNEE FLEXION IN OSSUR PCL REBOUND BRACE (if not in rebound brace keep hamstrings quiet until 12 weeks post op)

- Gait retraining
- Quadriceps isometrics in long sitting, standing (+/- muscle stimulation)
- Weight shifting: 2 weigh scales → 50-50 WB
- Leg extension (or quad over roll), active terminal knee extension with theraband
- Initiate abdominal and core strengthening (i.e. curl-ups, transversus abdominis with SLR x4)
- Standing hip flexion/extension, abduction/adduction → weights/pulleys/bands (watch for excessive trunk shift/sway)
- Shuttle™/leg press: 2 leg squat/calf raises, progress 2-1 leg; increase ROM & resistance
- Mini wall squats (30-60°) → 60°-90°; sit to stand
- Calf raises 2 → 1 foot, up on toes walking (when full weight bearing)

Modalities: Ice, compression and analgesics as needed to reduce pain and swelling

Phase 4: Advanced Strengthening & Return to Light Work (3-6 Months)

Continue Ossur PCL Rebound brace

- Weight bear as tolerated
- Full range of motion

Exercise Suggestions:

- Bike pendulums: ½ circles forward/backward → full circles – lower seat as tolerated
- Supine bridging: 2 → 1 leg → Swiss ball → bridge + knee flexion
- Hamstring curls: prone, sitting → progress 1-2 lb weights
- Continue core strengthening functionally (i.e. obliques, planks, Pilates)
- Sit to stand → lower bed height (watch mechanics) → single leg
- Progress resistance of Shuttle™ working on strength & endurance, 2 → 1 leg
- Continue hip strengthening: weights, pulleys, tubing
- Static Lunge → dynamic lunge (with proper alignment: shoulders over knees over toes) → lunge walking as pain free range tolerates
- Progress to low resistance stationary bike
- Wobble boards with support: side-to-side, forward/backward
- Single leg stance 30-60 seconds (when full WB)
- May begin jogging / running program once regained full range of motion with a quiet knee and appropriate neuromuscular control

Phase 5: Advanced Strengthening & Return to Activity (6+ Months)

Brace use as tolerated

Exercise Suggestions:

- Progress leg extensions with weight as tolerated (pain free arc)
- Bungee™ cord walking: forward, backward, side step, lunging → add speed/direction change as tolerated

- Forward and lateral step-ups 2-4-6" and eccentric lateral step down on 2-4-6" step with control (watch for hip hike or excessive ankle dorsiflexion)
- Squats, Lunges on Dynadisc, Airex, Bosu... as range tolerates
- Tubing kickbacks (mule kicks)
- Pro-Fitter™: hip abduction and extension → progress side-to-side
- Shuttle™ standing kick backs (hip/knee extension)
- Supine swiss ball → bridge + knee flexion → 1 leg
- Chair walking/stool pulls
- Hamstring curls: standing & sitting-weights/pulleys/ Bungee™
- Eccentric heel drops off step or Shuttle™ 2 → 1 leg
- Continue wobble boards and add basic upper body skills (i.e. throwing, catching)
- Single leg stance on unstable surface i.e. pillow, mini-tramp, BOSU™, Airex™, Dynadisc™
- Single leg stance performing upper body patterning specific to patient goal(s)
- Standing 747s: eyes open/closed → progress to mini trampoline
- May begin jogging / running program as tolerated
- Agility: Cariocas/grapevine, Figure 8's around cones, ladder drills, lateral shuffle cone- cone
- Side to side steps → jumps on the BOSU
- Line jumping, backward/forward/side-to-side → progress to diagonals / combined patterns; 2 → 1 leg
- Jumping: tuck jumps, box jumps, long jumps
- Skipping rope double and single leg
- Hopping: single-leg (distance), 6m timed, triple hop (distance), cross-over: 2 → 1 leg
- May implement sport-specific multi-directional drills/contact when adequate core/lower extremity patterning (stop and go drills, sideways and backwards drills, sprinting with cutting and pivoting)