



TEXAS BONE & JOINT

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PCL Reconstruction Protocol

The intent of this protocol is to provide the clinician with a guideline of postoperative rehabilitation course. It is not intended to be a substitute for appropriate clinical decision making regarding the progress of the patient's postoperative course. The actual post-surgical physical therapy management must be based on the surgical approach, physical exam/findings, individual progress, and/or the presence of postoperative complications. If a clinician requests assistance in the progression of a patient post-surgery, they should consult Dr. Payne.

Phase 1-Acute (0-6 Weeks)

Phase goals: Protect graft, restore ambulation and ADL status

Range of motion

- 0-4-weeks: full extension (avoid overpressure); flexion to 90 degrees (no post sag)
- 4 -6 weeks: progress flexion 120 degrees

Weight-bearing

- 0-4 weeks: weightbearing as tolerated (full extension)
- 4+ weeks: full weightbearing

Brace and crutch use

- 0-4 weeks: locked in full extension
- 4-6 weeks: open brace to full*with good quad control

Strengthening and conditioning

- 0-4 weeks: Quad sets, straight leg raises, weight shifts
- 4-6 weeks: add mini squats, partial range leg press

Criteria for full ambulation without crutches

- At least 6 weeks out from surgery
- Greater than 0 degrees knee extension and 70 degrees knee flexion
- Greater than 30 straight leg raises without a lag
- Greater than 20 seconds of single leg balance (BESS)
- Symmetrical gait without a limp

Phase 2-Strength (6 -12 weeks)

Phase goals: Improve strength and initiate jogging program

Range of motion

- 6-8 weeks: maintain extension, progress flexion to 130 degrees
- 8+ weeks: progress flexion to full

Strengthening

- Leg press, set ups, and light Romanian deadlifts (RDLs)
- Squat progression (body weight squats greater than or equal to single-leg squats)
- Core exercises (V ups, single-leg bridging)
- Open chain hamstring strengthening

Conditioning

- Stationary bike—initiate 110 degrees flexion
- Elliptical and rowing machine, initiate jogging program

Criteria for jogging

- At least 12 weeks post surgery
- Pain less than 3/10 (worst)
- Within 2 degrees normal knee extension and 120 degrees knee flexion
- Quadriceps and hamstring strength greater than or equal to 60% of normal
- At least 1 minute of single-leg squats
- MD or PT approval

Phase 3—Agility (12-24 weeks)

Phase goals: Induced dynamic and power movements

Strengthening

- Gym specific strengthening (barbell squats and dead lifts)
- Initiate progressive isolated hamstring strengthening
- Core exercises (mountain climber's, planks, VS)

Conditioning

- Biking, elliptical, jogging, swimming

Plyometrics and light agility

- 16 weeks—ladder drills, double leg box jumps, side shuffle
- 20 weeks—single-leg box jumps and hopping, light agilites

Criteria for heavy agility and sport specific movements

- 20 weeks post-surgery
- Pain less than 2/10 (worst)
- Quad and hams strength greater than or equal to 80% of normal; greater than or equal to 50% H/Q ratio for females
- At least 2 minute of single-leg squats (resisted)
- Less than or equal to 5 on landing error scoring system (LESS)
- MD or PT approval

Phase 4—return to play (24+ weeks)

Phase goals: Initiate sport specific movements and return to play strengthening.

Strengthening

- Progress gym strengthening (barbell squats, dead lifts, etc.)
- Biodex quad and hamstring fatigue protocols and core exercises

Conditioning

- Jogging, biking, and swimming
- Interval sprint workouts

Plyometrics and agility (2-3 days/weeks)

- Max effort box jumps (progress with rotation)
- Lateral and rotational agility
- Single-leg hops
- Unpredictable cutting and contact drills

Recommended criteria for return to play

- Pain less than 2/10 (worst)
- Quad and hams strength greater than or equal to 90% of normal; greater than or equal to 60% H/Q ratio for female
- At least 3 minutes of single-leg squats (resisted)
- 90% normal on all single-leg hop test
- 95% normal-figure-of-eight, 5-10-5 pro-agility, and S-L vertical jump
- MD or PT approval