

# PCL RECONSTRUCTION

## Post-Operative Physical Therapy Protocol



SCAN FOR THE  
ONLINE VERSION



**Stanford**  
MEDICINE

Dear Colleague,

I appreciate your partnership in the rehabilitation of this very special patient of ours. I have instructed the patient that you will be using this protocol. My belief is that the biggest predictor of success is what the patient does at home and consistently. **They should view you not just as a therapist but as a highly educated and skilled teacher** and the patient *must* be an active participant in the rehab process.

To facilitate this, I have included a copy of the rehab protocols I would like the patient to focus on at each time point in the rehab process. Please assist me by encouraging and teaching our mutual patient their home exercises as well.

With your help and the active participation of our patient, I know we can have another fantastic knee.

Please do not hesitate to reach out directly to me and my team with any questions at any time.

Respectfully,



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|                         | WEEKS 0-6                                                  | WEEKS 7-10                                         | WEEKS 11-12                            | MONTHS 3-6                            | MONTHS 6+                                    |
|-------------------------|------------------------------------------------------------|----------------------------------------------------|----------------------------------------|---------------------------------------|----------------------------------------------|
| <b>PT visits</b>        | 1x/week                                                    | 2-3x/week                                          | 2-3x/week                              | 2x/month                              |                                              |
| <b>Weight bearing</b>   | NWB<br><i>Crutches</i>                                     | Progress to WBAT<br><i>Over 2-4 weeks</i>          | Full<br><i>D/C crutches</i>            | Full                                  | Full                                         |
| <b>Range of motion</b>  | Supine PROM by PT<br><i>0-60°, then 0-90° wks 5-6</i>      | AAROM, AROM                                        | Progress                               | Full                                  | Full                                         |
| <b>Brace</b>            | Locked in extension<br><i>All times wk 1, then walking</i> | 0-90°<br><i>Then unlocked</i>                      | D/C<br><i>No quad lag, normal gait</i> | None                                  | None                                         |
| <b>Strengthening</b>    | Quad sets, SLR<br><i>Hip, calf (in brace)</i>              | Wall slides 0-45°<br><i>No resisted hamstrings</i> | TKE, leg press 0-90°<br><i>Balance</i> | Closed chain<br><i>Proprioception</i> | Sport-specific<br><i>Strength, endurance</i> |
| <b>Impact and sport</b> | None                                                       | None                                               | Stationary bike<br><i>Seat high</i>    | Treadmill walking                     | Jogging<br><i>Full sport around 9 months</i> |

*As tolerated means pain during exercise no more than 2/10 above baseline. Avoid pushing into pain.*

### DAY 0-7

- **Brace locked in full extension at all times (sleeping, etc.).**
- **Non weight bearing on the leg.**
- Begin quad sets, SLRs, hip abduction and adduction, ankle pumps (in brace).

### WEEKS 1-6

- **Non weight bearing with the brace locked in full extension while ambulating.**
- **Pillow behind the proximal tibia at rest** to prevent posterior tibial sag when out of the brace.
- **Supine PROM 0 to 60° in brace by the physical therapist;** maintain anterior force on the proximal tibia to prevent posterior tibial sag.
- Advance to supine PROM 0 to 90° at weeks 5 to 6.
- Hamstring and calf stretching, standing hip extension exercises.
- Calf press with TheraBand, progressing to bilateral standing calf raises with full knee extension, then single-leg calf raises.

**WEEKS 7–10**

- Progress to AAROM/AROM/WBAT over 2 to 4 weeks with the brace at 0 to 90°, then unlocked.
- No isolated resisted or weighted hamstring activation.
- Wall slides 0 to 45°: begin isometric, then progress to active against body weight only.
- Standing hip extension, flexion, abduction, and adduction with resistance (resistance must be proximal to the knee).

**WEEKS 11–12**

- Discontinue crutches and brace when there is no quad lag with SLR and the gait pattern is normalized.
- Stationary bike with the seat higher than normal to minimize hamstring activity.
- Closed chain terminal knee extension, initially with TheraBand, then progress to weights.
- Balance and proprioception: single-leg stance exercises.
- Leg press 0 to 90°.

**MONTHS 3–6**

- Advance closed chain exercise program.
- Treadmill walking.
- Progress proprioception and balance activities.

**MONTHS 6+**

- Begin slow progression toward sport-specific training exercises (jogging, etc.).
- Maintain strength, endurance, and flexibility.
- Return to full sport around 9 months, once strength and hop testing are at 90% or better and Dr. Tummala clears the patient.

**CRITERIA TO RETURN TO SPORT**

- Full ROM compared with the uninvolved side.
- No effusion.
- Normal gait and pain-free activities of daily living.
- Quadriceps strength at least 90% of the uninvolved side.
- Single-leg hop tests at least 90% of the uninvolved side.
- Around 9 months after surgery for full sport.

**WEEK-BY-WEEK PROGRESSION**

| EXERCISE                                             | 1 | 2 | 3 | 4<br>(1 mo) | 5 | 6 | 7 | 8<br>(2 mo) | 9 | 10 | 12<br>(3 mo) | 16 | 20 | 24<br>(6 mo) |
|------------------------------------------------------|---|---|---|-------------|---|---|---|-------------|---|----|--------------|----|----|--------------|
| <b>Initial Exercises</b>                             |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| NWB with crutches                                    |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| Brace locked straight (all times wk 1, then walking) |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| Pillow behind proximal tibia at rest                 |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| Supine PROM by PT (0-60°, then 0-90° wks 5-6)        |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| Quad sets, SLR, hip, ankle pumps, calf work          |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| <b>Advanced Exercises</b>                            |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| WBAT over 2-4 wks, brace 0-90° then unlocked         |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| No resisted hamstrings                               |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| Wall slides 0 to 45°                                 |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| Standing hip exercises (resistance above knee)       |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| D/C crutches and brace                               |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| Closed chain TKE, leg press 0-90°, balance           |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| <b>Cardiovascular Exercises</b>                      |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| Stationary bike (seat high)                          |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| Treadmill walking                                    |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| <b>High-Level Activities</b>                         |   |   |   |             |   |   |   |             |   |    |              |    |    |              |
| Jogging after 6 months; full sport around 9 months   |   |   |   |             |   |   |   |             |   |    |              |    |    |              |

This protocol is a general guideline and does not replace the clinical judgment of the treating therapist and surgeon. Please contact our office with any questions.