

**Post-operative Rehabilitation Protocol****PCL and/or PLC (Posterolateral Corner) Reconstruction/Repair**

The goals of this protocol are to protect the reconstructions while preventing knee stiffness. The PCL/PLC reconstruction fixation is not as sturdy as a typical ACL fixation. Therefore, prevention of posterior tibia translation and tibia rotation through the first 8 weeks is paramount. Early passive ROM exercises are very important.

Phase 1 (0-6 weeks post op):

Goals	<ul style="list-style-type: none"> • Full knee ROM—all ROM exercises must be performed in the prone or side lying position for the first 6 weeks • Prevent posterior tibia translation and tibia rotation • 50% weight bearing in brace; must use crutches for first 6 weeks, unless directed otherwise by the surgeon • Pain/edema reduction • Begin and enhance normalization of quad recruitment
Brace/Precautions/ Crutch Use/Weight bearing	<ul style="list-style-type: none"> • Weight bearing: <ul style="list-style-type: none"> ○ 0-6 weeks: 50% weight-bearing <ul style="list-style-type: none"> ➢ Instruct patient on proper crutch use in regards to ascending/descending steps, sit to stand/stand to sit, in/out of cars, etc. • Brace: 0-2 weeks: locked in extension (0 degrees) at all times <ul style="list-style-type: none"> ○ Brace may be unlocked for prone passive ROM exercises under guidance of PT • Brace: 2-6 weeks: unlocked 0-90 degrees if able to tolerate • Brace may be removed for hygiene and therapy
Range of Motion	<ul style="list-style-type: none"> • Weeks 0-2: 0 degrees • Weeks 2-6: 0-90 degrees • ROM exercises: In prone position or side lying only! Grip the heads of the gastroc/soleus group and maintain anterior/neutral pressure proximally to the tibia while flexing the knee • Advance ROM as tolerated following guideline above • Begin patella mobilizations • <u>After 2 weeks post op:</u> • If tolerated, may add stationary bike to increase ROM. Start with high seat and progress to normal seat height when able, resistance as tolerated.
Strengthening	<ul style="list-style-type: none"> • Quad Sets for strengthening • NO active strengthening with knee flexion • NO hamstring isometrics • Quad sets/SLR in brace at 0° (assist patient with this exercise until solid quad contraction developed, prevent posterior sag) • Seated calf exercises • <u>After 3 weeks post op (if tolerated):</u> • Leg press with both legs • Leg extensions with anti-shear device or cuff weights. Progress weight as tolerated, keep resistance proximal. Prevent posterior tibia translation & tibia rotation
Home Instructions	<ul style="list-style-type: none"> • Keep surgical dressings clean and dry

	<ul style="list-style-type: none"> • Change surgical bandages on the 2nd day after surgery (keep covered until first clinic visit) • Avoid getting sutures wet until at least 5 days after surgery (do not scrub, soak, or submerge the incisions) • Note DVT (blood clot) prophylaxis medications provided by your surgeon to take following surgery – follow those instructions carefully.
Suggested Exercises	<ul style="list-style-type: none"> • Modalities as needed. Time modulated AC (aka Russian estim) in full extension ok • Perform home stretching exercises 2-3 times daily. Teach quad sets/exercises • Scar management

Phase 2 (6-10 weeks post op):

Goals	<ul style="list-style-type: none"> • Normalize gait mechanics and progress to full weight bearing as tolerated without assistive devices • Improve ROM & progress to full ROM. If ROM is not progressing by week 8, contact surgeon • Completion of exercises without exacerbation of symptoms or reactive effusion
Brace/Precautions/ Crutch Use/Weight bearing	<ul style="list-style-type: none"> • Discontinue brace if capable of SLR without extensor lag • Begin weaning off crutches and progress to full weight bearing as tolerated. Suggest patient work with PT to progress from 50% WB to 1 crutch use to full WB over course of time tolerated by patient and based on normalization of gait mechanics
Range of Motion	<ul style="list-style-type: none"> • Prone flexion 120 degrees or more and advance to full ASAP • Maintain passive knee extension
Strengthening	<ul style="list-style-type: none"> • Continue with Phase 1 exercises as appropriate & increase as tolerated • May progress to the following exercises if tolerated <ul style="list-style-type: none"> ○ Closed and open chain tubing exercises ○ Single leg stands for balance/proprioception on Airex pad or trampoline ○ Chair/wall squats—keep tibia perpendicular to floor ○ Unilateral step-ups—start with 2" height and progress to normal step height as able • Around week 8, may progress to the following exercises if tolerated <ul style="list-style-type: none"> ○ Cable column exercises – retro walking, lateral stepping <ul style="list-style-type: none"> ➤ NO cross over stepping or shuffling ○ Standing leg curls with cuff weights or seated leg curls with 5# max ○ Advance quadricep strengthening as tolerated
Home Instructions	<ul style="list-style-type: none"> • Restore normal activities of daily living (within weight-bearing restrictions)
Suggested Exercises	<ul style="list-style-type: none"> • May begin aquatic therapy emphasizing normal gait, marching forward/backward • Treadmill walking—forward and retro • If ROM is normalizing, may begin Bike for cardio • Upper body lifting and core exercises may begin if tolerated

Phase 3 (10-16 weeks post-op):

Goals	<ul style="list-style-type: none">• Progressing to full, pain-free ROM• Maintain normal gait mechanics• Advancement of strengthening• Completion of exercises without exacerbation of symptoms or reactive effusion
Brace/Precautions/ Crutch Use/Weight bearing	<ul style="list-style-type: none">• None
Range of Motion	<ul style="list-style-type: none">• Progress to and maintain full ROM
Strengthening	<ul style="list-style-type: none">• Continue with Phase 2 exercises as appropriate. Progress as tolerated• Advance hamstring strengthening in prone position• Advance quad strengthening as tolerated• <u>Around 12 weeks post op</u> (if tolerated):<ul style="list-style-type: none">○ Supervised lateral movements<ul style="list-style-type: none">➢ Stepping, shuffling, hopping, cariocas○ Assessment of jogging on treadmill (only if full ROM, normalized gait, and appropriate quad/hamstring/hip strength)○ Isokinetic exercises<ul style="list-style-type: none">➢ 180, 150, 120, 90, 60 degrees/second<ul style="list-style-type: none">▪ 8-10 reps each speed up & down spectrum
Home Instructions	<ul style="list-style-type: none">• Restore normal activities of daily living
Suggested Exercises	<ul style="list-style-type: none">• Stairmaster (for rehab and/or cardio)• Slide board – start with short distance and progress as tolerated• Elliptical/Nordic Track for cardio• Fitter• Advancement of upper body lifting and core exercises

Phase 4 (4-6 month post-op):

Goals	<ul style="list-style-type: none">• Maintain full, pain-free ROM – symmetrical to uninvolved limb• Continue advancement of jogging progression• Full release for cardio• Advancement of strengthening• Begin plyometric exercises• Initiate sport specific activities under supervision of PT or ATC
Brace/Precautions/ Crutch Use/Weight bearing	<ul style="list-style-type: none">• None
Range of Motion	<ul style="list-style-type: none">• Maintain full ROM
Strengthening	<ul style="list-style-type: none">• Continue and progress strengthening Phase 3 exercises based on individual needs and deficits• Plyometrics – low intensity vertical and lateral hopping to begin, use both feet and move to one foot ASAP<ul style="list-style-type: none">○ <i>NOTE: This is a strengthening exercise not a conditioning exercise. Should still be supervised by PT or ATC. When plyometric exercise intensity is high, the volume must be decreased. Give ample recovery time between sets.</i>○ 40-60 foot contacts/session for beginners○ 60-80 foot contacts/session for intermediate○ 80-100+ foot contacts/session for advanced

Home Instructions	<ul style="list-style-type: none"> • None
Suggested Exercises	<ul style="list-style-type: none"> • Walk-jog progression as long as jogging mechanics are normalized, under supervision of PT or ATC • Initiate sport specific activities under supervision of PT or ATC • <i>For high school/college/pro athletes:</i> upper body lifting and core exercises may begin under direction of CSCS coach. Lower body lifting can begin under direction and supervision of ATC with program development, modification, assistance, and advancement from CSCS coach. Lower body lifting should NOT be unrestricted and unsupervised at this point.

Phase 5 (6+ month post-op):

Goals	<ul style="list-style-type: none"> • Safe & full return to athletics/work • Maintenance & advancement of ROM, strength, power, endurance, proprioception
Brace/Precautions/Crutch Use/Weight bearing	<ul style="list-style-type: none"> • None
Range of Motion	<ul style="list-style-type: none"> • Maintain full ROM
Strengthening	<ul style="list-style-type: none"> • Continue and progress strengthening Phase 4 exercises based on individual needs and deficits. Emphasize power development • Maintenance and progression of strength pending activity level goals • Isokinetic testing if plan is to return to high activity level/sports/physically high demanding job (police, fire, military, construction, farming, etc.) <ul style="list-style-type: none"> ○ Test for quad strength difference < 15% and unilateral hamstring/quad strength ratio of 65% or better ○ Continue strength testing until patient passes, then perform functional/job related testing (FCE if needed)
Home Instructions	<ul style="list-style-type: none"> • None
Suggested Exercises	<ul style="list-style-type: none"> • Continue sport specific activities under supervision of ATC or CSCS coach. Sport/athletic coach input should be sought at this point for sport specific activity development and progression. • <i>For high school/college/pro athletes:</i> No restrictions on upper body lifting and core exercises under direction of CSCS coach. Lower body lifting should be progressed slowly under direction of CSCS coach with goal of resuming unrestricted lower body lifting around 10-12 months post-op. • <i>For high school/college/pro athletes:</i> full return to sport with no restrictions around 10-12 months post-op or when cleared by surgeon