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PCL Reconstruction Rehabilitation Protocol

Phase / Goals	Immobilization	ROM	Therapeutic Exercises
Phase 1 (0-2 weeks) Goals: <ul style="list-style-type: none"> • ROM 0-90° • Protect posterior tib sag • No quad lag 	<ul style="list-style-type: none"> • Knee immobilizer until POD 3-5 when swelling allows for PCL brace • PCL brace at all times including sleep • 25% WB brace locked in full extension x 4 weeks 	<ul style="list-style-type: none"> • PROM 0-90° – all ROM exercises performed prone or side lying x 6 weeks • Patellar & patellar tendon mobilization • Modalities PRN 	<ul style="list-style-type: none"> • Home stretching 2-3x daily • Flexion/extension seated/calf assisted • Quad sets, SLR • Ankle pumps • No hamstring isometrics x6 weeks • Avoid knee hyperextension x12 weeks
Phase 2 (3-4 weeks) Goals: <ul style="list-style-type: none"> • Control effusion • Full PROM 	<ul style="list-style-type: none"> • PCL brace at all times including sleep • 25% WB brace locked in full extension x 4 weeks 	<ul style="list-style-type: none"> • Full PROM, begin AAROM <ul style="list-style-type: none"> ○ PRONE or side lying x 6 wks ○ Avoid hyperextension • Patellar mobilization • Modalities PRN 	<ul style="list-style-type: none"> • Closed chain strengthening 0-45° • Quad sets/SLR in Brace at 0° (assist patient with this exercise until solid quad contraction developed, prevent posterior sag) 3x10 3x's/daily, may use ankle weights as they will increase anterior translation • BFR – initiate post op day 15
Phase 3 (5-6 weeks) Goals: <ul style="list-style-type: none"> • FWB • Full A/PROM • 4/5 quad strength 	<ul style="list-style-type: none"> • Progress to FWB with brace locked in extension <ul style="list-style-type: none"> ○ Otherwise brace unlocked • PCL brace at all times including sleep 	<ul style="list-style-type: none"> • Progress to full A/PROM <ul style="list-style-type: none"> ○ Avoid hyperextension • Patellar mobilization • Modalities PRN 	<ul style="list-style-type: none"> • Begin stationary bike w/ no resistance once ROM 0-120° • ¼ squats, leg press 0-60° light weight • Gentle sit and reach for hamstrings (no hypertext) • Start proprioception training in brace • Can begin pool therapy, but NO kicking
Phase 4 (7-8 weeks) Goals: <ul style="list-style-type: none"> • FWB 	<ul style="list-style-type: none"> • FWB with brace locked in extension <ul style="list-style-type: none"> ○ Otherwise brace unlocked • PCL brace at all times including sleep 	<ul style="list-style-type: none"> • Full A/PROM <ul style="list-style-type: none"> ○ Avoid hyperextension • Patellar mobilization 	<ul style="list-style-type: none"> • Stationary bike with no resistance • Advance to CKC 0-45 • Small forward step-ups • Toe/heel raises • Progress from bilat leg press to unilateral w/ light weight • Continue with strengthening from phase 3

Phase 5 (9-12 weeks) Goals: <ul style="list-style-type: none"> • 5/5 strength • Normal gait • Good single leg stance 	<ul style="list-style-type: none"> • FWB with brace unlocked if good quad control • PCL Brace full-time <ul style="list-style-type: none"> ○ May remove for sleep 	<ul style="list-style-type: none"> • Full A/PROM <ul style="list-style-type: none"> ○ Avoid hyperextension 	<ul style="list-style-type: none"> • Single leg stance • Hamstring curls 0-90° light weight • Leg press 0-90° light weight • Mini squats 0-45°, progress to single leg wall squats • Stationary bike (resistance at 10 wks), water walking
Phase 6 (13-16 weeks) Goals: <ul style="list-style-type: none"> • 45 min aerobic endurance 	<ul style="list-style-type: none"> • FWB • PCL Brace full-time except for sleep 	<ul style="list-style-type: none"> • Full A/PROM 	<ul style="list-style-type: none"> • Treadmill walking, aqua jogging, elliptical, rowing • Can begin to swim w/ crawl stroke only, NO frog leg or breast stroke • Continue to progress strengthening from phase 5
Phase 7 (17-28 weeks) Goals: <ul style="list-style-type: none"> • Full swim kicks 	<ul style="list-style-type: none"> • FWB • PCL brace full-time except for sleep 	<ul style="list-style-type: none"> • Full A/PROM 	<ul style="list-style-type: none"> • Progress leg press and knee bends >70° • Start walk-run program at 20 weeks • Backward walking • Stairmaster • Start light agility program and may progress as tolerated
Phase 8 (>29 weeks)	<ul style="list-style-type: none"> • FWB • DC full-time brace • PCL brace for sports activities until 12 months post op 	<ul style="list-style-type: none"> • Full A/PROM 	<ul style="list-style-type: none"> • Start plyometric/jump training • Isokinetic test for Quad strength difference \leq 10% and unilateral Hamstring/Quad strength ratio of 65% or better • Continue strength testing monthly until patient passes then perform functional testing • No cutting/pivoting x 9 months • Dr. Ridley to discuss prior to return to sport

RETURN-TO-SPORT CRITERIA:

Full return to all sports and games

- At least 10 months from surgery
- No functional complaints, full range of motion & no effusion
- Confidence when running, cutting, jumping at full speed
- >90% isometric quadriceps strength
- >90% contralateral values on hop tests
- >90% Quad Index LSI with Biodex or HHD
- >90% Quad peak torque/body weight on Biodex (if applicable)
- Excellent ACL-RSI
- Wear PCL brace for sports/recreational activities for first year after surgery