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ACL & LCL Reconstruction Rehabilitation Protocol

The goals of this protocol are to protect the reconstructions while preventing knee stiffness, so early Passive ROM exercises are very important. In addition, preventing excessive anterior and/or posterior tibia translation is also very important.

Phase / Goals	Immobilization	ROM	Therapeutic Exercises
Phase 1 (0-2 weeks) Goals: <ul style="list-style-type: none"> • SLR x 20 without lag • Normal gait mechanics • PROM: 0 → 90° • Hold wall slides x 2 weeks 	<ul style="list-style-type: none"> • Toe touch weight bearing x 2 weeks • Brace locked in full extension during ambulation 	<ul style="list-style-type: none"> • Begin PROM 0 – 90 deg • Avoid hyperextension extension • Patellar mobilization all directions Modalities: <ul style="list-style-type: none"> • NMES if unable to perform SLR without lag • Hi-volt estim for edema control/ IFC/ice estim for pain control • Cryocuff/Game Ready Compression/ Ice 	<ul style="list-style-type: none"> • Bike for ROM (rocking) • Flexion: heel slides, seated knee flex • Extension: heel prop, prone hang • Long sitting HS stretch • Quad sets, glut sets • SLR x4 with assist until no lag • Standing TKEs • Ankle pumps • Calf raises on leg press • Limit knee varus (i.e. no side lying hip abd or side stepping) • No hamstring isometrics for 2 weeks
Phase 2 (2-6 weeks) Goals: <ul style="list-style-type: none"> • Minimal joint effusion • Full functional quad/HS strength • ADLs WNL • Avoid isolated active hamstring exercises • Limit knee varus 	<ul style="list-style-type: none"> • 40% Weight bearing • Brace unlocked, 0-90 	<ul style="list-style-type: none"> • Begin full A/PROM as tolerated Modalities: <ul style="list-style-type: none"> • Cont. above • Scar STM when incision healed • Patellar mobs all directions • Gentle prone quad stretch/knee flex • Manual assist extension/passive stretch • HS STM for extension assist 	<ul style="list-style-type: none"> • Continue above • Stationary Bike to increase ROM, start with high seat and progress to normal height when able • Heel slides/wall slides/seated assist flexion • Quad sets/glut sets, clams/mini-hydrants/glut pushes • Leg press • Standing TKEs • Gait training- when gait WNL, progress to reverse incline • Hamstring light AAROM. ***No open chain HS x 4 months

<p>Phase 3 (7-12 weeks) Goals:</p> <ul style="list-style-type: none"> • Maintain full AROM • Bilateral hopping without pain or swelling • No open chain HS x 4 months • Limit knee varus 	<ul style="list-style-type: none"> • D/C hinged brace, convert to CTI brace • Progress to FWB 	<ul style="list-style-type: none"> • Full A/PROM <p>Manual:</p> <ul style="list-style-type: none"> • Joint mobs PRN for full flex and ext ROM • Patellar mobs/ Scar STM with extractor <p>Modalities:</p> <ul style="list-style-type: none"> • Ice/stim PRN 	<ul style="list-style-type: none"> • Bike, elliptical, stair master • LE stretches • Wall sits/squats <60° flex, progress to ball toss with wall sit and SL squat • Total gym SL leg press, calf raise • Step ups/lateral step over's- progress to faster pace • Lunges- stationary (may progress to walking at week 12) • Lateral walks with sport cord • SLS dynamic surfaces with ball toss and perturbation training • Begin walk-jog progression week 12 if full ROM/nil edema/full strength and can perform SL hops x10 pain-free (SUPERVISED) • No cutting or pivoting
<p>Phase 4 (13-16 weeks) Goals:</p> <ul style="list-style-type: none"> • Jogging without pain/swelling • SL jump w/o difficulty • Functional Knee Test results >75% (taken at week 16) 	<ul style="list-style-type: none"> • CTI brace for activity, wean for daily use 	<ul style="list-style-type: none"> • Full A/PROM 	<ul style="list-style-type: none"> • Continue everything in phase 3 • Increase walk-jog progression to easy pace with incline • May begin swimming • Jogging patterns at 50-75% speed • Ladder drills slow pace • SL dead lift and RDLs
<p>Phase 5 (17-20 weeks) Goals:</p> <ul style="list-style-type: none"> • Sport-specific training without pain or swelling • Functional Knee Test results >85% (taken at week 20) 	<ul style="list-style-type: none"> • Discontinue Bracing 	<ul style="list-style-type: none"> • Continue Full A/PROM • Modalities PRN 	<ul style="list-style-type: none"> • Figure 8 running patterns • Gym-program activities • Sport-related strengthening Gym-program activities • Progress plyometric progression • Can begin isolated resisted hamstring exercises
<p>Phase 6 (20-24 weeks) Goals:</p> <ul style="list-style-type: none"> • Functional Knee Test Results >90% (taken at week 24) 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Continue Full A/PROM 	<ul style="list-style-type: none"> • Progress sport/job-specific training (pivoting, change of direction, kicking, interval training) • No contact • No cleats • No competition • Gym-program activities

RETURN-TO-SPORT CRITERIA:

Full return to all sports and games

- Atleast 9 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