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Hip, Knee, Shoulder & Sports Medicine Surgery

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**PCL RECONSTRUCTION REPAIR REHABILITATION PROTOCOL**

Phase	Restrictions	Therapeutic Exercises
Phase 1: Weeks 0-2 Goals: Reduce swelling and edema, minimize pain, retard muscle atrophy, protect the surgical repair, range of motion restoration	-Flat Foot/Touch Down Weight Bearing x6 weeks -Brace locked at 0 degrees during ambulation -Passive range of motion 0-90 degrees -Jack Brace and Crutches x6 weeks -Focus on knee extension to equal 0 degrees. Caution to avoid hyperextension for 6 weeks. --No supine knee extension until after 6 weeks -Knee ROM only while PRONE -No hamstring curls or stretches	-PROM, AROM, AAROM 0-90 degrees -Edema Control -Pain management -Patellar glides in all directions -Scar tissue mobilization -Quad sets in prone position, hip ab/adduction strengthening, hamstring isometrics - Modalities PRN
Phase 2: Weeks 3-6 Goals: Reduce swelling and edema, minimize pain, retard muscle atrophy, protect the surgical repair, range of motion restoration	-Flat Foot Touch Down Weight Bearing x6 weeks -Brace locked at 0 degrees during ambulation -Passive range of motion 0-90 degrees, obtain 90 degrees knee flexion by 4 weeks s/p - Jack Brace and Crutches x6 weeks - Caution to avoid hyperextension for 6 weeks. -No supine knee extension until after 6 weeks -Knee ROM only while PRONE -No hamstring curls or stretches Criteria for progression: -Must perform a SLR without extension lag -ROM 0-90 degrees -No change in pain or effusion -Quadriceps control (MMT 4-/5)	-PROM, AROM, AAROM 0-90 degrees -Continue phase 1 treatments and exercises -Soft tissue mobilization, patellar glides -Quad sets in prone position, hip ab/adduction strengthening, gluteal strengthening, core strengthening -Core strengthening program -Home exercise program -Progressive resistance exercises 1-5lbs -UBE for cardio -Modalities PRN
Phase 3: Weeks 7-12 Goals: Full range of motion, minimal pain, increase resistance exercises, restore normal gait pattern, protect graft fixation	-Wear Jack Brace all the time except hygiene and PT -Wean from crutches - 50% weightbearing from week 7 to 10 -Progress to full weight bearing after week 10 -Progress to full ROM in prone position at week 7 -Focus on full range of motion 0-120 degrees by week 10 -knee ROM only while PRONE until week 10	-Progress to full passive, active, and active assisted range of motion in prone position until week 10 -At week 10, progress to full ROM in all planes -Progressive resistance exercises -Initiate closed chain exercises -Toe Raises, Mini Squats to 90 degrees, PNF with resistance, lower extremity stretching -Balance exercises

	-No hamstring curls or stretches Criteria for progression: -Full, pain free ROM -No pain or tenderness -Normal gait pattern without device assistance	-Aquatic therapy with emphasis on gait normalization -Stationary biking without resistance until week 10
Phase 4: Weeks 13-24 (3-6 months) Goals: Proper gait mechanics, improve lower extremity strength, full range of motion, neuromuscular control	-Wear Jack Brace during ambulation -Functional brace to be worn during high-risk recreational/sports activity -May begin road cycling in the brace -Discourage functional and sports specific activities Criteria for progression: -Full, pain free ROM -No evidence of patellofemoral joint irritation -Adequate proprioceptive control -Quadriceps control (MMT 4+/5) -Patient must complete 6-month sports test prior to 6-month recheck with surgeon	-Progress flexibility and strengthening -Elliptical begin at week 13 -Stairstepper begin at week 16 -Eccentric strengthening -Advanced closed chain activities (leg press, single leg squats, step up progression) -Progress proprioceptive activities (slide board, challenging balance activities, etc.) -Progress aquatic program to include pool running, and swimming (NO breaststroke) -Jogging to start at week 16 (inline on flat ground, NO cutting, NO sprinting) -Functional walk/jog/run progression (Please refer to Dr. Lee's protocol (If you need this, please contact 970-456-2798)
Phase 5: Months 7-8 Goals: Full pain-free range of motion, no evidence of patellofemoral joint irritation, strength and proprioception restoration, power progression	-Functional brace to be work during high-risk recreational/sports activity x1 year at least Criteria for progression: -Completion of jog/run program without pain, effusion, or swelling -No valgus collapse -No femoral adduction/IR pelvic drop or excessive trunk lean when performing single leg endurance tasks -Physician clearance to initiate functional activity progression	-Continue and progress previous flexibility and strengthening activities -Agility testing, cone drills, slalom test, etc. -Vertical jump test, Figure-8 Hop test, Up-Down test, Single-leg squat test -Achieve maximal strength -Advanced core strengthening program with HEP: Segmental multifidus test, Trunk curl up test, Double-leg lowering test, Side bridge test, Prone bridge test, Supine single-leg bridge test, extensor endurance test -Forward and backward running progression ($\frac{1}{2}$, $\frac{3}{4}$, full speed) -Please refer to Dr. Lee's running progression (if you need this, please contact 970-456-2798) -With surgeon clearance and PT guidance: patient may begin more strenuous hiking, road biking, golf

		chipping and putting, rafting, paddle boarding, etc. Please inquire about the specific recreational or sports activity.
Phase 6: Months 9+ Goals: Completion of appropriate functional progression, strength maintenance, patient education	-Functional brace to be work during high-risk recreational/sports activity x1 year at least -Physician clearance to resume partial or full activity Criteria for discharge: -Physician clearance -Hamstring strength index >90% as compared to the contralateral limb -Quadriceps strength index >90% as compared to contralateral limb -Y Balance anterior reach within 4cm of contralateral limb -No complaints of pain or instability -Patient must complete 9-month sports test prior to 9-month recheck with surgeon.	-Functional progression including but not limited to: •Plyometric exercises as appropriate to patient's Goals •Sport-specific drills -Safe, gradual return to sports after successful completion of function progression and sports test -Maintenance program for continued strength and endurance -With surgeon clearance and PT guidance: Patient may begin skiing, mountain biking, golfing, rafting, high-risk sports, tennis, etc. Please inquire about the specific recreational or sports activity.