

POST OPERATIVE ACL RECONSTRUCTION

	Approx. Time Frame	ACTIVITY	GOALS
PHASE I	0-2wks	<p>WB STATUS: PWB x 2-4 wks. Wean @ 2 wks normal gait & SLR, ability to safely ascent/descend stairs</p> <p>BRACE: 0°-90° x 6 wks. Locked @ 0° at night and ambulation; May unlock for ambulation with good quad control</p> <p>ROM: 0°-120°+</p> <p>MANUAL: No scar massage until 4-6weeks Gentle STM to reduce edema/soreness/stiffness above and below knee PRN</p> <p>EXERCISE SUGGESTION:</p> <p>ROM</p> <ul style="list-style-type: none"> - Extension: LLLD stretching (~5min); e.g. heel prop, prone hang minimizing co-contraction and nociceptor response - <u>Flexion:</u> wall slides, heel slides, seated assisted knee flexion, bike: rocking-for-range - <u>Patella mobilization:</u> (medial/lateral initially followed by superior/inferior while monitoring reaction to ROM and effusion) <p>Muscle Activation/Strength</p> <ul style="list-style-type: none"> - Isometric quad sets (w/NMES PRN) - Multiplane SLR/OKC hip emphasizing no knee extension lag (avoid adduction with Grade II/III injury) - Double leg wall slides or mini-squats, posterior chain emphasis - Standing theraband terminal knee extension (TKE) - Isometric hamstring sets - Supine Quad/Ham co-contraction - Ankle pumps, heel raises/ankle strengthening <p>Cardiovascular</p> <ul style="list-style-type: none"> -UBE or similar exercise -Begin stationary bike w/o resistance when ROM allows 	<ul style="list-style-type: none"> » Protect graft and graft fixation » Full <u>knee extension</u> ROM » Minimize pain » Minimize swelling » Normal gait pattern » Good quadriceps control (>20° no lag SLR) <p>CRITERIA FOR PROGRESSION TO PHASE II</p> <ul style="list-style-type: none"> » 20 SLR w/ no extension lag » Normalize gait » Normalize gait with crutches » ROM: ≤5° active extension lag, 110° active flexion
PHASE II	2-6wks	<p>WB STATUS: FWBAT no limp; Wean crutches @ 2 wks normal gait & SLR, ability to safely ascent/descend stairs</p> <p>BRACE: 0°-90° x 6 wks. Locked @ 0° at night and ambulation; May unlock for ambulation with good quad control</p> <p>ROM: full</p> <p>MANUAL: Scar massage @ 4-6wks once healed. STM/MFR PRN Patella mobilization 0°/30°</p> <p>EXERCISE SUGGESTION:</p> <p>ROM</p> <ul style="list-style-type: none"> - <u>Extension:</u> Continue LLLD exercises (assisted PRN) - <u>Flexion:</u> Heel slides/wall slides, bike for ROM w/ lower seat ht - <u>Flexibility:</u> static stretching all major muscle groups <p>Strengthening</p> <ul style="list-style-type: none"> - <u>Quadriceps:</u> quad sets, mini-squats/wall squats, step-ups, knee extension from 90° to 40°, Leg press - <u>Hamstrings:</u> Hamstring curls, Resisted SLR with sports cord - Hip/core/calf strengthening - <u>Neuromuscular training:</u> Wobble board, rocker board, single-leg stance with or without equipment, slide board. <p>Cardiovascular:</p> <ul style="list-style-type: none"> - Stationary bike w/resistance - short walks - Alter-G gait training - Elliptical Trainer @ 6 weeks - Stairmaster @ 6 weeks - Deep water running when <u>incisions are fully healed</u> <p>AVOID HYPEREXTENSION</p>	<ul style="list-style-type: none"> » Protect graft and graft fixation » Full ROM » Improve muscle strength » Minimize Swelling » Progress neuromuscular reeducation » Proper squat pattern: good double leg control, equal WB before progressing to single leg <p>CRITERIA FOR PROGRESSION TO PHASE III</p> <ul style="list-style-type: none"> » Full ROM » Minimal effusion/pain » Functional strength and control in ADL

	Approx. Time Frame	ACTIVITY	GOALS
PHASE III	7-12wks	<p>MANUAL: PRN to address ROM deficits/PF pain. Mobilize scars</p> <p>EXERCISE SUGGESTION:</p> <p>Strengthening</p> <ul style="list-style-type: none"> - Squats, Leg press, hamstring curl, knee extension 90° to 0°, Lunges, Sport cords, Wall squats - <u>Neuromuscular training:</u> Wobble board/rocker board/ roller board, Perturbation training, Instrumented testing systems, varied surfaces. <p>Cardiovascular</p> <ul style="list-style-type: none"> - 6 weeks: Swimming, shallow pool running, elliptical trainer - 8-10 weeks: Easy outdoor biking - 10-12 weeks: Alter-G running, Interval cardio work <p>Running/Agility:</p> <ul style="list-style-type: none"> - 10 weeks: Basic linear ladder drills 	<ul style="list-style-type: none"> » Minimal to no PF pain as strength training advances » Build quad and hamstring strength » 75% of LSI of quads, hams » 75% of LSI SL leg press <p>CRITERIA FOR PROGRESSION TO PHASE IV</p> <ul style="list-style-type: none"> » <u>Must meet goals in order to begin running</u> » 75% LSI strength
PHASE IV	13-20wks	<p>EXERCISE SUGGESTION:</p> <p>Strengthening</p> <ul style="list-style-type: none"> - Aggressive strengthening, squat/lunge progression - <u>Neuromuscular training:</u> Wobble board/rocker board/ roller board, Perturbation training, Instrumented testing systems, varied surfaces. <p>Cardiovascular:</p> <ul style="list-style-type: none"> - High intensity low impact cardio to build fitness <p>Impact starting 2-3x/week</p> <p>Running Progression:</p> <ul style="list-style-type: none"> - Basic ladder/linear drills w/ gradual advancement of difficulty - 3 months: Walk/jog interval - 4 months: Linear acceleration/deceleration drills <p>Jumping:</p> <ul style="list-style-type: none"> - 3-4 months: Double leg, low amplitude jumps - 4-5 months: Progress to single leg hop - Single response progressing to multiple response jumping 	<ul style="list-style-type: none"> » Protect PF joint » Initiate running » Control inflammation with increasing load/impact » Vertical jumping w/o difficulty <p>CRITERIA FOR PROGRESSION TO PHASE V</p> <ul style="list-style-type: none"> » <u>Maximum vertical w/o pain or Instability</u> » 90% LSI strength » Run 75% speed w/o difficulty
PHASE V	20-32wks	<p>EXERCISE SUGGESTION:</p> <p>Strength:</p> <ul style="list-style-type: none"> - Weight training 2-3x/week: volume continue increase resistance as tolerated - Perform strength training after running/agility OR on opposite days <p>Plyometrics:</p> <ul style="list-style-type: none"> - Progress based on sports demands, individual ability <p>RTS Progression:</p> <ul style="list-style-type: none"> - Unilateral agility drills, progressing to multi-directional - Begin position position and sport specific skills/drills - Non-reactive progress to reactive drills; Coach or PT directed 	<ul style="list-style-type: none"> » >90% LSI strength » >90% LSI hop tests » Sports specific training w/o pain, swelling, or difficulty
	RTS	<p>***FULL RETURN TO SPORT IS PATIENT SPECIFIC AND IS EXPECTED NO SOONER THAN 6-9 MONTHS***</p> <p>RETURN-TO-SPORT CRITERIA</p> <ul style="list-style-type: none"> » No functional complaints » Confidence when running, cutting, jumping at full speed » Completion of RTS testing @ 6+months » Return to practice with gradual progression to game play <p>PRACTICE/GAME PROGRESSION AFTER PASSING RTS TESTING</p> <ol style="list-style-type: none"> 1. Participation in all practice drills 2. Scrimmage participation with no contact 3. Scrimmage or game situation with contact, limited playing time 4. Full return to sport with increasing game minutes 	<p>RTS test may be modified per therapist's discretion based on patient's demographics and goals</p>