

PROTOCOL

POST OPERATIVE ACL RECONSTRUCTION WITH MENISCUS REPAIR

	Approximate Time Frame (Weeks)	Activity	Goals
PHASE I	0-2	<p>WB Status: PWB 25-50%*</p> <p>Brace: locked, 0/0</p> <p>ROM: 0-90 *see MD orders for exceptions.</p> <p>Manual: patella mobilization, gentle STM to reduce edema, soreness, guarding above/below knee PRN</p> <p>Exercise:</p> <ul style="list-style-type: none"> • quad sets (w/NMES PRN) • P/AA range of motion exercises, as permitted by post-op restrictions • Multiplane SLR/OKC hip w/knee straight • Calf raises/ankle strengthening 	<ul style="list-style-type: none"> ◇ Extension to 0 ◇ SLR no lag ◇ Control inflammation ◇ Minimize DVT risk ◇ Flexion ROM to MD guidelines ◇ Normalize PF mobility
PHASE II	2-6	<p>WB: FWBAT unless otherwise noted*</p> <p>Brace: continue to be locked at 0 for until end of 6 weeks*</p> <p>ROM: 0-90, progressing to full ROM if indicated*</p> <p>Manual: STM/MFR PRN, scar mobilization once healed. Patella mobs 0/30. <i>Aggressive patella/anterior interval mobilization on BTB grafts</i></p> <p>Exercise progression:</p> <ul style="list-style-type: none"> • Hip/core strengthening, OKC and CKC hip exercise • Proprioception in brace • LE stretching w/consideration for harvest site and ROM precautions • Hamstring activation/isometrics: <i>avoid loaded knee flexion to protect medial meniscus repair</i> • Progress calf strengthening <p>Cardiovascular:</p> <ul style="list-style-type: none"> • Begin stationary bike when allowed >90 degrees of flexion • Short, frequent walks in brace • Alter G walking ONLY if using unlocked brace and WB status > 25% <i>with physician clearance . See Alter G guidelines</i> 	<ul style="list-style-type: none"> ◇ Minimize swelling and PF pain ◇ Extension equal to opposite side ◇ Pain-free flexion within guidelines ◇ Progress off of crutches if permitted by MD orders ◇ For FWB, achieve good SL stance ◇ Maximize Muscular endurance as able ◇ Maximize strength around surrounding joints

*See MD's post op orders for exceptions or specifics on WB and ROM restrictions

- Peripheral meniscus repairs will be allowed to progress quicker than bucket handle or complex repairs, and procedures may vary greatly. Confirm restrictions on post-op map.
- Progression is criterion-based and will be slower than timeframes listed if phase goals are not met

Approximate Time Frame (Weeks)	Activity	Goals
PHASE III 6-16	<p>Manual: PRN to address ROM deficits or pain. Mobilize scars (<i>BTB</i>)</p> <p>Exercise progression:</p> <ul style="list-style-type: none"> • Independent myofascial management (FR, massage stick, ball) • ROM/stretching for terminal motion • Controlled movement series • CKC PRE's, bilateral and unilateral, emphasizing single leg strength. • Strength training, utilizing gym equipment. <i>No resisted knee extension</i> • Advance core program/accessory hip muscles <p><i>Avoid squats, lunges > 90 degrees</i> <i>no ham curl w/external load x 10-12 weeks for hamstring autograft</i></p> <p>Cardiovascular:</p> <ul style="list-style-type: none"> • Alter G walking to normalize gait, progress to running • Stationary biking progression, outdoor biking 12-14 weeks • Non-impact intervals 12-14 weeks • Swimming, shallow pool running 12 weeks • Basic linear ladder drills 14-15 weeks 	<ul style="list-style-type: none"> ◇ Minimal to no PF pain as strength training advances ◇ Full terminal motion ◇ Normalize gait ◇ Improve cardiovascular fitness with increased duration, intensity of low impact training ◇ Proper single leg squat/dip x10 reps before ladders/running
PHASE IVa 4-6 mos	<p>Strengthening:</p> <ul style="list-style-type: none"> • Advance PRE's of hip, knee, ankle • Incorporate power into training, considering individual need <p>Cardiovascular: High intensity low impact cardio to build fitness, lower intensity cardio for recovery and Alter-G for progressive loading. <i>Impact starting 2-3 days/week</i></p> <p>Running Progression:</p> <ul style="list-style-type: none"> • Basic linear and skipping drills, gradually advancing difficulty • Walk/jog interval - 14-16 weeks • Linear acceleration/deceleration-16-18 weeks • Sprinting, cutting, lateral agility 5-6 mos (gradually increase intensity) <p>Jumping: single response progressing to multiple response jumps</p> <ul style="list-style-type: none"> • Double leg, low amplitude jumps starting 14-16 weeks • Progressing to single leg hop 16-20 weeks 	<ul style="list-style-type: none"> ◇ Manual therapy only PRN to address terminal motion deficit and/or pain ◇ Control inflammation with increasing loads/impact ◇ Limb symmetry with all strength exercises ◇ Normalize running gait ◇ Single leg hop with 30-60 degree bend on landings with good valgus control
PHASE IVb 5-9 mos	<p><i>Focus shifted to impact and sports specific activities</i></p> <p>Strength:</p> <ul style="list-style-type: none"> • Weight training volume is maintaining or decreasing, continue to increase resistance as tolerated 2-3x/week • Perform strength training after running/agility OR on opposite days <p>Plyometrics</p> <ul style="list-style-type: none"> • Progress based on sport demands, individual ability <p>RTS progression: (see specific sport protocol for details)</p> <ul style="list-style-type: none"> • Unidirectional agility drills, progressing to multidirectional • Begin position and sport specific skills-drills • Non-reactive progressing to reactive drills-coach or PT directed <p><i>Practice/game progression, after passing sports test:</i></p> <ul style="list-style-type: none"> ⇒ Participation in all practice drills ⇒ Scrimmage participation with no contact ⇒ Scrimmage or game situation with contact, limited playing time ⇒ Return to sport with increasing game minutes 	<ul style="list-style-type: none"> ◇ Reconditioning for sport demands ◇ Correct faulty movement with high level tasks ◇ Emphasize both limbs for injury prevention ◇ Consideration for meniscus repair with impact depth, training volume ◇ RTS test @ 6+ months ◇ Return to practice with gradual progression to game play <p>RTS test may be modified per therapist's discretion based on patient demographics and goals</p>

Full return is sport and patient specific and is expected no sooner than 6-9 months