

Brian P. Davis, MD Sports Medicine, Shoulder, Knee, & Elbow Surgeon office: 303.449.2730

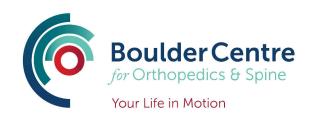
## **PROTOCOL**

## POST OPERATIVE ACL RECONSTRUCTION

|          | Approxi-<br>mate<br>Time<br>Frame<br>(Weeks) | Activity  | Goals  |
|----------|--|---|--|
| PHASE I  | 0-2  | WB Status: PWB 50%* Brace: 0-90 x 6 weeks ROM: 0-120+* Manual: patella mobilization, gentle STM to reduce edema, soreness, stiffness above/below knee PRN Exercise:  Quad sets (w/NMES PRN)  P/AA range of motion exercises  Multiplane SLR/OKC hip w/knee straight  Calf raises/ankle strengthening Cardiovascular: Begin stationary bike when ROM allows  | <ul> <li>♦ Extension to 0</li> <li>♦ SLR no lag</li> <li>♦ Control inflammation</li> <li>♦ Minimize DVT risk</li> <li>♦ 100-120+ flexion</li> <li>♦ Normalize PF mobility</li> <li>♦ Normalize gait with crutches</li> </ul>   |
| PHASE II | 2-6  | WB: FWBAT no limp Brace: continue 0-90 until week 6 ROM: full Manual: STM/MFR PRN, scar mobilization once healed. Patella mobs 0/30. Aggressive patella/anterior interval mobilization on BTB grafts Exercise progression:  CKC double leg -> single leg progression  Concentric and eccentric considerations  Hip/core/calf strengthening  Proprioception  Hamstring strength-no ham curl w/external load for hamstring autograft  LE stretching w/consideration for harvest site Cardiovascular: Stationary bike w/resistance Short walks, Alter-G Deep pool running at week 4 and incisions fully healed | <ul> <li>◇ normalize gait</li> <li>◇ Minimize swelling, PF pain</li> <li>◇ Full ROM; extension equal to opposite side</li> <li>◇ Muscular endurance progressing into strength</li> <li>◇ Proper squat pattern; perform on two legs with good control, equal WB before progressing to single leg</li> </ul> |

## \*See MD's post op orders for exceptions

• Progression is criterion-based and will be slower than timeframes listed if phase goals are not met



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| PHASE III | 6-12   | Manual: PRN to address ROM deficits/PF pain. Mobilize scars (BTB graft)  Exercise progression:  Independent myofascial management (FR, massage stick, ball)  Controlled movement series  CKC PRE's bilateral & unilateral, emphasizing single leg strength  Advance core program/accessory hip muscles  Hamstring grafts: gradually add resistance to knee flexion 8-10 wks  Cardiovascular:  Swimming, shallow pool running, elliptical 6 weeks  Outdoor biking 8-10 weeks  Interval CV work, Alter-G running 10-12 weeks  Running/Agility: Basic linear ladder drills week 10   | <ul> <li>♦ Minimal to no PF pain as strength training advances</li> <li>♦ Full terminal motion</li> <li>♦ No effusion</li> <li>♦ 75% LSI of quads, hams</li> <li>♦ Single leg squat x 90 to at least 30 degrees</li> <li>₩ith 75% LSI</li> </ul> Must meet goals in order to begin running   |
| PHASE IVa | 3-6<br>mos                                   | Strengthening:  Advance PRE's of hip, knee, ankle  Incorporate power into training, considering individual need  Cardiovascular: High intensity low impact cardio to build fitness, lower intensity cardio for recovery and Alter-G for progressive loading.  Impact starting 2-3 days/week  Running Progression:  Basic ladder/linear drills with gradual advancement of difficulty  Walk/jog interval -3 months  Linear acceleration/deceleration-4months  Sprinting, cutting, lateral agility-5 months (gradually increase intensity)  Jumping: single response progressing to multiple response jumps  Double leg, low amplitude jumps starting 3-4 months  Progressing to single leg hop 4-5 months  | <ul> <li>♦ Manual therapy only PRN to address terminal motion deficit and/or pain</li> <li>♦ Control inflammation with increasing loads/impact</li> <li>♦ Limb symmetry with all strength exercises</li> <li>♦ Normalize running gait</li> <li>♦ Y test &lt;4cm difference</li> <li>♦ Lateral dip x 1 minute with 90% LSI</li> <li>♦ IKDC &gt; 7/10</li> </ul>   |
| PHASE IVb | 5-9<br>mos                                   | <ul> <li>Focus shifted to impact and sports specific activities</li> <li>Strength:         <ul> <li>Weight training volume is maintaining or decreasing, continue to increase resistance as tolerated 2-3x/week</li> <li>Perform strength training after running/agility OR on opposite days Plyometrics</li> <li>Progress based on sport demands, individual ability RTS progression: (see specific sport protocol for details)</li> <li>Unidirectional agility drills, progressing to multidirectional</li> <li>Begin position and sport specific skills-drills</li> <li>Non-reactive progressing to reactive drills-coach or PT directed Practice/game progression, after passing sports test:</li> <li>⇒ Participation in all practice drills</li> <li>⇒ Scrimmage participation with no contact</li> <li>⇒ Scrimmage or game situation with contact, limited playing time</li> <li>⇒ Return to sport with increasing game minutes</li> </ul> </li> </ul> | <ul> <li>◇ Reconditioning for sport demands</li> <li>◇ Correct faulty movement with high level tasks</li> <li>◇ Emphasize both limbs for injury prevention</li> <li>◇ RTS test @ 6+ months</li> <li>◇ IKDC &gt; 9/10</li> <li>◇ Return to practice with gradual progression to game play</li> <li>RTS test may be modified per therapist's discretion based on patient demographics and goals</li> </ul> |