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ACL Reconstruction Pre- and Post-Operative Physical Therapy Protocol

PRE-OPERATIVE PHASE (“Prehab”)

Primary goals: Eliminate swelling; ROM – full extension; FWB; Normalize gait

- Isokinetic test (chronic)
- Crutch ambulation training
- Post-op exercise instruction
 - Quad sets
 - Leg lifts
 - Active flexion/passive extension
 - Patella mobilization
 - Quadriceps/Hamstrings isometrics at 90^o
- Quadriceps re-education
- Restoration/Improvement of ROM
- Reduction of edema/inflammation
- Normalize gait

POST-OPERATIVE PHASE

Weeks 0-2

Primary goals: Eliminate swelling; ROM – full extension; FWB; Regain quad control

- WBAT, with brace, crutches until gait control, discontinue crutches as progress (by 7-10 days)
- Unlock brace for ambulation with return of active straight leg raise
- Brace locked in extension for sleep
- ROM as tolerated: minimum 0-90^o
- Patella mobilization
- Ankle pumps, straight leg raise, quad sets, glut sets, hamstring stretch
- Sit to stand squats – 0-45^o
- BAPs – PWB, proprioception
- Swelling/effusion control

Weeks 2-4

Primary goals: Increase ROM; Increase total leg strength; Normalize gait

- Discontinue brace (if possible)
- ROM as tolerated (minimum 0-110^o), emphasis on full extension
- Emphasize patellar mobilization
- Stationary bike
- Step ups: anterior – 4 inches @ 2 weeks; 6 inches @ 3 weeks
- Balance board – Bilateral: frontal and sagittal planes
- Half squats
- Multi-angle isometrics, leg raises (4 planes), hamstring/calf stretching

- BAPs – FWB
- Unilateral stance
- Leg press – Bilateral 0-90°

Weeks 4-6

Primary goals: Normal ADLs; Increase functional capacity; Increase strength

- ROM – WNL
- Treadmill walking (if gait normal)
- Stairmaster – ipsilateral rotation and straight
- Mini squats – bilateral
- Step ups – Anterior: 8 inches
- Step ups – Anteromedial: 8 inches
- Step downs – Anterior & medial: 4 inches, progress to 8 inches
- Hamstring curls
- Unilateral squats
- Unilateral stance on trampoline
- Leg press – unilateral

Weeks 6-12

Primary goals: Increase functional leg strength; Normalize balance and proprioception

- 2# ball toss on trampoline – unilateral stance – increase dispersion with improved control
- Balance board – unilateral – sagittal & frontal
- Step downs – posterolateral @ 8 inches
- Lunges – anterior and lateral for distance and speed (not depth)
- Increase strengthening especially in frontal and transverse planes
- Stairmaster – contralateral rotation and straight
- Sliding board
- Emphasize eccentric quad
- Continue closed chain, step ups, mini squats, leg press
- Hip abduction/adduction, calf raises

Weeks 12-16

Primary goals: Increase agility and speed of training; Normalize strength; Increase muscular endurance

- Initiate Plyometrics
- Initiate running program (*16 weeks for allograft)
- Initiate agility drills
- Sport specific training
- Sliding board side-side with rotation
- Lunges – anterolateral, anteromedial
- Bilateral hopping – low intensity/high volume
- Fitter side-side

Months 4-6

Primary goals: Gradual return to athletic activity; Discharge into home/trainer program

- Jumping
- Unilateral hopping
- Agility drills; running, cutting
- Accelerate sport specific drills and training
- Return to sport typically after 9 months, per MD