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The Official Medical Provider
of the St. Louis Cardinals

ACL Reconstruction

Pre- and Post-Operative Physical Therapy Protocol

PRE-OPERATIVE PHASE REHABILITATION (“Prehab”)

Primary goals:

Eliminate swelling

Range of Motion (ROM) – full extension

Fully weight bearing (FWB)

Normalize gait

- Crutch ambulation training
- Post-op exercise instruction/training
 - Quad sets, leg lifts
 - Active flexion/passive extension
 - Patella mobilization
 - Abductor, gluteal and core strengthening
 - Quadriceps/hamstrings isometrics at 90°
 - Quadriceps re-education
 - Restoration/improvement of ROM
 - Reduction of inflammation/edema (swelling outside of joint)
 - Normalize gait

POST-OPERATIVE PHASE

Blood Flow Restriction (BFR) encouraged at all stages

Weeks 0-2

Primary goals:

Eliminate swelling

ROM – full extension

FWB

Regain quad control

- Weight-bearing as tolerated (WBAT), with brace, crutches until gait controlled, discontinue crutches as progressing (by 7-10 days)

- Lock brace for ambulation
- Brace locked in extension for sleep, brace unlocked for when sedentary to do exercises
- ROM as tolerated (minimum 0-90°), heel and wall slides
- Patella (kneecap) mobilization
- Ankle pumps, straight leg raise, quad sets, gluteal sets, hamstring stretch
- Sit-to-stand squats – 0-45°
- Biomechanical Ankle Platform System (BAPS) – proprioception (sense of your body's movement and location)
- Swelling/effusion (excess fluid inside joint) control

Weeks 2-4

Primary goals:

Increase ROM

Increase total leg strength

Normalize gait

- Discontinue brace (if possible)
- ROM as tolerated (minimum 0-110°), 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 activities of daily living (ADLs)

Increase functional capacity

Increase strength

- ROM – within normal limits (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

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

Months 6-12

Primary goals: Discharge into home program / Release to full sport participation

- Decision for full return to sport is based on peer-reviewed physical testing and performance in sport-specific drills