



## Anterior Cruciate Ligament (ACL) Reconstruction Protocol

### Overview:

This protocol is a criteria-based protocol, with a goal of maximizing healing and strength recovery, while minimizing risk of re-injury, so the individual can return to work, sport or recreational activities as quickly and safely as possible. If a clinician requires assistance in the progression of a post-operative patient they should consult with the referring surgeon.

***\*\*This is a summary of a clinical reference protocol, use the link below to view the protocol in its entirety\*\****

### Post-Operative Phase I: Approximately day 1 to 14

#### Goals:

- A/PROM 0-90 degrees
- Control swelling and pain (cryotherapy and electrical stimulation)
- Restore patella mobility
- WBAT with crutches & brace. Discontinue use of crutches by day 10-14

#### Brace/Assistive Device:

- Locked in full extension or as directed by MD
- Discontinue brace once voluntary quad control is demonstrated

#### Treatment:

- Quad sets (NMES to aide in quad control)
- Gastroc/heel cord/hamstring stretching
- Stationary bicycle
- Active and passive knee flexion exercises to tolerance, not pushed (to 90 degrees by day 5-7)
- Ankle resistance band-all 4 directions

#### Criteria for entering phase II:

- Full passive knee extension
- Minimal joint effusion
- Quadriceps voluntary initiation with quad set and SLR
- A/PROM knee flexion to 90 degrees

### Post-Operative Phase II: Approximately Weeks 2 to 4

#### Goals:

- A/PROM 0-110/120 degrees
- Perform SLR with no extension leg

#### Brace/Assistive Device:

- Discontinue use of crutches by day 10-14
- Discontinue brace once voluntary quad control is demonstrated

#### Treatment:

- Closed kinetic chain quadriceps strengthening activities as tolerated (wall sits, step-ups, mini squats, leg press 90-30 degrees)
- Quadriceps isometric at 60 degrees and 90 degrees
- Single leg balance
- Hamstring curls
- PROM exercises 0-110/120 degrees
- Straight leg raises (Flexion, Abduction, Adduction)

Criteria for entering phase III:

- No effusion
- ROM 0-110/120 degrees
- No extension lag with SLR

### **Post-Operative Phase III: Approximately Weeks 4 to 8**

Goals:

- Restore normal gait
- Restore knee ROM to 0-125 degrees
- NO pain
- Quadriceps and Hamstring strength to > 80% of well leg
- Enhance proprioception, balance, and neuromuscular control

Treatment:

- Continue phase II exercises especially closed kinetic chain
- Stair-stepper machine
- Progress lateral stepping and lateral step down exercises with resistance bands on the distal femur creating a medial pull
- Advance core stabilization exercise
- Perturbation training-single leg balance → stable vs. unstable surfaces

Criteria for entering phase IV:

- Normal gait pattern
- PROM 0-120 degrees
- Minimal swelling/inflammation

### **Post-Operative Phase IV: Approximately Weeks 8 to 10**

Goals:

- Full range of motion
- Avoid overstressing the graft

Treatment:

- Outdoor biking program-avoid hills
- Continue phase III exercises if appropriate
- Continue closed chain strengthening

Criteria for entering phase five:

- Minimum 10 weeks post operative
- No patellofemoral pain
- Sufficient strength and proprioception to initiate running
- Minimum of 120 degrees of flexion

### **Post-Operative Phase V: Approximately Week 10 to 16**

Goals:

- Protect the patellofemoral joint
- Avoid overstressing the graft
- Improve strength, endurance, and proprioception of the lower extremity to prepare for sport activity

Treatment:

- Initiate jogging program
- Begin swimming if desired
- Isokinetics-mid range speeds (120 degrees/sec-240 degrees/sec)
- Continue flexibility and ROM exercises as appropriate for patients

*[Link to clinical reference protocol](#)*