



# INOVA<sup>®</sup>

## Sports Medicine

Dr. Robin West  
Dr. Robert Najarian  
Dr. Brandon Bryant  
Dr. Jeffrey Giuliani

8100 Innovation Park Drive Suite 110, Fairfax, Virginia 22031  
1005 N Glebe Road, Suite 410, Arlington, Virginia 22201  
22505 Landmark Court, Suite 235, Ashburn, Virginia 20148

### Physical Therapy Protocol Following ACL Reconstruction

Weight Bearing Status – See Below

#### Brace

- Locked in extension for 1 week for WBAT ambulation with ACL reconstruction alone
- Unlocked after week 1 for WBAT ambulation for ACL reconstruction alone
- Locked in extension for 4 weeks for WBAT ambulation with ACLR combined with meniscal repair
- Locked in extension for 6 weeks for NWB ambulation with ACLR combined with meniscal root repair
- Sleep with brace locked for 1 week, then may discontinue for sleeping

#### Weight Bearing Status

- Crutch use for 1-2 weeks and then WBAT
- Crutch use for 1-2 weeks and then WBAT with concomitant meniscal repair
- NWB for 6 weeks with concomitant meniscal root repair
- NWB for 4 weeks, 50% WB for 2 weeks, then WBAT when ACL reconstruction combined with microfracture
- Crutches transition to single crutch before discontinue
- Crutches discontinued when good quadriceps control, > 100° flexion and normal gait is achieved

#### Post-Op Week 0-4:

##### Goals:

1. Minimize swelling and pain
2. Achieve quadriceps control
3. Full, active 0° extension, flexion to 100°
- \*\*Limit knee flexion to 90° with concomitant meniscal repair**
- \*\*Limit knee flexion to 60° with concomitant root repair**

##### Exercises:

1. Quad sets
2. Patellar mobilizations
3. SLR without lag (brace locked in extension until no lag)
4. Proprioception exercises
5. CKC exercises protected in ROM from 0-45°
6. Balancing exercises on stable platform
7. Prone leg hangs, heel slides, weight shifts (side-to-side, forwards/backwards)
8. Hamstring and gastroc stretches
9. Mini-squats, progressing to leg press

**Criteria before Phase 2: Good quad set, SLR without lag, 90° knee flexion, full extension**

### **Post-Op Weeks 4-6:**

Goals:

1. Minimize swelling and pain
2. Gradually restore full ROM
3. Restore normal, independent gait

Exercises:

1. SLR in all 4 directions
2. Mini squats on BOSU ball with UE assist as needed
3. Begin trunk and lumbosacral strengthening
4. Stationary bike with ROM is appropriate
5. Wall squats to 45°

**Criteria before Phase 3: Normal quad set and gait, AAROM 0-120°, no reactive effusion, completion of exercises without exacerbation of symptoms.**

### **Post-Op Weeks 6-8:**

Goals:

1. Continued with emphasis on terminal extension and pain-free flexion
2. Stationary bike for endurance

Exercises:

1. Progress WB strengthening, stability, balance and proprioception exercises
2. Strengthening exercises- leg press(70-0°), knee extension (90-40°), wall squats (0-70°)
3. Balance boards and ball throws for proprioception, may begin slideboard (supervised)
4. Step-Up's:  
\*\*\*Begin with bilateral and progress to unilateral  
\*\*\*Begin with 2" and progress step height per mechanics  
\*\*\*No plyometric training
5. Begin bilateral shuttle jumping ≤ 50% body weight (shuttle, aquatics, etc)
6. Continue to progress lumbosacral strengthening

**Criteria before Phase 4: No reactive instability or effusion with WB activities, no exacerbation of symptoms**

### **Post-Op Weeks 8-12:**

Goals:

1. Normalize LE strength
2. Improve neuromuscular control
3. Improve endurance and introduce functional exercises

Exercises:

1. Initiate isolated hamstring strengthening per tolerance
2. Lateral movement program (stepping, shuffling, hopping)
3. Strength progression to unstable surface
4. Mini band walks
5. Lunges

**Criteria before Phase 5: No reactive instability or effusion, increased strength, stability and proprioception**

### **Post-Op Months 3-4:**

Goals:

1. Enhance muscular strength and endurance
2. Gradually return to running
3. FWB plyometrics
4. Pass screening test to low-level agility
  - \*\*\*1 rep max on leg press  $\geq$  85%
  - \*\*\*10 consecutive sing leg squats 45° while holding  $\geq$  75% extra weight
5. Continue emphasis on quad, hamstring and trunk dynamic stability

Exercises:

1. Leg press, single leg squats
2. Lateral shuffling
3. Forward/backward shuttle runs
4. Carioca
5. Ladder drills

**Criteria before Phase 6: Complete plyometric/jogging activity without pain or instability, no reactive effusion**

### **Post-Op Months 4-6:**

Goals:

1. Progress to sport specific training
2. Continue aggressive strengthening exercises
3. Continue sport specific agility exercises without pain (see above)
  - \*\*\* Progress gradually to 100%
  - \*\*\* Emphasis on power and change of direction
  - \*\*\* Utilize both indoor and outdoor surfaces

Exercises:

1. Continue with jogging/ sprinting progression
2. Single forward hop, side-to-side hops, single box hop
3. Run in "S" pattern (progress to 45° cuts and then to sharper cuts)
4. Pivot, cut, spin after doing above at 100% speed

### **Criteria for release to sport(s):**

1. Physician clearance
2. Running, agility, jumping, hopping, cutting and plyometric exercises at full speed without compensation
3. Perform anticipated and unanticipated cutting and jumping
4. Functional training specific to sport and position
5. No reactive effusion or instability with sport-specific activities