



**AKERE ATTE**  
Orthopaedic Sports Medicine Surgeon

### **Atte Sports Ortho Consults**

**O: (754) 356-8300**

**F: (833) 954-4041**

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## **REHABILITATION GUIDELINES AFTER ACL RECONSTRUCTION**

*The intent of this protocol is to provide the therapist with guidelines of the post-operative rehabilitation course after an ACL reconstruction. It should not be a substitute for one's clinical decision making regarding the progression of a patient's post-operative course based on their physical exam findings, individual progress, and/or the presence of post-operative complications. The therapist should consult the referring physician with any questions or concerns.*

### **INDIVIDUAL CONSIDERATIONS:**

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### **PHASE I (0-2 weeks)**

#### ***Goals***

- Control inflammation and pain
- CPM increase to 90 degrees as tolerated
- Full active extension and 90 degrees of flexion

- Achieve quadriceps control

### ***Brace***

- Locked in extension for 1 week for ambulation
- Unlocked after 1 week for ambulation
- Sleep with brace locked for 1 week, then discontinue for sleep
- May remove for CPM and exercises except straight leg raises

### ***Weight-Bearing Status***

- WBAT with crutches
- Crutches can be discontinued when good quadriceps control and a normal gait is achieved

### ***Therapeutic Exercises***

- SLR in all planes (use brace locked in extension initially until quad strength is good enough to prevent an extension lag)
- Heel slides, calf pumps, quadriceps sets
- Electrical stimulation as needed
- Wall slides to 45 degrees
- Patellar mobilization
- Prone leg hangs
- Proprioception with active and passive joint positioning
- Balancing activities on a stable platform with eyes open and closed

## **PHASE II (2- 6 weeks)**

### ***Criteria***

- Good quad set, SLR without extension lag
- 90 degrees of knee flexion
- Full extension

### ***Goals***

- Restore normal gait
- Restore full range of motion
- Protect graft fixation

*\*\*Limit knee flexion to <90 degrees for 4 weeks in combined meniscal repairs*

### ***Brace/Weight-bearing status***

- Continue with full weight bearing
- May discontinue brace when normal gait pattern and quad control is achieved

*\*\*For patellar tendon autograft, use brace for 4 weeks*

### ***Therapeutic Exercises***

- Mini-squats (0-45 degrees)
- Stationary Bike (high seat, low tension)
- Prone leg hangs with ankle weights until extension is achieved
- Closed chain extension (leg press:0-45 degrees)
- Pool walking/jogging
- Stair climbing (up/down, forward. backwards), StairMaster
- Toe raises
- Hamstring and gastroc/soleus stretches
- Proprioception
  - Mini-tramp standing
  - Unstable platform (BAPS) with eyes open and closed
  - Standing ball throwing and catching

### ***PHASE III (6 weeks-5 months)***

#### ***Criteria***

- Normal gait
- Full range of motion
- Sufficient strength and proprioception to initiate functional activities

#### ***Goals***

- Improve confidence in the knee
- Avoid overstressing the graft
- Protect the patellofemoral joint
- Progress with strength, power, and proprioception

#### ***Therapeutic Exercise***

- Continue with flexibility exercises
- Advance closed chain kinetic strengthening (one-leg squats, leg press 0-60 degrees)

- StairMaster, elliptical trainer, cross-country ski machine
- *Functional Training (start at 8-12 weeks)*
  - Straight ahead jogging, progress to running
- *Plyometrics*
  - Stair jogging
  - Box jumps (6 to 12-inch heights)
  
- *Proprioception*
  - Mini-tramp bouncing
  - Lateral slide board
  - Ball throwing and catching on unstable surface
- *Functional Training (12+ weeks)*
  - Running
  - Figure-of-eight pattern
- *Agility (12+ weeks)*
  - Start at slow speed
  - Shuttle run, lateral slides, Carioca cross-overs
  - Plyometrics
  - Stair running
  - Box jumps (1-2 foot heights)

#### **PHASE IV (5 months+)**

##### ***Criteria***

- Full, pain-free range of motion
- No patellofemoral irritation
- Sufficient strength and proprioception to progress to functional activities

##### ***Goals***

- Return to unrestricted activity by 6 months

##### ***Therapeutic Exercises***

- Progress with flexibility and strengthening program
- Continue running
- Incorporate cutting drills into agility training
- Advance heights with plyometric conditioning

- Sports specific drills (start a 25% on speed and advance as tolerated)

***Criteria for Return to Sports***

- Full, painless range of motion
- No effusion
- Quadriceps strength 85% of contralateral side
- Hamstring strength 100% of contralateral side
- Side-side difference <3mm translation