



# ACL Reconstruction

## General Principles:

This protocol was designed to provide the rehabilitation professional with a guideline of postoperative care. It should be stressed that this is only a protocol and should not be a substitute for clinical decision making regarding a patient's progression. Actual progression should be individualized based upon your patient's physical examination, progress, and presence of any complications.

**NOTE: Protocol may need to be modified if multiple ligaments are involved.  
Ligament testing should only be performed by the physician throughout the protocol.**

## PHASE I: (Immediate)

### Week 1

#### Orthotics-

1. Knee brace locked in full extension at all times except for rehab exercises
2. Elastic bandage as needed to control swelling
3. May progress into functional ACL brace, if available, when swelling allows

#### Weight Bearing-

1. Progress to full with use of 2 crutches. May discontinue crutch use when gait is acceptable
2. Physicians will specify weight bearing restriction if Meniscus repair or other procedure accompanies reconstruction

#### Modalities (PRN)-

1. Ice, compression, and elevation as needed
2. Electrical stimulation for pain or muscle re-education
3. Ice for 20 minutes following exercises throughout the protocol
4. May utilize moist heat and/or Ultrasound if indicated

#### ROM-

1. Active and Passive ROM progressing to full as tolerated

#### Exercises-

1. Quad sets / Hamstring sets
2. Ankle pumps
3. Patella Mobilizations
4. Calf, Hamstring, and Knee extension stretching
5. Prone Hangs, no resistance
6. May start Heel slides / Wall slides
  - a. Assist with un-involved leg to improve ROM
7. Straight Leg Raises (May use brace if needed to maintain full extension)
  - a. All planes
  - b. NO resistance
8. Stationary bike or NU-Step
  - a. Progress resistance as tolerated
9. Neuromuscular Re-Education as needed to improve quality of muscle contraction



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## Week 2

### Orthotics-

1. Knee brace at all times, may unlock brace as ROM and quad control improves
2. May progress into functional ACL brace, if available, when swelling allows
3. Use knee immobilizer at night until full extension is maintained

### Weight Bearing-

1. Progress to full as tolerated
2. May discontinue crutches with normal gait
3. Physician will specify weight bearing status restriction if Meniscus repair or other procedure accompanies reconstruction

### Modalities (PRN)-

1. Continue modalities as needed

### ROM-

1. Continue progressing active and passive ROM to full as tolerated

### Exercises-

1. Progress Week 1 exercises as tolerated
2. May add resistance to prone hangs to reach full extension
3. After reaching 0 to 90° of Active knee flexion:
  - a. Shuttle / Leg Press – Bilateral progressing to Unilateral
  - b. Standing / Shuttle Calf Raises
4. Standing balance / proprioception as weight bearing allows
5. Active hamstring curls

## PHASE II: (Intermediate)

### Week 3 – 7

### Orthotics-

1. Continue to wear knee brace at all times. Progress to functional brace, when available

### Weight Bearing-

1. Full weight bearing as tolerated with normal gait
2. Physician will specify weight bearing restriction if Meniscus repair or other procedure accompanies reconstruction

### Modalities (PRN)-

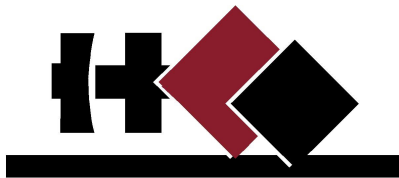
1. Continue only as needed

### ROM-

1. Should be progressing to full as tolerated

### Exercises-

1. Continue Phase I exercises
2. May progress to Elliptical runner



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3. May progress into hamstring strengthening
  - a. Forward Chair scoots
  - b. Biodex eccentric/concentric resistance
  - c. Long arc hamstring curls, progress to weight machines as appropriate
4. Isometric Quads
  - a. Positioned at 30°, 60°, and 90° of knee flexion
5. Initiate closed chain strengthening activities as weight bearing allows
  - a. Step Ups, Lunges, Mini-Squats
6. Resisted Walking
  - a. Forward/Backward initially, progress to Lateral
  - b. Maintain proper knee alignment with good eccentric control

### **PHASE III: (Strengthening)**

#### **Week 8 – 12**

##### Orthotics-

1. Continue functional brace for high risk activity and exercise until notified by physician

##### Modalities (PRN)-

1. Continue only as needed

##### ROM-

1. Maintain full active and passive knee ROM

##### Exercises-

1. Continue Phase II exercises
2. May initiate Open Chain Quad strengthening
  - a. Short-arc progressing to Full-arc
  - b. Progress resistance as tolerated
  - c. Monitor for patella-femoral pain
3. Isokinetics
  - a. Limit extension for -20° initially
  - b. Start with 240 to 300 degrees per second
  - c. Progress to 180 to 300 degrees per second as tolerated
4. Aquatics (See Aquatic protocol)



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## **PHASE IV: (Advanced Strengthening)**

### **Week 13 – 15**

#### Orthotics-

1. Continue functional brace for high risk activity and exercise until notified by physician

#### Exercises-

1. Continue Phase III exercises
2. Progress to aggressive strengthening of the quad and hamstrings
3. Slideboard lateral gliding
4. Straight ahead jogging, level surfaces  
\*Only with physician approval based on strength, stability, and case by case basis
5. May discontinue functional knee brace for daily activities

### **MONTH 4**

1. Initiation of light sports activity
  - a. Jumping
  - b. Shuttle bounding
  - c. Lateral shuffle
  - d. See Interval Golf program and Running programs

### **MONTH 5**

1. Progress patient to sprinting, agility drills, and functional sport skills
2. Isokinetic Test at 180, 240, and 300 degrees per second for MD review and full release to sport activity. General goal for full release to sport activity is 85% strength compared to uninvolved limb.

### **MONTH 6 – 9**

1. Return to full activity per MD approval