

ACL Reconstruction with Meniscus Repair (Peripheral/Vertical)

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 or meniscus are involved.
Ligament testing should only be performed by the physician throughout the protocol.**

PHASE I: (Immediate)

Week 1-3

Orthotics-

1. Knee brace locked in full extension at all times except for rehab exercises
2. Lock knee brace in full extension at night until full extension is maintained
3. Elastic bandage as needed to control swelling

Weight Bearing-

1. Non weight bearing. Use of crutches

Modalities-

1. Patients are encouraged to use polar care unit/ice for 20 minutes following exercises and as needed for pain control throughout protocol.
2. Other modalities at the discretion of the therapist based on clinical findings

ROM-

1. ROM restricted to 0-90*

Exercises-

1. Quad sets
2. Ankle pumps
3. Patella Mobilizations
4. Calf, Hamstring, and Knee extension stretching
 - a. **IF hamstring graft**, Avoid excessive stretching of the hamstring the first 6 wks
5. Prone Hangs, no resistance
6. May start Heel slides / Wall slides from 0-30*
 - a. Assist 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. Neuromuscular Re-Education as needed to improve quality of muscle contraction
9. Open chain hip strengthening

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PHASE II: (Intermediate)

Week 4 – 7

Orthotics-

1. Knee brace should be worn at all times
2. Brace may be unlocked, 0-90 degrees during ambulation
3. Progress to functional ACL knee brace at 6 weeks.

Weight Bearing-

1. 25% WB. Progress to full WB by week 6.
2. May discontinue crutch use when gait is acceptable and good quad control

Modalities (PRN)-

1. Continue only as needed

ROM-

1. Wk 4-6: ROM 90-120*
Wk 7: Progress to full ROM as tolerated

Exercises-

1. Continue Phase I exercises
2. Standing balance / proprioception as weight bearing allows
3. May progress into hamstring strengthening (**IF Hamstring graft**, NO active hamstrings until Wk 4 and NO resisted hamstrings until Wk 6)
 - 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 60° of knee flexion
5. Stationary bike or NU-Step
6. **At week 6**, after reaching 90* of flexion
 - a. Shuttle / Leg Press – Bilateral progressing to Unilateral
 - b. Standing / Shuttle Calf Raises
 - c. Keep resistance within weight bearing restrictions

PHASE III: (Strengthening)

Week 8 – 12

Orthotics-

1. Continue full time use of functional ACL brace until 4 months post-op.

ROM-

1. Maintain full active and passive knee ROM

Exercises-

1. Continue Phase II exercises

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2. Closed-chain strengthening activities with focus on VMO control, core stability, and avoidance of varus/valgus movement
 - a. Step Ups, Lunges, Mini-Squats
3. Resisted Walking
 - a. Forward/Backward initially, progress to Lateral
 - b. Maintain proper knee alignment with good eccentric control
4. May initiate Open Chain Quad strengthening
 - a. Short-arc progressing to Full-arc
 - b. Monitor for patella-femoral pain
5. 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
6. Progress balance/proprioception to all 3 planes but limit range and speed as patient can control
7. Begin basic ladder series **at Wk 12**
8. Aquatics
 - a. Closed chain strengthening and proprioception exercises
 - b. Flutter kicks with straight leg, intervals of 30-60" of work
 - c. Jogging at Wk 10 starting in deep water, progressing to chest/waist deep

PHASE IV: (Advanced Strengthening)

3 MONTHS POST-OP

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. Aquatic
 - a. 2 leg jumps (Stationary progressing to fwd/bwd and side to side)
 - b. Skipping and lateral shuffle
 - c. Progress to plyometric / explosive jumps as appropriate
6. Testing to be completed prior to patient's 3 month physician appointment
 - a. Isokinetic Strength Test
 - Limit ROM for the test to -30* extension to full flexion
(Goal: 70% Quads, 80% Hamstrings of uninjured leg)
 - b. Y Balance Test- Anterior, Posterior Medial, Posterior Lateral
(Goal: 75% of uninjured leg)

***Please complete functional testing sheet and send results to physician**
7. After 2 weeks of running program, progress to gentle lateral movements/agility work IF good quad control, no pain, and good stability
 - a. Defensive slides, floor ladder
 - b. Low level stationary jumps focused on proper landing mechanics

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4 MONTHS POST-OP

Orthotics-

1. May discontinue functional knee brace for daily activities.
2. Continue functional brace for high risk activity and exercise until 12 months post-op.

Exercises-

1. Initiation of light sports activity
 - a. Jumping, progressing to unilateral hops with good strength and control
 - b. Shuttle bounding
 - c. low-level change of direction
 - d. Running program should include increased speed, rounded turns, backpedal
2. Testing to be completed at 4 months
 - a. Isokinetic Strength Test
 - Limit ROM for the test to -30* extension to full flexion
(Goal: 80% Quads, 90% Hamstrings of uninvolved leg)
 - b. Y Balance Test- Anterior, Posterior Medial, Posterior Lateral
(Goal: 80% of uninvolved leg)

5-9 MONTHS POST-OP

1. Initiation of light sports activity
 - a. Plyometrics
 - b. Sport specific agility
 - c. See Interval Golf and Interval Running programs
 - d. DIME warmup
2. Testing to be completed prior to 5-9 month physician appointment
 - a. Isokinetic Strength Test at 180, 240, and 300 degrees per second
(Goal: 90% Quads, 90% Hamstrings of uninvolved leg)
 - b. Y Balance Test- Anterior, Posterior Medial, Posterior Lateral
(Goal: 90% of uninvolved leg)
 - c. Hop Testing – Single hop for distance, 3 hop test, Crossover Hop test, 6m timed hop
(Goal: 90% of uninvolved leg)

***Please complete functional testing sheet and send results to physician**
3. Patients will have full release to play sports during this time frame, but only with physician approval based on strength, functional test results, and overall level of function

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