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## ACL RECONSTRUCTIONS (ALLOGRAFT OR HAMSTRING AUTOGRAFT)

### Phase 1:

#### Goals...

- Decrease Pain and Inflammation
- Regain full extension
- Restore normal patellofemoral joint mobility.
- Demonstrate good neuromuscular control for daily activities.
- Normalize gait.
- ACL Brace for ambulation.

#### Week 0-2

- ROM Exercises (PROM, AAROM, AROM)
  - Emphasize full extension equal to contralateral knee
  - Knee flexion and extension without restriction.
    - ◇ Flexion limited to 90 with meniscal repair for the first 6 weeks
- Flexibility exercises:
  - Hamstring stretches
- Quadriceps Exercises:
  - Quadriceps sets and straight leg raises
  - Quadriceps recruitment techniques.
- Gait Training:
  - No weightbearing restrictions.
  - Wean from crutches when demonstrating adequate neuromuscular control.

#### Weeks 3-6

- ROM Considerations:
  - Ensure full extension
  - Aggressively pursue full knee flexion.
- Hamstring Exercises:
  - Open and Closed chain kinetic strengthening.
- Quadriceps Exercises:
  - Closed chain kinetic strengthening.
  - Open chain kinetic strengthening from 90-45 degrees.
- Proprioception Exercises
- Non-Impact Exercises:
  - Stationary bicycle, stairmaster, Elliptical

## **Phase 2:**

### Goals...

- Improve strength of affected to that of contralateral side.
- Comfortable sprinting and distance running.
- Demonstrate adeptness at controlled pivoting, cutting and jumping.
- Mastery of diverse functional activities.
- Discontinue ACL Brace.

### Weeks 7-9

- Strengthening Activities:
  - Increase intensity of closed kinetic chain quadriceps exercises.
  - Begin light open chain kinetic quadriceps exercises
  - Continue progression with hamstring exercises
  - Generalized lower extremities and trunk training
- Criteria to begin running:
  - Full knee extension
  - No knee effusion
  - Adequate quadriceps neuromuscular control
  - No meniscal repair or articular cartilage defect
- Running Programs:
  - Begin running on treadmill
  - Progress running program to level outside ground
  - Begin basic functional activities
  - Institute easy controlled pivoting, cutting, jumping and plyometrics when appropriate neuromuscular control is demonstrated.

### Weeks 10-12

- Strengthening Exercises:
  - Increase intensity for open chain kinetic quadriceps exercises.
- Running Programs:
  - Increase speed and intensity
  - Increase the complexity and intensity of functional exercises, pivoting, cutting, jumping, and plyometrics.

## **Phase 3:**

### Goals...

- Approximate muscular strength of contralateral lower extremity.
- Normalize running technique and increase speed.
- Mastery of sport specific activities in preparation for return to sports.

### Weeks 13-16:

- Intense lower extremity weight training program.
- Continue sprints to improve technique and speed.
- Institute aggressive sport specific training program.
  - Emphasize necessary pivoting, cutting, jumping, and plyometrics for given sport.
- Simulate specific athletic demands on the athlete's playing field.

## **Phase 4:**

### Goals...

- Return to sports is planned for a minimum of 4 months after ACL reconstruction.
- Athletes must demonstrate ability to perform all of the athletic demands of their specific sports prior to returning to competition.