

## Physical Therapy Protocol

### ACL Reconstruction

#### **DAY 1 - DAY 7:**

- Continuous passive motion (CPM).
  - a) Days 0 to 2: Continuous use of CPM immediately post-op if tolerated. Initial CPM ROM is set at 0° extension to 60° flexion. Initial speed is set at the slowest setting (1-2 cycles per second). Patient should be in knee immobilizer or a hinged knee brace (locked in full extension) when not in CPM. Goal: 0° knee extension and 90° knee flexion.
  - b) Days 3 to 7: 6 - 8 hours per day at the slowest speed (e.g., 1 - 2 cycles/min.).
- Wall slides.
- Weight bearing to tolerance with brace locked in 0° extension or as prescribed by MD. If able to do 10 repetitions of straight leg raises, may ambulate weight bearing to tolerance without the extension lock or in a functional brace. Gradually progress in weight bearing status (e.g., partial weight bearing with 2 crutches to single crutch to full weight bearing). If using a drop lock brace, gradually progress to using the brace without the extension lock. If the patient is non-weight bearing or partial weight bearing, begin ankle strengthening exercises using surgical or rubber tubing.

#### **DAY 7 - 2 WEEKS:**

- Hip adduction.
- Quadriceps sets with support.
- Hamstring sets and/or hamstring curls.
- Continue use of CPM 4 hours per day. Goal: maximum available CPM flexion range of motion (ROM).

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- Leg press using surgical or rubber tubing for resistance. Start with the band or tubing that gives the least amount of resistance.
- Modalities to reduce pain and effusion, as needed.
- Joint mobilization techniques as needed.

## **2 - 4 WEEKS:**

- Discontinue CPM at 6 weeks if able to reach and maintain the maximum available CPM range. Attempt to achieve between 120° to full flexion ROM by 2 weeks post-operation.
- Heel slides, if have at least 120° - 125° knee flexion.
- Continue hamstring curls.
- Continue hip adduction.
- Hip abduction, if no patellar tracking problems.
- Hip extension.
- Begin stationary bicycling if have 115° - 120° flexion.
- Active knee extension may be added 4 weeks post-surgery.
- May add toe raises depending on patient's weight-bearing status.
- Leg presses with weight resistance may be added 4 weeks post-surgery.

## **4 - 6 WEEKS:**

- May begin hip abduction, if not started secondary to patellofemoral joint complications.
- May add Stairmaster, as tolerated.

## **1½ - 2 MONTHS:**

- Continue lower extremity strengthening exercises with emphasis on the quadriceps, hamstrings and calf musculature.

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## **2 - 3 MONTHS:**

- At 2 months, the monthly KT-1000 tests are performed using 15, 20 and 30 lbs tests and manual max test.
- Begin isokinetic strength (270/240/200° per second) and endurance (300°/second) training.
- Progress to jogging on a trampoline.

## **3 - 4 MONTHS:**

- First monthly isokinetic strength and endurance test may be performed at 270/240/200 degrees per second and at 300°/sec for endurance.
- Proceed to treadmill running gradually progressing toward running for 10 - 15 minutes at a pace of 6 - 8 minutes per mile and 3 - 5% grade. Steadily advancing to outdoor running.
- In addition to closed chain and isokinetic exercises, continue strengthening exercises using isotonic weight machines.

## **4 - 5 MONTHS:**

- Continue progression in running program. Begin agility drills when able to run 2 -3 miles. Agility drills include lateral & backward running, vertical jumping, jumping rope, carioca, stair climbing, high knee drills and figure eight running.

## **5 - 6 MONTHS:**

- Begin practicing the drills of the sport, gradually progressing to full participation.