



## **ACL Reconstruction with Hamstring Autograft**

**Pre-op Education:** Instruct the patient in ankle pumps, quad sets, seated knee flexion, supine SLR, hamstring stretches, gait training with crutches and protection of the graft.

### **Post-op Program:**

#### **POD 1-2**

1. Ankle pumps: 20-25 per hour
2. Active flexion as tolerated
3. Gait with crutches and brace locked in full extension. (**WBAT**)
4. Patellar mobilizations
5. Polar care/ cryotherapy
6. Dressing change: remove bulky dressing, leave clear dressing in place
7. Sleep with brace locked in full extension
8. Quad sets
9. Encourage full extension and flexion to 90

#### **POW 1-4**

1. Continue as above
2. Start SLR's: start standing, then sitting, then supine
3. May use e-stim to promote quad recruitment
4. Progress active flexion and encourage full extension
5. Passive ROM to 90, progress as tolerated
6. With good quad control, may wean from brace. Usually by 2 weeks.
7. Teach gait training, emphasizing heel-toe, good quad isolation, normal knee flexion and push-off.
8. Start the following open chain exercises

- a. Sidelying hip abduction and adduction
  - b. Sitting hip flexion
  - c. Ankle theraband
  - d. Standing hamstring curls to tolerance without resistance and progress as tolerated.
9. Begin closed chain knee exercises:  
 ENCOURAGE PROPER TECHNIQUE AT ALL TIMES.
- a. Single leg stance: level to unlevel surfaces
  - b. Therakicks: progress resistance, speed, arc of motion
  - c. Walking forward, retro, and sidestepping
  - d. Standing calf raises, wobble board
  - e. Wall slides
  - f. Leg press
  - g. Stationary bike
10. Encourage upper extremity strengthening for overall conditioning
11. Continue modalities

## **POW 4-10**

- 1. Continue as above
- 2. Progress exercises for building strength and endurance
  - 4-6 sets of 15-20 reps
  - progress from double to single leg and concentric to eccentric
  - emphasis on closed chain activities only
    - a. leg press
    - b. squats
    - c. lunges (front/side/back)
    - d. step-ups
    - e. leg curls
    - f. hip strengthening
    - g. resisted walking
- 3. Exercises for balance and proprioception
  - progress from local to whole body
  - a. mini-tramp
  - b. Sport cord
  - c. Slide board
  - d. Swiss ball
- 4. Exercises for endurance
  - a. Bike
  - b. Stairmaster
  - c. Elliptical trainer
  - d. Treadmill walking

e. Aquatic exercise

**POW 10-18**

1. Continue as above but slowly progress weight and decrease reps (8-10)
2. Progress walking to a fast walk then walk/jog on treadmill. Usually begin jogging by 10 weeks.
3. Begin jumping rope.
4. Jog Progression
  - i. Fast walk
  - ii. High knee march
  - iii. Figure 8
  - iv. 4 way reaction drill
  - v. jog

**POW 18-return to sport**

1. Progress jump roping to line jumps, then box jumps, and then distance jumps
2. Begin sport specific drills
3. Progress speed and intensity of above activities

**Return to Athletics Criteria**

1. Satisfactory clinical exam
2. <10% isokinetic strength deficit (Leg Press)
3. Completion of sport replication activity
4. Single leg hop test