

## Postoperative Rehabilitation Protocol for ACL Reconstruction



### **GENERAL GUIDELINES**

- Program is designed to protect the ACL and the patella, and get full extension early
- Even with addition of meniscus repair no significant changes made in rehab
- Patellofemoral protection is important; no wall slides or lunges, only do mini squats
- Assume 12 weeks graft to bone healing time
- **With hamstrings or Allograft flexion is restricted to 90 degrees for first 4 weeks to reduce stress on graft**
- ACL with posterolateral corner or LCL repair follows different post-op care, i.e. crutches x 8 weeks and brace to avoid varus stress

### **GENERAL PROGRESSION OF ACTIVITIES OF DAILY LIVING**

Patients may begin the following activities at the dates indicated (unless otherwise specified by the physician):

- Showering – once dressing removed; no immersion until stitches/staples removed and wounds healed, if brace is present may remove for shower.
- If patient has a brace may sleep without brace after comfortable (usually a few days) unless there is cartilage repair or lateral side surgery then same for WB restrictions.
- Driving: when safely able to operate the controls of the vehicle. Any time for left knee surgery (assuming automatic transmission), and longer for right leg surgery.
- Full weight bearing without crutches usually by 2 weeks or as tolerated, however for meniscus repair toe touch for about 4 weeks, and 8 weeks when any lateral side surgery also performed.

### **PHYSICAL THERAPY ATTENDANCE**

The following is an approximate schedule for supervised physical therapy visits:

- Formal PT begins after 1<sup>st</sup> post-op visit usually about 2 weeks
- 3 times per week is optimal
- Home exercises daily as instructed by the therapist
- Supervised physical therapy takes place for approximately 3-5 months post-op

## **PHASE I:**

Begins immediately following surgery and lasts approximately one month. Patient is to perform ROM exercises and hip, knee and ankle strengthening as directed daily.

### **Goals:**

- Protect healing bony and soft tissue structures
- Minimize quadriceps atrophy and joint stiffness through:
  - Early range of motion with emphasis on full extension, patella mobilizations and flexion limit dependent on graft choice, meniscus repair and other concurrent surgery (i.e., lateral side)
  - PRE's for quadriceps, hip and calf
- Patient education for a clear understanding of limitations and expectations of the rehabilitation process

### **Weight bearing Status:** (Unless with meniscal repair\*)

- 0-1 weeks: Partial weight bearing with two crutches to assist with balance
  - 1-2 weeks: Partial weight bearing with normal gait mechanics
  - After 2 weeks, full weight bearing allowed based on quad function
- \* With meniscal repair weight bearing may be kept toe-touch for one-month post-op, lateral side surgery 6-8 weeks.

### **Therapeutic Exercises:**

0-2 weeks

- Hip flexion, extension, abduction and adduction as able
- Straight leg raises and quad sets for quads tone
- Ankle Pumps
- Patella mobilizations
- Passive full extension
- Active flexion to 90 if possible

Add at first post-op visit 2 weeks out through week 4:

- Standing toe raises for calf muscle tone
- For bone-tendon-bone may begin AAROM for full ROM, begin exercise bike, mini-squats, balance training
- For hamstrings or Allograft same exercises as above but limit flexion to 90 (i.e., mini-squats, balance, bike is OK)
- After sutures out at 2 weeks if pool available may begin aquatics (walk in pool, mini-squats). Pool is helpful but not essential.

## **PHASE II:**

Begins at 1 month post-op, and extends to the 12<sup>th</sup> post-op week

### **Goals:**

- Increase range of motion for all patients/all grafts progress to full flexion
- Progress in weight bearing for all patients/all grafts according to previous precautions (i.e., lateral side surgery 6-8 weeks of crutch/brace)
- Continue lower extremity muscle toning
- Begin functional restoration of leg function for balance and ADL
- Begin total patient reconditioning with non-impact cardiovascular exercise
- Continue to protect graft(s)

### **Therapeutic Exercises:**

4-12 weeks: Once patient is full weight bearing and does not require the brace, therapy can be liberalized and proceed on a more "as tolerated" basis.

- Begin isometric quads and co-contraction of quads/hams
- Progress to mini-squats when able to be full weight bearing, graduated step ups OK
- May continue hip flexion/extension/Abduction/Adduction
- Closed kinetic chain for knee extension utilizing resisted band while standing and weight machines as follows. Leg press is OK, active open chain knee flexion is OK.
- Stationary bike, XC ski machine, Stairmaster and/or elliptical machines can be used for cardio and leg conditioning
- Balance and Proprioception activities (e.g. single leg stance or mini-trampoline)

## **PHASE III:**

Begins approximately three months post-op, and extends to 4-5 months post-op. Expectations for advancement to Phase III:

### **Goals:**

- Restore any residual loss of motion that may prevent functional progression
- Improve functional strength and proprioception utilizing closed and/or open kinetic chain exercises
- Continue to work on restoration of functional progression of the extremity and the patient as a whole in preparation for return to activity or sports

### **Therapeutic Exercises:**

- Continue lower extremity exercise progression with emphasis on quads tone and strength
- Treadmill walking progress to running as tolerated
- Stairmaster/elliptical trainer, swimming is OK (no breast stroke)
- May progress to out door biking, walking and ultimately running
- May play golf or bowling if able
- No twisting turning or jumping activities yet

### **PHASE IV:**

Return to sport at approximately 5-6 months

### **Goals:**

- Safe and gradual return to work or athletic participation
- This may involve sports specific training, work hardening or job restrictions as needed
- Maintenance of strength, endurance and function
- Running progression
- Figure 8 progression, Carioca, Backward running, cutting
- Jumping (plyometrics) if needed for sport (i.e., volleyball or basketball)

\*\*\*These instructions are to be used as general guidelines. Before 3 months it is important not to go any faster even if the patient seems able, since the most important consideration is graft protection. Please have physician contacted if there are questions or concerns

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