

## PCL RECONSTRUCTION POST-OP INSTRUCTIONS AND REHAB PROTOCOL

This protocol has been developed for the patient following Posterior Cruciate Ligament (ACL) reconstruction. This protocol may vary in length, aggressiveness and return to sports/activities depending on factors such as: concomitant procedures or additional injuries seen at the time of surgery, primary vs revision surgery and rehabilitation goals and expectations.

The goal of this rehabilitation plan is to facilitate return to the pre-injury level of function. Return to activity and sports depend upon multiple factors. Some factors, such as time and graft incorporation are factors outside of our control. Return to sports and cutting activities is allowed after the patient achieves adequate flexibility, strength and endurance of the knee that is equal to at least approximately 90% of the other side. Generally this occurs around 9-12 months from the time of the operation.

### For Patients

- a. **Take 1 tablet (325 mg) of aspirin per day**, starting the day after surgery and continuing for **2 weeks**. This is done to decrease the risk of blood clots.
- b. Dressing may be removed 3 days after surgery, but keep the steri-strips in place. Try to keep the wound as dry as possible until follow-up.
- c. It is ok to shower after surgery, but keep the dressings and incision wrapped with saran wrap or something similar. When in the shower, do not scrub or soak the incisions. Just let soap/water run over the knee and pat dry. Do not submerge incisions in bath or pool until fully healed (3-4 weeks).
- d. After surgery, the first few days are generally spent recovering and resting. When resting, work on calf pumps (moving your ankle up and down) several times per hour. This helps reduce swelling in the leg and decrease the chance of blood clots.
- e. If you had a **nerve block at the time of surgery, it usually wears off 12-24 hrs post-operatively**. It is normal to have some numbness in the leg the first few days after surgery as a result.
- f. Take the prescribed pain medications as directed. You can supplement your pain control with ice, elevation of the affected extremity and over-the-counter Tylenol and ibuprofen if needed, making sure to follow the dosage as recommended on the bottle. Use ice 20-30 minutes every 1-2 hours.
- g. **Weight Bearing: Strict toe touch weight bearing** on the operative leg x **4 weeks**. The brace needs to be locked in extension at all times for ambulation for the first 4 weeks.
- h. **Brace:** should be worn at all time except for showering and exercises. The brace is set from 0-60 degrees for the first 4 weeks. You may unlock the brace when sitting/laying. Weeks 4-6 Brace will be set 0-90 degrees. Wean off brace between weeks 6-8.

- i. **Physical Therapy:** You can do your physical therapy where you prefer. Call to schedule your first physical therapy appointment within 2 weeks.
- j. Return to driving. There is no conclusive data to guide the exact time when it is safe to return to driving. You cannot drive while still on narcotic pain medications. In general, there should be adequate range of motion of the knee, minimal pain/swelling, and enough strength in the leg to allow you to quickly brake if needed.

### **For Physical Therapists**

The PCL reconstruction rehabilitation is unique in that extreme knee flexion places a higher amount of stress on the newly reconstructed PCL. Therefore, there are several activities that should be avoided early post-operatively with a PCL reconstruction, early on in recovery and for best results, avoid:

- Isolated hamstring activity including curls, isometric, and intense stretching
- Avoid hyperextension activities, resisted knee flexion x 4 weeks
- Flexion should be gained in the **Prone Position** to avoid active hamstring contraction

### **I. Rehabilitation Protocol 0-4 Weeks Post-Op**

#### **ROM**

- a. 0-60

**GOALS:** protect graft, reduce swelling, minimize pain,

- b. Avoid hamstring activation, gain quad control
- c. **ROM** 0-60°
- d. Patella mobilization
- e. Gastroc/soleus stretching, ankle pumps

#### **STRENGTH**

- f. SLR, Quad sets with e-stim/biofeedback
- g. Active knee extension (60-0°)
- h. Sidelying hip abduction

#### **WEIGHT BEARING**

- i. Toe touch weight bearing to surgical side

#### **BRACE**

- j. Locked in extension for ambulation, Limited from 0-60°

#### **MODALITIES**

- k. E-stim/biofeedback as needed
- l. Ice 15-20 minutes

### **II. 4-6 Weeks Post-Op**

- a. **ROM 0-90 degrees**
- b. Patella mobilization
- c. Initiate **light** hamstring stretch

- d. Gastroc/soleus/ITB stretch
- e. In addition to prone flexion, initiate wall slides to reach goal

**WEIGHT BEARING**

- f. Begin **WBAT with crutches**, can unlock brace for ambulation

**BRACE**

- g. Continue with brace use, set 0-90°

**STRENGTH**

- h. Quad sets with biofeedback, SLR
- i. Standing 4 way hip exercises
- j. Knee extension (70-0°)
- k. Initiate mini-squats (0-30°)
- l. Initiate leg press/total gym 0-60° (beginning at week 4)
- m. Wall slides 0-45

**BALANCE TRAINING**

- n. Weight shift (side-to-side, fwd/bkwd)
- o. Single leg balance work

**MODALITIES**

- p. E-stim/biofeedback as needed
- q. Ice 15-20 minutes

**GOALS OF PHASE:**

- ROM 0-90°
- WBAT to FWB
- Control pain, inflammation, and effusion
- Increase lower extremity strength
- Enhance proprioception, balance, and coordination

**III. 6-12 Weeks Post-Op**

**RANGE OF MOTION**

- a. Initiate active knee flexion to 90 degrees. Week 8 progress active flexion as tolerated.

**WEIGHT BEARING**

- b. Full weight bearing, wean off crutches

**BRACE**

- c. Wean off brace weeks 6-8

**EXERCISE PROGRESSION**

- d. Passive knee flexion to 135°
- e. Patella mobs
- f. Hamstring/ITB stretch
  
- g. Wall slides to reach goal

**STRENGTH**

- h. Continue with all strengthening activities from above phases.
- i. Initiate lateral/fwd step-ups/downs
- j. Knee extension 90-0°
- k. Initiate stationary bike program
- l. Reverse lunges-knee not to migrate over toe
- m. Press squats at wk 8

**BALANCE TRAINING**

- n. Single leg balance
- o. Wobble board balance activities end of phase
- p. ½ Foam roller balance activities
- q. balance/agility work

**GOALS OF PHASE:**

- ROM 0-135°
- Increase lower extremity strength and endurance
- Control pain, inflammation, and effusion
- Maximize proprioception, balance, and coordination

**IV. 12-24 Weeks Post-Op**

**WEEK EXERCISE GOAL**

- a. ROM 0-135°
- b. Continue with all stretching activities

**STRENGTH**

- c. Gym Equipment: leg press, hip abductor/adductor, hip extension, seated calf raise
- d. Squat to chair, lateral lunges, RDLs
- e. Progress single leg activity

**BALANCE TRAINING**

- f. Continue with advanced balance/agility training
- g. Single limb balance, lateral step over

**RUNNING/TREADMILL PROGRAM**

- h. Jog in pool if available, Initiate light running on treadmill 16-20 weeks
- i. Incline, Backward walking on treadmill

**AEROBIC CONDITIONING**

- j. Walking program
- k. Bike for strength and endurance

**FUNCTIONAL TRAINING**

I. Initiate light plyometrics/agility drills

**GOALS OF PHASE:**

- Maximize lower extremity strength and endurance
- Return to previous activity level
- Return to specific functional level

**V. 24 Weeks+ Post Op**

- a. Advance jogging/running progression program
- b. Continue advanced strengthening
  - i. Full arc progressive resistance exercises-emphasize quads
- c. Improve multidirectional control, dynamic movements. Improve landing mechanics, add in sport specific exercises based on patients desired sport.
- d. Progress neuromuscular/functional program
- e. Agility drills

**VI. Return to competitive sports and full speed cutting activities**

- a. You need to be cleared by Dr. Hazelwood and your athletic trainer
- b. In general, for PCL reconstruction this occurs from 9-12 months
- c. Return to sports and cutting activities is allowed after the patient achieves adequate flexibility, strength and endurance of the knee that is equal to at least approximately 90% of the other side. In some cases we may use other objective testing such as Isokinetic testing and hop testing.