

# ACL PROTOCOL

Dr. H. Jackman

## General Guidelines

**WB Status:** 0-4 wks TTWB, 4-6 wks PWB, 6+ wks FWB

**ROM:** Gradual progression as tolerated. If meniscus repaired, please see physician's orders for any restrictions. Occasionally, there will be a 90° knee flexion restriction with meniscus involvement.

**Strengthening:** Both open and closed chain exercises are permitted.

**Bracing:** Brace is not mandatory but surgeon suggested. If the patient has a brace they can start wearing once swelling allows it to fit in particular if there is a risk of a fall or plant and cut motion. 10° extension block until week 7-8 to prevent hyperextension.

### Week 0-1

Touch Toe Weight Bearing

#### Goals:

1. Increase ROM
2. Decrease pain and swelling
3. Quadriceps and hamstring activation
4. Patient education re weight bearing status, edema control

#### Exercise Suggestions:

- Ankle pumping
- Isometric Quads at 0° and 30°
- Isometric hamstrings
- Supine heel slides for knee flexion
- Sitting knee flexion
- Patellar glides

#### Modalities:

- Ice as needed. 15-25 min per treatment
- Muscle stimulation
- Interferential Current therapy

### Week 1-2

Revised January 2022

Touch Toe Weight Bearing

**Goals (as above +):**

1. Maintain flexibility of hamstrings and calves
2. Maintain hip strength

**Exercise Suggestions:**

- As above +
- Isometric quads at 60°
- Stretching gastrocs
- Active hip add/abd in supine

**Modalities:**

As above

*\*\* Near the end of week 2 or beginning of week 3 edema should be decreased enough to start wearing brace.*

*By the end of week 2 should have initial visit with outpatient physiotherapist*

**Week 2-3**

Touch Toe Weight Bearing

**Goals (as above +):**

1. Maintain gastrocs strength

**Exercise Suggestions:**

- As above +
- Gastrocs strengthening in long sitting with theraband

**Week 3-4**

Touch Toe Weight Bearing

**Goals: As above**

**Exercise Suggestions:**

- As above +
- Isometrics at 90°
- *Standing hip flexion, abduction and extension with brace on*

## **Week 4-6**

Partial Weight Bearing\*

Hydrotherapy if available

Can start SLR with brace on

The knee will start to feel tighter at 4-6 weeks

### **Goals (as above +):**

1. Increase quads and hamstring strength. Open chain permitted
2. Increase knee extension
3. Increase knee flexion (may use gentle external force)
4. Education in proper gait pattern with brace and PWB crutches
5. Increase connective tissue mobility

### **Exercise Suggestions:**

- As above +
- Gentle passive knee flexion
- Gentle passive knee extension (not pass 0°)
- Gait retraining with crutches or in parallel bars. Heel strike and toe off
- Side lying hip abduction and adduction with brace on (If using weight place on distal femur to avoid stress at knee joint)
- 4 point hip extension with brace on
- Prone and/or standing knee flex
- SLR with brace on
- Start hydrotherapy, walking, squats, sitting knee flexion and extension, etc.
- Stationary bike no resistance (start with arcs and progress as tolerated)
- Weight shifting in standing, ensuring PWB status
- Scar massage, cross frictions

## **Week 6-12**

Full Weight Bearing

Full ROM

Emphasis on closed chain exercises

### **Goals (as above +):**

1. Normal gait pattern
2. Protect ACL graft
3. Increase quads control
4. Improve proprioception/balance
5. Improve muscle imbalance

### **Exercise Suggestions:**

- As above +
- Can start leg extensions, avoiding the last 10° of extension
- Proprioception/balance exercises starting with one leg balance and progressing to wobble board, BOSU ball, etc.
- At week 8-9 can start **walking** through figure 8' and box patterns
- Endurance training using stationary bike with resistance and/or incline walking on treadmill when appropriate
- Progressive strengthening exercises with step ups, step downs, squats, reverse lungs. Start with smaller ranges of movement and progress as tolerated
- Progress hamstring strengthening with hamstring curls with weights and wheeled chair walking
- Side stepping with theraband
- Continue working on flexibility of rectus femoris, hamstrings, ITB and Achilles

Ensure good neuromuscular control with strengthening exercises. Encourage good alignment and use muscle stimulation or biofeedback to work on VMO activation if necessary.

*\*\* At week 8, can remove 10° extension block from the brace. Replace the 10° block with a 0° extension block.*

### **Week 12+**

Full Weight Bearing: Important to establish normal gait pattern

Full ROM

### **Goals (as above +):**

1. Initiate sport specific training
2. Progress endurance training
3. Full ROM at the end of 20 weeks

### **Exercise Suggestions:**

- Progress exercises as above +
- Jogging when normal gait pattern and tolerating 30-45 minutes of walking without increased knee pain and swelling. Start on flat surface and straight ahead.
- Jumping — vertical and lateral. Two foot controlled landings, progress to one foot. Can also add ¼ and ½ turns.
- Controlled cutting activities
- Initiate sport specific exercises
- Plant and cut 8 month

Return to sport specific training program dependent on achieved level of proprioception, strength and endurance of lower extremity and risk level of activities. This should be at discretion of Therapist.

### **Criteria for Return to Sport**

1. 12 months post-op before return to full contact, competitive “high speed plant and cut” and/or high velocity sports such as soccer, basketball, rugby etc.
2. Full range of motion
3. Negative pivot shift/Lauchman and/or anterior drawer test
4. No pain
5. No swelling
6. One leg hop test for distance less than 10-15% deficit when compared to opposite leg
7. Vertical jump test (if applicable to sport)
8. Isokinetic strength testing less than 10-15% deficit when compared to opposite leg (if isokinetic testing is available) OR 1 rep max = 90%
9. Participation in running program (20-25 minutes of continuous running) and sport specific drills

Return to sport with brace upon approval of surgeon

Dr. H. Jackman, Orthopaedic Surgeon

Colleen Jones Down RegPT