

Sports Medicine Division

## ANTERIOR CRUCIATE LIGAMENT (ACL) REVISION REHABILITATION PROTOCOL

The following is a protocol for postoperative patients following ACL reconstruction. The primary goal of this protocol is to protect the reconstruction while steadily progressing towards and ultimately achieving pre-injury level of activity. Please note this protocol is a guideline. Patients with additional surgery (i.e. collateral ligament repair, meniscal repair) will progress at different rates. Achieving the criteria of each phase should be emphasized more than the approximate duration. If a patient should develop an increase in pain or swelling or decrease in motion at any time, activity should be decreased until problems are resolved.

### **PHASE I: 0-2 WEEKS POSTOPERATIVE**

#### **GOALS:**

- Full passive extension
- Flexion to 90 degrees
- Good quad control

#### **AMBULATION, DRESSING, AND BRACE USE**

**Dressing** – POD 1: Debulk dressing, TED Hose in place

– POD 2: Change dressing, keep wound covered, continue TED Hose

– POD 7-10: Sutures out, D/C TED Hose when effusion resolved

**Brace** x 6 weeks – Locked in extension for ambulation

– Open to available range when pt has good quad control (no extensor lag).

**Crutches** – Partial weight bearing (PWB) in brace

#### **EXERCISES:**

Patellar mobilization (teach patient)

Calf pumping

AAROM 0-90 degrees (passive extension, active flexion, heel slides)

Passive extension with heel on bolster or prone hangs

Electrical stimulation in full extension with quad sets and SLR

Quad sets, Co-contractions quads / Hamstring

Straight leg raise (SLR) x 4 on mat (in brace if poor quad control)

Total Gym (level 3-5) – Mini squats 0-45 degrees

– Passive flexion to 90 degrees max (push up with opposite leg)

Leg press 0-45 degrees with light resistance (up to ¼ body weight)

Hamstring curls – Standing

Stationary bike for range of motion – Complete cycle as able

Ice Pack with knee in full extension after exercise

### **PHASE II: ~2-4 WEEKS POSTOPERATIVE**

#### **GOALS:**

- ROM 0-110 degrees
- No effusion
- No extensor lag

#### **AMBULATION AND BRACE USE**

Brace x 6 weeks – Open to available range

Crutches – PWB in brace

#### **EXERCISES:**

Continue appropriate previous exercises and following ex without brace

Scar massage when incision healed

AAROM, AROM through full range as tolerated  
SLR x 4 on mat – Add light ankle weights if quad control is maintained

Total Gym – Progress levels and ROM of mini-squats as tolerated

Leg press 0-60 degrees with light resistance (up to ¼ body weight)

Hamstring curls – Carpet drags or rolling stool (closed chain)

Double leg heel raises

Stationary bike – Progressive resistance and time

Stretches – Hamstring, Hip Flexors, ITB

Treadmill – Forwards and backwards walking  
Stationary bike – 15-20 minutes at a time, at least 70 rpm

**PHASE III: ~4-6 WEEKS POSTOPERATIVE**

**GOAL:** Full ROM

**AMBULATION AND BRACE USE:**

Brace x 6 weeks – Open to available range  
Crutches – PWB in brace

**EXERCISES:**

Continue appropriate previous exercises  
PROM, AAROM, AROM to regain full motion  
Weight shifts  
Mini squats 0-60 degrees – In parallel bars  
Leg press 0-60 degrees with light resistance (up to ½ body weight)  
Hamstring curls on weight machine with light resistance

**PHASE IV: ~6-9 WEEKS POSTOPERATIVE**

**GOAL:** Normal Gait

**AMBULATION AND BRACE USE:**

D/C Brace  
Crutches – weight bearing as tolerated (WBAT),  
D/C when gait is WNL

**EXERCISES:**

Continue appropriate previous exercises  
Standing SLR x 4 with light Theraband bilaterally  
Wall squats 0-45 degrees, progress to single leg  
Leg press 0-60 degrees with resistance as tolerated  
Hamstring curls with resistance as tolerated  
Forward, lateral and retro step downs in parallel bars  
– No knee flexion past 45 degrees (small step)  
Single leg heel raises  
Proprioceptive training – Single leg standing in parallel bars  
– Double leg BAPS for weight shift

**PHASE V: ~9-12 WEEKS POSTOPERATIVE**

**GOAL:** Walk 2 miles at 15 min/mile pace

**EXERCISES:**

Continue appropriate previous exercises with progressive resistance  
Wall squats 0-90 degrees  
Leg press 0-90 with resistance as tolerated  
Forward, lateral and retro step downs (medium to large step)  
Hip weight machine x 4 bilaterally  
Proprioceptive training – Single leg BAPS, ball toss and body blade  
– Grid exercises  
Treadmill – Walking progression program  
Elliptical trainer  
Pool therapy – Walking / running (no kicking)

**PHASE VI: ~3-4 MONTHS POSTOPERATIVE**

**GOAL:** Walk 3 miles at 15 min/mile pace

**EXERCISES:**

Continue appropriate previous exercises  
Fitter  
Slide board  
Stairmaster – Small steps  
Pool therapy – No swimming laps

**PHASE VII: ~4-6 MONTHS POSTOPERATIVE**

**GOAL:** Equal thigh girth

**EXERCISES:**

Continue appropriate previous exercises  
Knee extension weight machine  
Short arc quads  
Functional activities – Figure 8s, gentle loops, large zigzags  
Pool therapy – Swimming laps  
Quad stretches

**PHASE VIII: ~6-9 MONTHS POSTOPERATIVE**

**GOALS:** Return to all activities

**EXERCISES:**

Isokinetic testing at 180 and 300 degrees/sec – Must have 80%  
of opposite leg to clear for straight line running

Continue appropriate previous exercises

Home/gym program

Agility drills / Plyometrics

Sit-up progression

Treadmill – Running progression program if cleared

Transition to home / gym program

***No contact sports until 12 months post-op***