Roidis Nikolaos, MD, PhD, DSc Senior Consultant Orthopaedic Surgeon 3<sup>rd</sup> Orthopaedic Department KAT Hospital

# ACL RECONSTRUCTION – REVISION POST-SURGICAL REHABILITATION PROTOCOL

#### POST-OP DAYS 1 – 14

- 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
- 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

#### GOALS

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

#### Weeks 2 - 4

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

### GOALS

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

### WEEKS 4 - 6

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

#### GOAL

• Full ROM

#### WEEKS 6 - 9

- D/C Brace
- Crutches weight bearing as tolerated (WBAT), D/C when gait is WNL
- 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
- Treadmill Forwards and backwards walking
- Stationary bike 15-20 minutes at a time, at least 70 rpm

### GOAL

• Normal gait

### WEEKS 9 - 12

- 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)

GOAL

• Walk 2 miles at 15 min/mile pace

### **MONTHS 3 - 4**

- Continue appropriate previous exercises
- Fitter

- Slide board
- Stairmaster Small steps
- Pool therapy No swimming laps
- GOAL
- Walk 3 miles at 15 min/mile pace

#### **MONTHS 4 - 6**

- 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

GOAL

• Equal thigh girth

#### **MONTHS 6 - 9**

• 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
- GOAL
- Return to all activities

### \*NO CONTACT SPORTS UNTIL 12 MONTHS POST-OP\*

## **KNEE POST-OP PHASE I**

Perform exercises below frequently: 30 reps, 3 – 5x a day



**Quad Isometrics** 

Heel Slides



Active Assisted Motion

Ice Position 15 minutes 2-3 x per day



ADAPTED FROM: Mark Galland, MD Physical Therapy Section Kenneth Kirby, PT, DPT William Beaumont Army Medical Center