

## PROXIMAL AND/OR DISTAL REALIGNMENT REHABILITATION PROGRAM WITH/OR WITHOUT MEDIAL PATELLAR LIGAMENT RECONSTRUCTION

### Precautions:

**Brace worn during ambulation x 4 weeks**

**WBAT with crutches x 2 weeks**

### I. Acute surgical stage (day 1-day 7)

Goals:         diminish swelling/inflammation (control hemarthrosis)  
                  diminish post-operative pain  
                  initiate voluntary quadriceps control  
                  assisted ambulation  
                  promote healing

Swelling/inflammation control:   cryotherapy  
  Compression bandage  
  Elevation and ankle pumps

Range of motion:           full passive knee extension  
  Flexion to 45° (day 1- day5)

PROM 0°- 5°/ 55° (day 5- day 7)

Muscle re-education:    Neuro-Muscular Electrical Stimulation (NMES) to quads  
Quadriceps setting  
Straight leg raise flexion  
Straight leg raise hip ABD/ADD  
**No active knee extension**

Flexibility:                 Hamstring and calf stretches

Post-op brace:            Ambulation with 2 crutches and drop lock brace  
  locked to 0°  
  Sleep with post-op brace locked to 0°

### II. Protective stage (week 2 – 4)

Goals:         control swelling and pain  
                  promote healing of realigned tibial tuberosity  
                  quadriceps strengthening  
                  assisted ambulation

Swelling/inflammation:   continue use of cryotherapy  
  compression bandage  
  elevation

Range of Motion: PROM/AAROM exercises  
 Week 2: PROM 0°-60°  
 Week 3: PROM 0°-75°  
 Week 4: PROM 0°- 80°-85°

Quadriceps re-education: NMES to quadriceps  
 Quadriceps setting  
 Straight leg raise flexion  
 Hip ABD/ADD  
 Hip extension

Week 4: weight shifting  
 vertical squats (no weight)

Flexibility: continue all stretching activities for LE

Ambulation: continue use of bilateral crutches  
 Drop lock brace @ 0° for sleep and ambulation

III. Controlled activity stage:(week 5-8)

Goals: gradual improvement in PROM  
 improve muscular strength and endurance  
 control forces on extension mechanism  
 promote osseous healing

Range of motion: week 5: 0°- 90°  
 week 6: 0°- 100°/105°  
 week 8: 0° – 115°/120°

Exercises: Continue electrical muscle stimulation to quadriceps  
 Quadriceps setting isometrics  
 Hip adduction, abduction, and extension  
 Vertical Squats  
 Leg Press – light  
 Bicycle (week 6-8)  
 Pool program [walking, strengthening (when able)]

Flexibility: Continue all stretching exercises for LE

Brace: week 5-6: ambulation with locked brace and one crutch  
 week 7-8: ambulation with unlocked brace

IV. Transitional Activity: (week 9-16)

Goals: Gradual improvement of muscular strength  
 Functional activities/drills

Criteria To Progress to Stage IV

1. ROM at least 0°-115°
2. Absence of swelling/inflammation
3. Voluntary control of quads

Exercises:                    ½ vertical squat (0°-60°)  
                                    Wall squats (0°-45/50°)  
                                    Leg press – light until 4 months  
                                    Forward lunges  
                                    Lateral lunges  
                                    Hip adduction/abduction  
                                    Bicycle  
                                    Elliptical

V.    Return To Normal Activity Stage: (weeks 16-26)

Goals:                    Functional return to specific drills

Criteria to Progress to Stage V

1. Full no-painful ROM
2. Appropriate strength Level (80% or greater of contralateral leg)
3. Satisfactory clinical exam

Exercises:                    Functional drills  
                                    Strengthening exercises  
                                    Flexibility exercises

Week 16:                    Able to begin exercise program  
                                    Stairmaster