

PROXIMAL AND/OR DISTAL REALIGNMENT  
WITH OR WITHOUT MEDIAL PATELLAR LIGAMENT RECONSTRUCTION  
REHABILITATION PROTOCOL  
Chase D. Smith, MD

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

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- 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

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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