

Non-Operative Rehabilitation Program for PCL-Deficient Knee

Phase I—PROTECTION PHASE (Day 1- week 4)

- **Day 1-5**
 - Brace ROM: 0-70°
 - Weightbearing: two crutches as tolerated
 - Muscle Stimulation: muscle stimulation to quads
 - Exercises
 - Quad sets
 - Straight leg raises (all 4 planes)
 - Knee extension (60° to 0°)
 - Multi-angle isometrics at 60°, 40°, 20° (for quads)
 - Mini squats (0-50°)
 - Leg press (45-90°)

- **Day 5-7**
 - Brace ROM: 0-90°
 - Weightbearing: progress as tolerated
 - Exercises
 - Continue all strengthening exercises
 - Initiate wall squats
 - Initiate proprioception training

- **Week 2-3**
 - Brace ROM: 0-115°
 - Weightbearing: one crutch then without at week 3
 - Exercises
 - Progress exercises (listed above), using weight progression
 - Bicycle for ROM stimulus (week 2-4)
 - Pool program
 - Leg press (30-90°)
 - Vertical squats (0-60°)
 - Lateral step-ups
 - Single leg squats

Phase II—MODERATE PROTECTION PHASE (Week 3-6)

- **Week 3**
 - Brace: discontinue
 - ROM: to tolerance (0-125°)
 - Exercises
 - Continue all above exercises (progress weight)
 - Bicycle
 - Stairmaster
 - Rowin
 - Knee extension (0-90°)
 - Mini squats (45-60°) (0-60°)
 - Wall squats (0-75°)
 - Step-ups
 - Hamstring curls (light resistance) (0-45°)
 - Hip abduction/adduction
 - Proprioception training (biodex stability system)

Phase III—MINIMAL PROTECTION PHASE

- **Exercises**
 - Continue all strengthening exercises
 - Initiate running program
 - Gradual return to sport activities
- **Criteria to Return to Sport Activities**
 - Isokinetic quadriceps torque to body weight ration
 - Isokinetic test 85% > of contralateral side
 - No change in laxity
 - No pain/tenderness/swelling
 - Satisfactory clinical exam