



# **Patellar Protection Program**

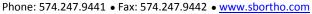
This five-phased program approach can be utilized for both conservative and surgical patellofemoral clients. This systematic approach allows specific goals and criteria to be met; once goals and criteria are attained, the rehabilitation can progress safely. Client compliance is critical.

# **Ultimate Goals of Program**

- Improve functional status
- Normalize biomechanical forces
- Improve strength/power/endurance
- Decrease pain/inflammatory status

#### **ACUTE PHASE - MAXIMAL PROTECTION**

- Goals:
  - o Relieve pain and swelling
  - o Decrease inflammation
  - o Retard muscle atrophy
  - o Maintain/increase flexibility
- Weightbearing as tolerated, crutches may be indicated (normal gait)
- Ice, compression, elevation
- NSAIDs
- Strengthening exercises (isometric)
  - o Quadriceps setting
  - o Multiangle isometrics (non-painful) 90°, 75°, 60°, 45°, 30°
  - o Straight leg raises (four planes of motion)
    - Hip adduction, hip flexion stressed
    - Hip abduction not done with lateral compression syndrome
- Electrical stimulation (EMS,TNS, HVGS, Biofeedback)
- Flexibility
  - o LE stretches (especiall hamstrings, gastroc)
- Intermittent passive motion
- Brace when indicated
- Patient education regarding activities, pathomechanics
- Avoidance Program





#### SUBACUTE PHASE - MODERATE PROTECTION

- Criteria to Enter Subacute Phase:
  - o Pain and swelling reduced
  - o ROM increased
  - o Strong visible quadriceps contraction
- Goals
  - o Increase muscle strength without exacerbation
- Initate weights for SLR
- Isotonics
  - o Short arc (90° -40°), non-crepitus ROM
- Initiate mini-squats (0-30/40°), non-painful ROM
- Bicycle (low resistance, seat high)
- Swimming
- Pool program for walking/running
- Continue isometrics
- Continue flexibility exercises
- Continue ice therapy, anti-inflammatory drugs
- Avoidance Program
  - o Aquatting, kneeling, stairs, excessive knee flexion
- Evaluate for orthotics

### **CHRONIC PHASE - MINIMAL PROTECTION**

- Criteria to Progress to Phase IV:
  - o ROM and swelling WNL
  - o Pain is minimal to none
- Goals:
  - Achieve maximal strength & endurance
- Continue SLR
- Knee Flexion isotonics with resistance is begun
- Variable resistance isotonic weight training (blocking painful ROM)
  - o Continue shortened range knee extension isotonics
  - o Continue mini-squats
- Emphasis on increased functional activities
- Ice therapy post-exercise
- Avoidance Program
  - o Squatting painful ADLs.

## MAINTENANCE PROGRAM

- Goal
  - o Continue to strengthen without deleterious effect on patellofemoral joint
- Continue flexibility daily (part of warm-up and cool-down)
- Continue PRE Program 3 times a week
- Endurance training is continued
- Continue to be active (walking, swimming, pool running, possible biking)