

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:
 - Relieve pain and swelling
 - Decrease inflammation
 - Retard muscle atrophy
 - Maintain/increase flexibility
- Weightbearing as tolerated, crutches may be indicated (normal gait)
- Ice, compression, elevation
- NSAIDs
- Strengthening exercises (isometric)
 - Quadriceps setting
 - Multiangle isometrics (non-painful) 90⁰, 75⁰, 60⁰, 45⁰, 30⁰
 - 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
 - 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:
 - Pain and swelling reduced
 - ROM increased
 - Strong visible quadriceps contraction

- Goals
 - Increase muscle strength without exacerbation
- Initiate weights for SLR
- Isotonics
 - Short arc (90⁰ -40⁰), non-crepitus ROM
- Initiate mini-squats (0-30/40⁰), 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
 - Aquatting, kneeling, stairs, excessive knee flexion
- Evaluate for orthotics

CHRONIC PHASE - MINIMAL PROTECTION

- Criteria to Progress to Phase IV:
 - ROM and swelling WNL
 - 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)
 - Continue shortened range knee extension isotonics
 - Continue mini-squats
- Emphasis on increased functional activities
- Ice therapy post-exercise
- Avoidance Program
 - Squatting painful ADLs.

MAINTENANCE PROGRAM

- **Goal**
 - **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)**