Scott Adrian, M.D.
Advanced Orthopaedic Associates

2778 N. Webb Rd.
Wichita , KS 67226

316-631-1600
Fax: (316) 631-1671
1 (800) 362-0591

SUGGESTED EXERCISES FOR PATELLOFEMORAL KNEE PAIN

RATIONALE:

The number of patellofemoral (PF) problems being evaluated by physicians is increasing yearly, subsequently leading to an increase in the number of PF patients seen in rehabilitation facilities throughout the country. No single cure exists for the treatment of PF pathologies, making this both a challenging and sometimes frustrating problem to treat. Knowledge of joint mechanics, anatomy, and the existing literature is paramount if one wishes to be successful in the treatment of this problem. This suggested exercise program is divided into three goal-oriented phases. Goals in each phase must be realized before progressing to the next phase. The clinician must pay close attention to the listed precautions and must be a good educator for the program to be successful.

PHASE I - ACUTE PHASE

GOALS:

- Education
- Decrease pain
- Decrease swelling
- Decrease palpable tenderness
- Improve gait deviations
- Restore normal mechanics

SUGGESTED TREATMENT:

• Modalities to include:
• Ice
• Phonophoresis
• Moist heat
• Electric stimulation Taping Cane, crutches Initiate flexibility for hamstrings, triceps surae, quadriceps, and iliotibial band Initially start with isometrics only Use immobilizer, if acute Opposite extremity and upper body exercises

PRECAUTIONS:

• Program should not increase patient's symptoms

• Phase II begins when resting pain is resolved; swelling is decreased; and palpable tenderness is moderate to minimal

PHASE II - SUBACUTE PHASE

GOALS:

Education

Balance length and strength of lower extremity musculature
Increase quadriceps strength (VMO control)
Good patellar mechanics

SUGGESTED METHODS:

Avoid activities and positions which increase the patellofemoral joint reaction forces Strengthen weak muscles Suggested exercises - quad sets, straight leg raises, wall squats, mini-squats, closed kinetic chain strengthening (ex. Slow motion walking, leg press, step ups, resistive bends in weightbearing, be innovative with weightbearing activities) Stretching tight muscles - hamstring, glut, IT band, low back, calf, hip flexor Patellar mobilizations - assistance of PT and instruction in self patellar mobilizations, medial glides and lateral tilts (only if needed) Electric stim to the VMO Temporary and/or permanent orthotics for balancing the foot Pain free biking (high seat, low resistance) Overall conditioning program (avoid open chain knee extension exercises)

PRECAUTIONS:

Do not work through pain
Program should not increase patient's symptoms

PHASE III - FUNCTIONAL PHASE

GOALS:

Pain free functional closed chain activities (steps, jogging, running, and sport specific activities)
Return patient to unrestricted pain free activities

SUGGESTED METHODS:

Functional activities in closed chain position
Slow motion walking
Squats
Cariocas
Biking
Leg press
Stairmaster
Jogging
Running
Speed and agility drills progressing to curve cuts and sharp cuts and one-legged hops

PRECAUTIONS:

Avoid full range open chain knee extension exercises
No stretching of the adductor muscles
No pain during or after exercises