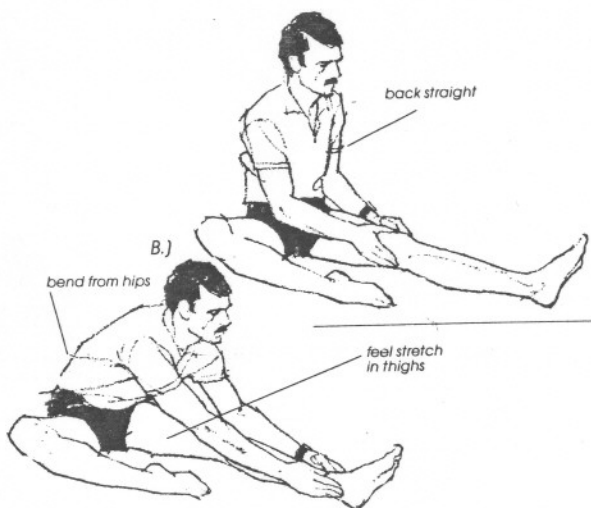


B. Hamstring Stretch

Sit on the floor with injured leg straight, knee locked and the other leg bent in. with back straight, bend from hips and reach down over leg until you feel muscles stretch. Hold 10 seconds and relax. Repeat 3 times.

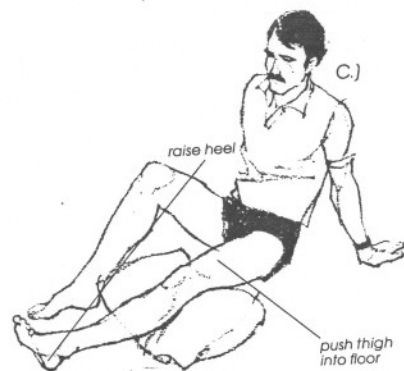


Strengthening Exercises

It is important to stay away from exercises that can aggravate your condition. The following does not involve bending at the knee.

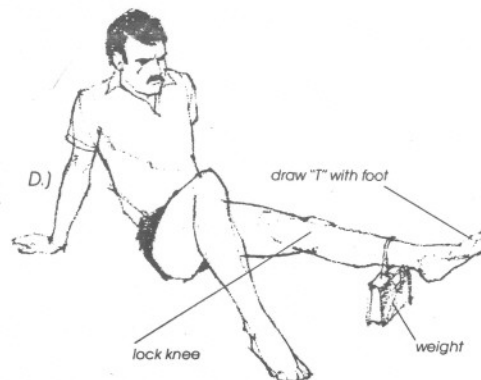
C. Static Quads

Sit on the floor with pillows under your knee. Push your thigh into the floor, raise your heel and bend your foot back towards you and hold 5 seconds. Change legs or do both at the same time. Repeat 15 times.



D. "T" Exercise

Sit on the floor with a weight on your leg (5-10 kilos). Lock your knee and raise your leg. Draw a "T" with your foot. Repeat with other leg. Do 3 sets of 10 repetitions. Increase weight weekly as your strength



Patellofemoral Syndrome (Chondromalacia)

Injury Description

Knee pain is one of the most common symptoms experienced by sports participants. Studies have shown that patellofemoral pain syndrome comprises up to 50% of overuse injuries. This syndrome is caused by an irritation of the undersurface of the patella (kneecap) which, in its normal state, is smooth. The irritation can lead to a roughening of the patella undersurface, a condition called chondromalacia.

The patella is a moving part. It glides up and down a groove in the femur (thighbone). The pain is caused by pressure between the patella and the groove in the femur. As you bend your knee, you gradually increase the pressure between the patella and the femur.

The irritation and roughening of the patella causes an inflammation, which causes the pain. Patellofemoral pain syndrome and chondromalacia are not arthritis. Children and adolescents usually grow out of this problem.

Predisposing Factors

1. When the patella is not symmetrical in the femoral groove, there is an imbalance resulting in wear and tear. An unsymmetrical kneecap is called a "jockey cap" patella. This condition can be identified on x-rays.
2. Overuse (especially downhill running)
3. Wide hips
4. Knock knees
5. Tibial torsion (rotation of lower leg)
6. Flat (pronated) feet
7. Weak inner thigh muscles
8. Previous injury to the knee.

TREATMENT

This is based on two principles:

1. Reducing the inflammation
2. Improving the dynamics of the patella-femoral relationship

REST

When the knee is painful and swollen, you must rest it. Pain is your guide. You are aggravating the condition if you continue activities while experiencing pain. Mild discomfort or ache is not a

problem but definite pain is a cause for concern.

ICE

Apply an ice pack (frozen peas) to your knee for 15 minutes twice daily and after any sporting activities. This reduces inflammation and pain.

MEDICATION,PHYSIOTHERAPY, SURGERY

These are options that should be discussed with your physician.

ADJUSTMENTS

Your doctor may prescribe a brace or support. It is designed to help keep the patella in the track or groove.

The structure of your foot may also alter the patella-femoral relationship. Your doctor may prescribe specific shoes or foot orthotics to help the problem.

SPORTS

There is little pressure between the patella and the femur when the leg is straight or only slightly bent. The best activities are ones that limit the knee to a range between 135° (1/4 squat) and 180° (straight).

Sports that are easiest on the knees include swimming (flutter kick – knees straight), slow jogging, walking, skating and cross country skiing. Sports that cause problems for some would be cycling, soccer, baseball, hockey, downhill skiing and tennis. Sports to avoid are volleyball, basketball, running, football, racquetball, and squash.

EXERCISES

Exercising will build up the muscles that control your kneecap. Do them daily, as they can definitely help improve your condition.

Stretches

Always stretch slowly without bouncing until your muscles stretch. You should not feel pain.

A. Single Quadriceps Stretch

Standing with your back straight, pull your foot back until you feel your thigh muscle stretch. Push down and back with your knee. Hold 15 seconds and relax. Repeat 3 times. If this stretch causes pain, discontinue.

