

Exercising builds up the muscles that stabilize the kneecap. Both stretching and strengthening exercises may be helpful. DO EACH PRESCRIBED EXERCISE TWO TIMES A DAY OR AS OFTEN AS YOUR DOCTOR RECOMMENDS.



Stretches

When performing any stretch, start slowly and never go beyond the point of a gentle pull. Don't bounce and remember to breathe normally. You should not feel pain.

Single quadriceps stretch

Standing with your back straight, pull your foot back until your thigh muscle stretches moderately. Push down and back with your knee. Hold 15 seconds and relax. If you feel pain, discontinue.

Repeat _____ times, _____ times/day.

Hamstring Stretch

Either sit or stand.

Sitting

Sit on the floor as shown. With back straight, lean forward from the hip and reach down over your leg until you feel your muscles stretch under your thigh. Hold ten seconds and relax.



Standing

Slightly bend the knee of your injured leg and support it as shown. Bend standing leg slightly. Place hands on lower thigh just above the knee. With back straight, bend forward from the hip until you feel a stretch under your thigh. Hold ten seconds



Stay away from exercises that require you to bend your knee or otherwise aggravate your condition.



Static quadriceps stretch

Sit on the floor with a pillow under the back of your knee. Push your thigh into the floor; as your heel rises, bend your toes toward your body and hold five seconds. Change legs or do both at once.

Repeat _____ times, _____ times/day.

"T" Exercise

With a two pound weight around your ankle, keep your knee slightly bent and raise your leg 12 inches. Draw a "T" with your foot. Repeat with other leg. Gradually increase weight (up to five pounds) as each weight becomes easier.



Repeat _____ times, _____ times/day.

IN SUMMARY

Knee problems occur often among people who are active in sports. Many injuries can be successfully treated, allowing you to return to an active life. Your physician is your best source of information about how to relieve your discomfort.



PATELLO-FEMORAL SYNDROME

(Chondromalacia)

Knee pain is common among people active in sports. Studies have shown that the so-called patello-femoral [puh-TELL-oh FEH-muh-roll] pain syndrome accounts for up to half of overuse injuries. This syndrome is caused by an irritation of the undersurface of the patella [puh-TELL-uh] (kneecap), which is normally smooth. The irritation can lead to a softening of the underside of the patella, a condition called chondromalacia [KON-droh-mul-LAY-see-uh].

The patella glides up and down in a shallow groove formed by the femur [FEE-mur] (thigh bone) and its covering ligaments. The pain is caused when increasing tension gradually increases the pressure between the patella and femur.

Irritation and roughening of the patella cause inflammation that results in pain. Patello-femoral pain syndrome and chondromalacia are not arthritis.



You are more likely to suffer from patello-femoral syndrome if

- Your kneecap is not centered in the groove of the femur. This creates an imbalance that results in wear and tear. This poor alignment can be identified on special knee X rays.
- Overuse of the patella occurs, especially, the pounding shocks absorbed during jogging, hiking, or downhill running
- You have "knock knees" (deformity of the legs in which the knees are abnormally close together and the ankles are spread widely apart)
- You twist or rotate the lower leg in an abnormal way (tibial torsion)
- You have flat (pronated) feet

Treatment has two objectives: to reduce the inflammation and to improve the alignment between the patella and the femur.

Rest

When the knee is painful and swollen, you must rest it. Avoid stair climbing, keep your injured leg slightly bent while sitting, and avoid squatting. Let pain be your guide. You will aggravate the condition if you continue vigorous activities or sports while you are in pain. Mild discomfort or ache is not a problem, but definite pain is cause for concern.

Ice

Apply ice to your knee for 30 minutes two or three times a day and after any sporting activities by applying a plastic bag of crushed ice over a towel. This reduces inflammation and pain.

Medication

Your doctor may prescribe medication to relieve pain and reduce inflammation.

Physical Therapy

A physical therapist or your doctor can recommend exercises to reduce the inflammation. Exercises can also be used to stretch, strengthen, and balance the thigh muscles that control the patella in the groove. When thigh muscles are strong and balanced, the patella will move through the groove accurately and with less pressure.

Surgery

In some cases, surgery may be indicated. This often can be performed with an arthroscope [AR-throh-scope] (an instrument that allows a physician to see inside the joint with a light). In rare cases, repositioning of the patella by open knee surgery is required.

Knee

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

Foot

The structure of your foot may alter the relationship between your patella and femur, and your doctor may prescribe specific shoes or, occasionally, orthoses [or-THOH-seez] (shoe inserts) to help resolve your problem. Ask your doctor about new materials designed to fit into your shoe to help absorb the impact as your foot hits the ground. They are available at medical supply and running shoe stores.

SPORTS

Pressure between the patella and femur is minimized when the leg is straight or only slightly bent. The best activities are those that limit the range of knee motion.

Let pain be your guide. When your knees hurt, avoid sports and other activities that may aggravate knee problems. Total rest may be required. When your knees get better after treatment, you should be able to enjoy many sports.

Sports that are easiest on the knees—swimming (flutter kick, knees straight), slow jogging, walking, skating, and cross country skiing.

Sports that may aggravate knee problems (require deep knee bends and twists that stress the knee and are most likely to aggravate your condition)—volleyball, basketball, soccer, running (sprints, downhill), football, racquetball, and squash.

For specific sports, check with your physician. Some sports may be fine for some people but bad for others.