

Knee Conditions: PATELLOFEMORAL PAIN SYNDROME



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Patellofemoral pain syndrome is a condition in which pain is felt under the kneecap. The patella is the bone that makes up the kneecap. The femur is the thigh bone. This bone forms the upper part of the knee. In people with patellofemoral pain syndrome, the patella rubs painfully against the femur. This pain occurs during exercise or movement. It is most common during weight bearing activities such as running.

Causes

The pain is the result of inflammation of soft tissues around the kneecap. It can be due to a number of different factors or conditions, such as overuse and improper use of the legs.

Risk Factors

The following factors increase your chance of developing patellofemoral pain syndrome.

Malalignment of the knee joint caused by:

- Rolling your feet outward during walking or running – can pull the kneecap out of line and cause painful rubbing of the kneecap against the bones of the knee.
- The kneecap being located too high or too low in the knee joint
- Loose ligaments
- Poorly aligned bones

Weak or tight thigh muscles causing:

- Inability to hold the kneecap in the correct position
- The kneecap to rub against the femur during movement

Overuse and overloading the knee joint from:

- High-impact sports or activities, such as running that result in ponding on the feet
- Knock knees
- Flat feet
- High arches
- Hip dysfunction
- External rotation of the lower leg

Trauma, such as an automobile accident where the kneecap hits the dashboard

Symptoms

The first symptom is pain around or under the kneecap. The pain may first occur during high-impact activities. As the condition gets worse, the pain may be triggered by squatting, kneeling, or long periods of sitting. It is thought to be caused by the pressure on the kneecap while the leg is flexed. It is often increased by going down stairs or down hills. If you have knee or joint pain during activity, call your doctor.

Other symptoms may include:

- Swelling of the knee
- Popping or grinding sounds in the knee joint during activity
- A snapping sensation in the knee

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Diagnosis

Your doctor will ask about your symptoms and medical history. A physical exam will be done. The diagnosis is usually made when the typical findings are present.

Images may be taken of your knee to look for other causes of knee pain.

Your doctor may refer you to a specialist. Orthopedic surgeons focus on bone and joint disorders.

Treatment

The initial step is to rest the knee. High-impact activities should be switched for lower impact exercise. For example, choose swimming instead of running (except breaststroke). Your doctor may suggest that you apply ice to the kneecap after activity.

Longer term treatment can involve physical therapy. Most people will benefit from strengthening the muscles around the knee. This includes the quadriceps muscles in the thigh as well as other muscles near the hip. Physical therapists can recommend specific exercises. This treatment is very helpful. It can take 6 to 12 weeks to see an improvement.

Some people find relief from knee braces or knee sleeves. These devices typically have a cutout in the kneecap area. They are designed to hold the kneecap in place during activity. Some are designed to hold the patella from going too far laterally.

A physical therapist can also utilize taping techniques to better position the patella and allow you to participate in work and athletic activities. Special shoe inserts, called orthotics, may also be helpful. They work best when the condition is due to dysfunction in the foot, such as flat feet or excessive pronation.

Prevention

It may not be possible to totally prevent this condition. There are steps you can take to reduce your risk and avoid making the condition worse, including:

- Proper warming up before exercising. This includes stretching after warm-up and post-activity. This will help to prevent sports-related injuries.
- Vary the types of activities that you participate in. For example, rather than running or jogging every day, alternate between running and swimming.
- Use appropriate footwear for your sport.
- Increase the amount and effort of activities slowly over time.
- Use proper form and technique for any sport.
- Take care of injuries right away. This includes getting first aid and resting the injury until it is healed before beginning an activity again.