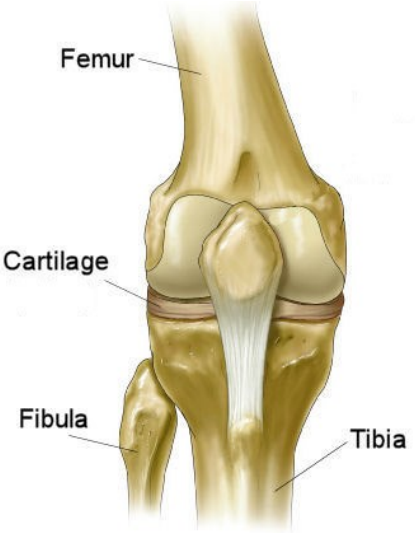
Patellofemoral Syndrome

If you have had pain in the front of your knee for a long time, chances are good that you have patellofemoral syndrome. The word patella refers to the kneecap. Femoral (or femur) refers to the thigh bone. That is the bone the kneecap sits on. The kneecap is shaped like a triangle. Its job is to protect the knee and to improve the efficiency of your thigh muscles (*quadriceps*). The underside of the kneecap is made of smooth tissue (*cartilage*). This lets the kneecap slide up and down as the knee moves. Sometimes this cartilage becomes soft. Your healthcare provider may say the cartilage breaks down. That is patellofemoral syndrome. It can affect one knee, or both. The condition is sometimes called patellofemoral pain syndrome. That is because the condition is painful. The pain usually gets worse with activity. Sitting for a long time with the knee bent also makes the pain worse. It usually gets better with rest and proper treatment.



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CAUSES

No one is sure why some people develop this problem and others do not. Runners often get it. One name for the condition is "runner's knee." However, some people run for years and never have knee pain. Certain things seem to make patellofemoral syndrome more likely. They include:

- Moving out of alignment. The kneecap is supposed to move in a straight line when the thigh muscle pulls on it. Sometimes the kneecap moves in poor alignment. That can make the knee swell and hurt. Some experts believe it also wears down the cartilage.
- Injury to the kneecap.
- Strain on the knee. This may occur during sports activity. Soccer, running, skiing and cycling can put excess stress on the knee.
- Being flat-footed or knock-kneed.

SYMPTOMS

- Knee pain.
  - Pain under the kneecap. This is usually a dull, aching pain.
  - Pain in the knee when doing certain things: squatting, kneeling, going up or down stairs.
  - Pain in the knee when you stand up after sitting down for awhile.
- Tightness in the knee.
- Loss of muscle strength in the thigh.
- Swelling of the knee.

DIAGNOSIS

Healthcare providers often send people with knee pain to an orthopedic caregiver. This person has special training to treat problems with bones and joints. To decide what is causing your knee pain, your caregiver will probably:

- Do a physical exam. This will probably include:
  - Asking about symptoms you have noticed.
  - Asking about your activities and any injuries.
  - Feeling your knee. Moving it. This will help test the knee's strength. It will also check alignment (whether the knee and leg are aligned normally).
- Order some tests, such as:
  - Imaging tests. They create pictures of the inside of the knee. Tests may include:

1. X-rays.
2. Computed tomography (CT) scan. This uses X-rays and a computer to show more detail.
3. Magnetic resonance imaging (MRI). This test uses magnets, radio waves and a computer to make pictures.

TREATMENT

- Medication is almost always used first. It can relieve pain. It also can reduce swelling. Non-steroidal anti-inflammatory medicines (called NSAIDs) are usually suggested. Sometimes a stronger form is needed. A stronger form would require a prescription.
- Other treatment may be needed after the swelling goes down. Possibilities include:
  - Exercise. Certain exercises can make the muscles around the knee stronger which decreases the pressure on the knee cap. This includes the thigh muscle. Certain exercises also may be suggested to increase your flexibility.
  - A knee brace. This gives the knee extra support and helps align the movement of the knee cap.
  - Orthotics. These are special shoe inserts. They can help keep your leg and knee aligned.
- Surgery is sometimes needed. This is rare. Options include:
  - Arthroscopy. The surgeon uses a special tool to remove any damaged pieces of the kneecap. Only a few small incisions (cuts) are needed.
  - Realignment. This is open surgery. The goals are to reduce pressure and fix the way the kneecap moves.

PROGNOSIS

Most people with patellofemoral syndrome get better without surgery. Medication almost always helps. So does rest. Sometimes changes in exercise may be needed. But, most people can return to their normal activities after the swelling and pain are reduced.

HOME CARE INSTRUCTIONS

- Take any medication prescribed by your healthcare provider. Follow the directions carefully.
- If your knee is swollen:
  - Put ice or cold packs on it. Do this for 20 to 30 minutes, 3-4 times a day.
  - Keep the knee raised. Make sure it is supported. Put a pillow under it.
- Rest your knee. For example, take the elevator instead of the stairs for awhile. Or, take a break from sports activity that strain your knee. Try walking or swimming instead.
- Whenever you are active:
  - Use an elastic bandage on your knee. This gives it support.
  - After any activity, put ice or cold packs on your knees. Do this for about 10 to 20 minutes.
- Make sure you wear shoes that give good support. Make sure they are not worn down. The heels should not slant in or out.

SEEK MEDICAL CARE IF:

- Knee pain gets worse. Or it does not go away, even after taking pain medicine.
- Swelling does not go down.
- Your thigh muscle becomes weak.
- You develop a fever of more than 100.5°F (38.1° C).

SEEK IMMEDIATE MEDICAL CARE IF:

- You develop a fever of more than 102.0° F (38.9° C).

Document Released: 12/06/2010
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