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# Patellofemoral Pain Syndrome (PFPS)

Patellofemoral pain syndrome (PFPS) is knee pain under or around your patella (kneecap). Experts aren't certain what causes it, but you can usually treat it with the RICE method, physical therapy and by slowly ramping up your activity level.

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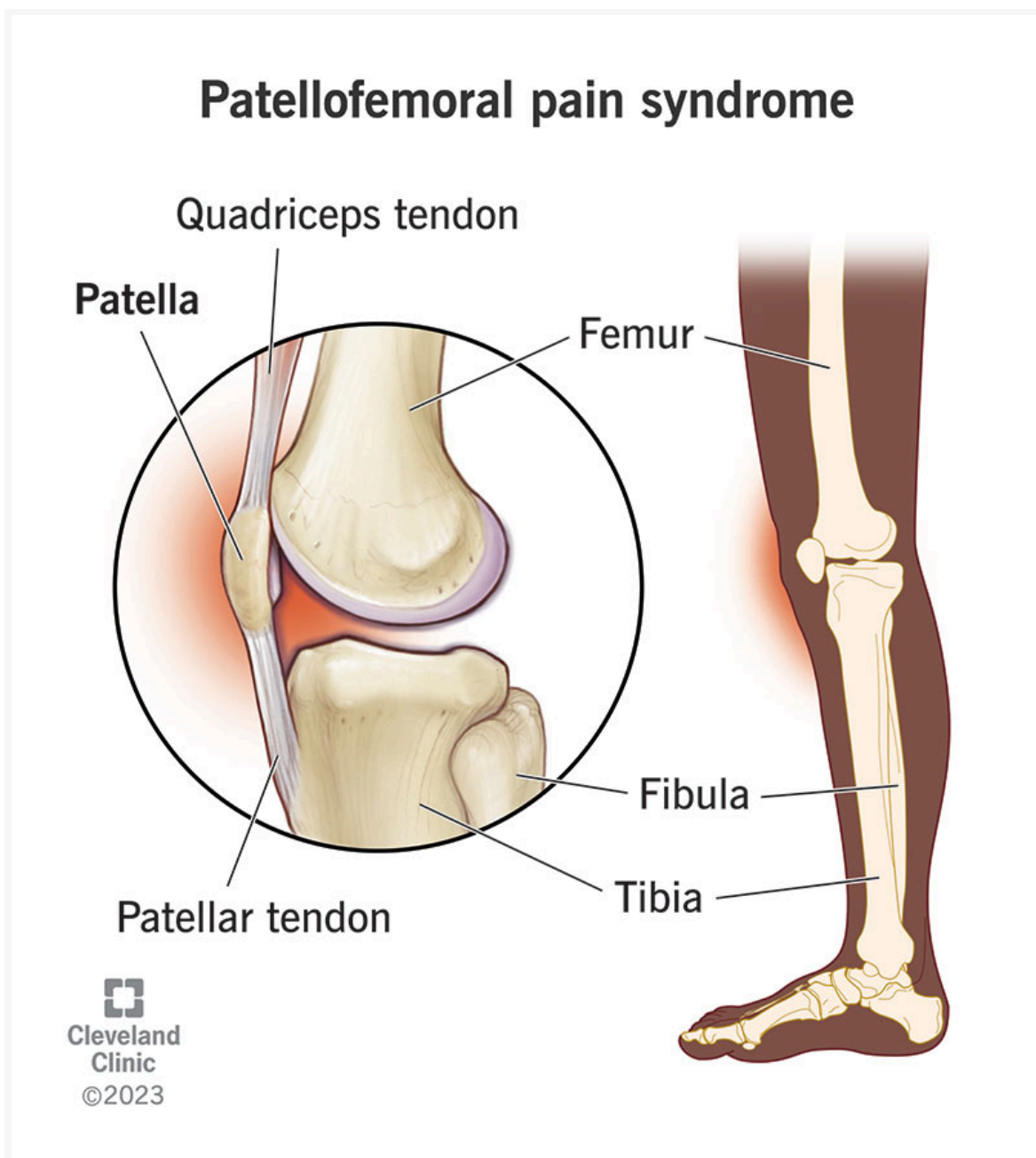
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## Overview



Patellofemoral pain syndrome usually feels like dull ache at the front of your knee or on the sides near your patella (your kneecap)

## What is patellofemoral pain syndrome?

Patellofemoral pain syndrome (PFPS) is [knee pain](#) under or around your [kneecap \(patella\)](#). Healthcare providers also sometimes call PFPS runner's knee.

Your patella is the bone at the front of your [knee joint](#). It helps your [quadriceps muscle](#) move your leg, protects your knee, and supports lots of important [muscles](#), [tendons](#) and [ligaments](#).

“Patellofemoral” is the medical term for the connection between your patella and your [thigh bone \(femur\)](#). Usually, your patella fits into a groove in your femur and slides smoothly along that space when you move your knee. If you have PFPS, something may affect how your patella moves and make it painful.

People usually develop PFPS over time. It can affect one or both of your knees at once. Visit a healthcare provider if you’re experiencing knee pain that doesn’t get better in a few weeks.

## How common is patellofemoral pain syndrome?

PFPS is very common. Experts estimate that around one-third of people who visit healthcare providers with knee pain have PFPS.

# Symptoms and Causes

## What are patellofemoral pain syndrome symptoms?

Pain in the front of your knee is the most common PFPS symptom. You might also hear or feel cracking or popping in your knees.

Patellofemoral pain syndrome usually develops over time. The pain typically gets worse when you:

- Bend your knees to squat or climb stairs.

- Sit with your knees bent for a long time.
- Change your playing or training surface.
- Increase your activity level or training intensity.
- Wear new or different shoes when you're active.

## What does patellofemoral pain syndrome feel like?

PFPS usually feels like a dull ache at the front of your knee or on the sides near your patella. It might feel sharp or stabbing during activities or while you're running, jumping, squatting or on stairs.

## What causes patellofemoral pain syndrome?

Experts aren't sure exactly what causes PFPS. Some factors or issues that may cause it include:

- **Overusing your knees:** Doing the same kind of motion often (like jumping a lot or working on your hands and knees) might cause PFPS.
- **Weak or tight muscles around your knee:** If the muscles in your legs around your knee (especially your quad muscles) are weak, they might not be able to support your knee as they should. Similarly, if your quads and other muscles aren't flexible enough, they can put too much tension on your knee.
- **Suddenly increasing your activity level:** You might develop PFPS if you start a new sport or activity or increase how often you're active. PFPS might also happen if you increase the intensity of your practices or training.

- **The natural shape of your knee:** If your patella is naturally an unusual shape or doesn't fit into the groove in your femur as it should, you might develop PFPS without any extra stress or strain on your knees.

## What are PFPS risk factors?

Anyone can develop PFPS, especially if you've recently changed your activity level. Some groups of people are more likely to experience it, including:

- Athletes or physically active people who run, jump or squat a lot.
- People who do physical work.
- [Women](#).
- Teenagers.
- Adults age 20 to 40.

## What are complications of patellofemoral pain syndrome?

PFPS usually gets worse over time if it's not diagnosed and treated. On top of increasing pain, untreated PFPS may increase your risk of injuries. The pain can make you hold and carry your body differently (your posture), even if you're not thinking about it. This can put extra stress on joints like your [hips](#) and [ankles](#), or muscles in your legs, abdomen or back.

## Diagnosis and Tests

# How is patellofemoral pain syndrome diagnosed?

A healthcare provider will diagnose PFPS with a [physical exam](#). They'll examine your knees and ask about your symptoms. Tell your provider when you first noticed pain and other symptoms, and if any activities make them worse.

Your provider might ask you to move or use your knees. They may bend your knee, ask you to hold your leg straight out in front of you or squat. Tell your provider if any of these movements hurt or make the pain worse.

You might need a [knee X-ray](#) or [magnetic resonance imaging \(MRI\)](#) to take pictures of your knee joint and tissue that supports it.

## Management and Treatment

### What are patellofemoral pain syndrome treatments?

Your provider will suggest PFPS treatments that relieve your pain and help you move comfortably, including:

#### The RICE method

You can usually treat PFPS at home with the [RICE method](#):

- **Rest:** Stop the physical activity that caused the pain.
- **Ice:** Apply an ice pack or cold compress to your knee for around 20 minutes every three to four hours. Don't apply ice directly to your skin

(wrap the ice pack in a towel or washcloth).

- **Compression:** Compression helps reduce blood flow to your knee and reduces swelling. Apply a compression bandage or wrap around your knee. Your provider can show you how to apply and wear a compression wrap safely.
- **Elevation:** Keep your knee elevated above the level of your heart. You can prop your knee up with pillows, blankets or cushions.

## Physical therapy

A [physical therapist](#) will show you stretches and exercises that strengthen the muscles around your knees. Increasing your quad muscle strength and flexibility will support your knee better and help your patella move as it should.

## Over-the-counter pain relievers

Your healthcare provider might suggest medications to relieve PFPS. Most people can take over-the-counter [NSAIDs](#) (ibuprofen, aspirin and naproxen) or acetaminophen (Tylenol®). Don't take these medications for more than 10 days in a row without talking to your provider.

## Knee braces and orthotics

You might need to wear a [knee brace](#) or special shoe inserts (orthotics) to stabilize your knee, ankle or lower leg.

Knee braces stabilize and support your knee joint. A knee brace can relieve pain when you're physically active, especially early on when the pain is

more intense. Talk to your provider about which type of brace will work best for you.

Orthotics are shoe inserts that you can buy over-the-counter or have custom-made. Your provider will tell you which kind you'll need and how often to wear them.

## Patellofemoral pain syndrome surgery

It's very rare to need surgery to treat PFPS. Your provider will probably only suggest knee surgery if you're experiencing severe pain and other treatments haven't helped.

If you do need surgery, your surgeon will likely perform a [knee arthroscopy](#). They'll make a few small incisions (cuts) in the skin around your knee, and then insert a special tool called an arthroscope into your knee joint. The arthroscope includes a camera and a light that lets your surgeon see and repair damage inside your knee.



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## Outlook / Prognosis



# What is the recovery time for patellofemoral pain syndrome?

Most people need a month or two to recover from patellofemoral pain syndrome. Your provider or physical therapist will give you a timeline based on your unique needs, strength and activity level.

You should expect to change or take a break from your usual activities while you're managing PFPS. Most people can return to their usual sports or activities once they're no longer feeling pain or other symptoms.

## Prevention

### Can I prevent patellofemoral pain syndrome?

You might be able to prevent PFPS, depending on what your provider thinks might have caused it. For example, you can slowly ramp up your activity level — especially if you're starting a new sport or workout regimen. But you can't prevent PFPS if your patella doesn't naturally fit into its groove in your femur.

The best way to prevent PFPS (and any other type of knee pain) is to stay safe when you're physically active. During sports or other physical activities:

- Wear the right protective equipment.
- Don't "play through the pain" if your knees hurt during or after physical activity.

- Give your body time to rest and recover after intense activity.
- Stretch and warm up (especially your quad muscles) before playing sports or working out.
- Cool down and stretch after physical activity.

## Living With

### When should I see my healthcare provider?

Visit a healthcare provider if you're having knee pain that doesn't get better on its own after a few weeks of rest and at-home treatments. Talk to your provider or physical therapist if you've started treatment for PFPS and your pain comes back or gets worse, especially if certain exercises or positions hurt.

### Which questions should I ask my doctor?

- Do I have PFPS or another type of knee pain?
- Will I need any tests?
- Which treatments will I need?
- How long will I need physical therapy?
- When will it be safe for me to return to sports or other intense physical activities?

## A note from Cleveland Clinic

Patellofemoral pain syndrome (PFPS) is a long way to say that your knee hurts when you're working out or taking the stairs. But PFPS is usually straightforward to manage. Your healthcare provider or physical therapist will help you find ways to strengthen your muscles, increase your flexibility and manage the pain. Once you're feeling strong and more stable on your knee, you should be able to resume all of your usual activities and sports.

## Care at Cleveland Clinic

Knee pain can keep you from doing the things you love. Cleveland Clinic experts can craft a treatment plan to get you back to the regular pace of your life.



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✓ Medically Reviewed

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