



**NATIONWIDE CHILDREN'S**  
*When your child needs a hospital, everything matters.™*

## **Helping Hand™**

*Health Education for Patients and Families*

# **Sports Medicine: Patellofemoral Pain Syndrome (PFS)**

Patellofemoral Pain Syndrome (PFS) is pain in the knee due to increased pressure between the kneecap (patella) and the thigh bone (femur). Usually a result of poor alignment or sudden growth spurts, this pain may also come from an injury to the knee. The patella sits in a groove (trochlea) of the thigh bone and moves up and down as the leg bends and straightens. Pain can result when the kneecap moves side to side.

### **Signs and symptoms**

- pain around or underneath the kneecap
- pain that gets worse with standing or sitting for long periods
- the knee feels like it gives way or catches
- pain when jumping, running, squatting or climbing stairs
- usually achy pain but it can also be sharp

### **Increased risk**

- tight or weak muscles in the leg and hip
- poor warm-up before activity
- flat feet
- recent growth spurt
- sports that involve running, jumping or squatting
- poorly formed trochlea at birth

### **Treatment**

- Medicine
  - Anti-inflammatory medicines, such as ibuprofen (Motrin® or Advil®) or naproxen (Aleve®) may be recommended. Take these as directed by your health care provider.

- Other minor pain relievers, such as acetaminophen (Tylenol®), may be used.
- Use of cold and heat
  - Cold should be applied for 10 to 15 minutes every 2 to 3 hours and after any activity that makes symptoms worse. Use ice packs or an ice massage.
  - Heat should not be used on a new injury but may be used before doing stretching and strengthening activities prescribed by your health care provider or athletic trainer. Use a heat pack or a warm soak. Apply for 10 to 15 minutes.
- Rehab
  - Rehab exercises to improve strength and flexibility in the hip and leg are helpful to improve pain and function. These are often done under supervision of a physical therapist or athletic trainer.
- Orthopedic aids
  - A brace may be recommended to help the kneecap track properly.
  - An arch support (orthotic) may be recommended for those with flat feet.

## How to prevent

- Do correct warm-up and stretching before practice or competition and use proper technique.
- Gradually increase training intensity.
- Maintain thigh, knee and lower leg flexibility, conditioning, muscle strength and endurance.
- Wear arch supports if you have flat feet.

## When to call the health care provider

Call your health care provider or the **Sports Medicine team** at **614-355-6000** if:

- symptoms get worse or do not improve after 6 to 8 weeks despite treatment
- new, unexplained symptoms develop

**To schedule an appointment  
with Sports Medicine, visit  
[NationwideChildrens.org/Sports  
MedicineScheduling](https://NationwideChildrens.org/SportsMedicineScheduling) or scan this  
code with your camera phone.**

