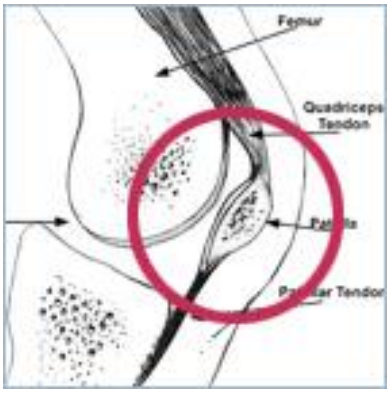
KINETIC PHYSICAL THERAPY
adolescent sports medicine

Understanding Your Condition:

Patellofemoral Pain Syndrome



Also known as: PFPS, chondromalacia patella

What is Patellofemoral Pain Syndrome (PFPS)?

- PFPS is pain that occurs across the front of the knee or behind the kneecap which usually occurs due to abnormal tracking or poor biomechanics of the knee. It may lead to irritation of the muscles, tendons, and ligaments that surround the knee joint and the cartilage on the back of the patella (kneecap).

Facts:

- PFPS is one of the most common knee disorders in young, active individuals, affecting up to 40% of adolescents and active young adults
- PFPS is the most commonly seen condition in orthopedic clinics
- The cause of PFPS is not completely understood in all cases
- The patella (kneecap) moves up/down, tilts, and rotates
- The knee is the most common site of overuse injuries in physically active individuals
- PFPS is 2 times greater in females as compared to males and 4 times more likely in athletic females

Culprits & causes:

- Overuse, change in training intensity or frequency
- Poor arch support, poor footwear choices (if your arch rolls inward when you stand, your knee may also get pulled inwards, causing abnormal tracking)
- Poor lower body awareness and control
- Internal rotation and adduction of your femur (thigh bone)
- Altered patellar tracking and positioning (tilt, rotation, height)

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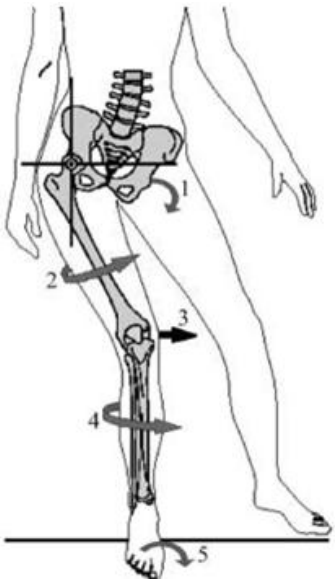
- Hip and core weakness
- Lower body alignment/Q angle (wider hips, flatter feet, genu valgum)

Signs & symptoms of PFPS:



- Knee pain (dull ache or sharp pain) across the front of the knee, usually around the knee cap
- Pain with prolonged sitting with knee bent, squatting, lunging, stair climbing, running, jumping
- Swelling around the kneecap
- Clicking or popping with bending and straightening the knee

How is PFPS diagnosed?

- Pain across the front of the kneecap or behind the kneecap associated with prolonged sitting or with weight-bearing activities such as squatting, lunging, running, and stair climbing
- Loss of hip, knee, and foot control with step-down test, squatting, lunging, and single leg balance

How do I fix it?

- Avoid painful activities which irritate the knee
- Stretch tight muscles that place strain on the knee (quadriceps, hamstrings, calves, hip muscles)
- Strengthen the quadriceps muscle to improve patellar tracking
- Strengthen the hip muscles (external rotators and abductors) to improve lower extremity control during athletic activities
- Improve strength and control of your core muscles to improve stability of your entire lower extremity
- Work on your balance and control with sport specific activities
- Taping or bracing may be used to help control abnormal movement of the kneecap
- Wear good shoes and avoid flip flops and UGG boots without arch support
- A Physical Therapist can treat issues with joint mobility, soft tissue flexibility, lower body strength including foot/ankle/hip, and walking/running patterns. They may use tape, strengthening and flexibility exercise, core strengthening, and orthotics to help with this.
- A Physical Therapist may treat your knee, hip, and low back to address issues affecting your knee pain
- Complete a good home exercise program with **frequent** stretching and strengthening

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How long will the pain last?

- Weeks to months depending on consistency with stretching exercises. The more you stretch, strengthen, and rest initially, the more quickly the symptoms will be likely to resolve. You should seek care from a physical therapist to achieve a pain-free status as soon as possible.
- You may notice knee pain intermittently when you complete aggravating activities

When can I return to sports?

- You must be pain-free with normal walking and function prior to attempting a return to running
- You must complete a graded return to running program (ask for a program if needed)
- Watch for signs of re-occurrence with return to activity (especially if you return to sport too soon)
- If pain occurs, rest and avoid painful activities; attempt returning more gradually

How can PFPS be prevented?

- Wear shoes that fit properly with good arch support
- Cross-train: avoid playing the same sport all year long without rest
- Stretch the leg muscles regularly including a dynamic warm-up before activity
- Be consistent with hip and core strengthening activities
- Listen to your body: if you have pain, slow down and rest!
- If running causes pain, get a good quality running analysis and adjust running form if necessary