Understanding Patellofemoral Syndrome (PFS)

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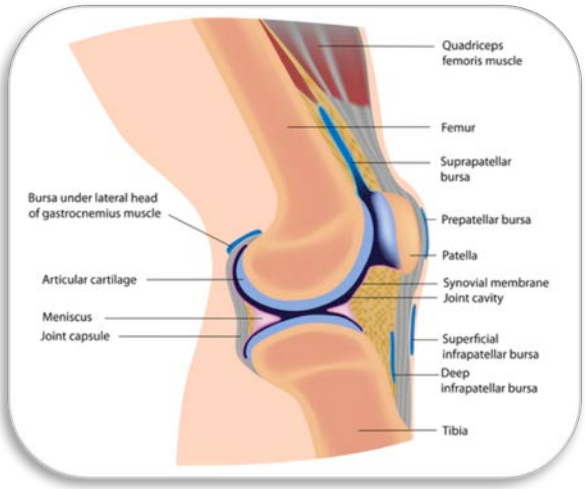
Our goal at The Orthopedic Institute of Wisconsin is to provide high quality care, both non-surgical and surgical. This approach allows our patients to regain lost function and experience pain relief that will hopefully result in the improvement of their quality of life. If you have any additional questions, please call: (414) 325-4320

Understanding Knee Anatomy

The knee joint joins the thigh bone (femur) to the shin bone (tibia). Tendons connect the bones of the knee to the muscles in the leg that move the knee joint. Ligaments in the knee connect the bones and provide stability. The lower portion of the femur has a shallow groove where the kneecap (patella) rests. Underneath the patella is a layer of cartilage that allows for smooth movement, important to prevent bone-to-bone contact. The patellar tendon holds the kneecap in place and runs from the kneecap and inserts into the tibia.



Symptoms

Patients often present with pain in the center of the knee, directly behind the kneecap. Pain can vary from dull and achy to sharp. Sometimes patients experience a burning sensation.

What Can Cause PFS?

- **Overuse**: Continuous excessive stress of the knee can wear down the cartilage between the patella and the thigh-bone.
- **Malaligned Patellar Tendon:** Some patients are born with a patellar tendon that is slightly malaligned. This tends to pull the patella toward the outside of the knee. This force tends to break down the cartilage under the kneecap causing pain.
- **Injury:** A direct blow to the knee can cause the patella to dislodge
- **Muscle Imbalance:** overly tight muscles cause decreases in flexibility that allows for the one area of the patella to be overused and cause pain.
- **Weak Muscles**: inadequately toned muscles often cannot control the stability of the patella
- **Flat Feet:** having flat feet can alter the mechanism of the joint, leading to pain.

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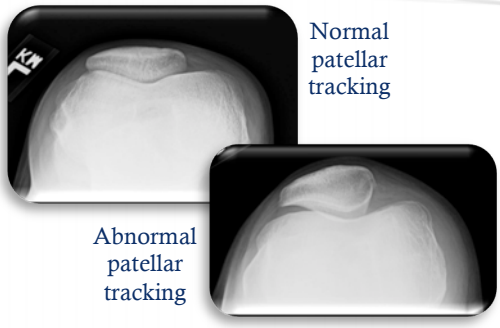
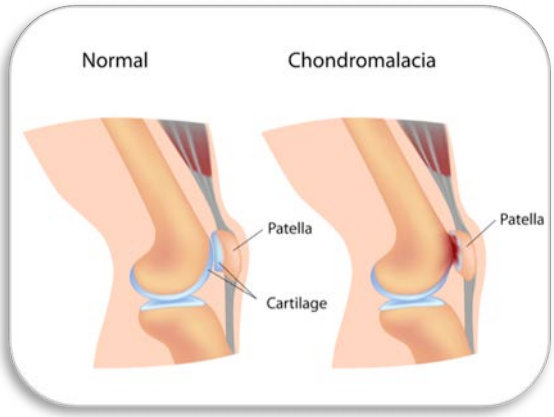


Normal patellar tracking

Abnormal patellar tracking

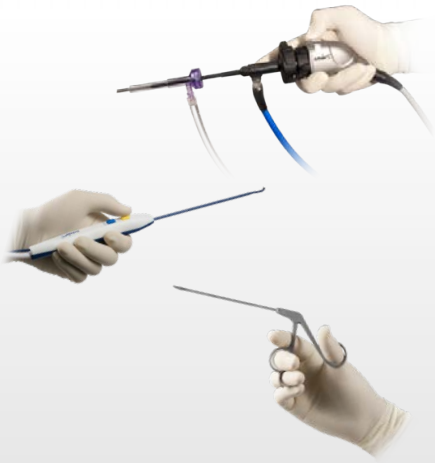
What is PFS?

Patellofemoral syndrome is the wearing down, roughening, or softening of the cartilage underneath the kneecap. The loss of cartilage can cause painful contact between the patella and femur. It frequently occurs in teenagers, manual laborers, and athletes.



Prognosis

Acute patellofemoral pain will typically resolve in 6-8 weeks with adequate rest from aggravating activities such as prolonged walking, running, jumping etc. Continuing activity "through the pain" is not conducive to healing and may not allow the problem to subside. In the case of prolonged pain, it can take several months to heal properly.



Arthrex Inc. "Imaging & Resection." http://www.arthrex.com/imaging-resection

Surgical Intervention

Surgical intervention is used in rare cases and is performed arthroscopically, using a small camera. Your surgeon can identify how the kneecap is misaligned. Tendons and structures attached to the kneecap that are too tight, loose, or torn can then be repaired or loosened as necessary.

Conservative Treatment

The first step in treatment often involves anti-inflammatory medications and ice to reduce the swelling and pain in the knee. Rest is also essential to allow the joint to heal. Once sufficient healing has taken place, slow return to activity is allowed. If flat feet or muscle tightness is the cause of the pain, use of strengthening/flexibility therapy and appropriate running shoes is more strongly recommended.

Physical Therapy

Rehabilitation programs are essential to the treatment process, however the course of treatment is different from patient to patient. Therapy focuses on certain exercises to correct the misaligned patella. Quadriceps stabilization and IT band stretching is the focus for most patients. If the pain is persistent, your physical therapist may have you wear a light brace. Electrical stimulation is also sometimes used for pain relief and quadriceps strengthening.

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