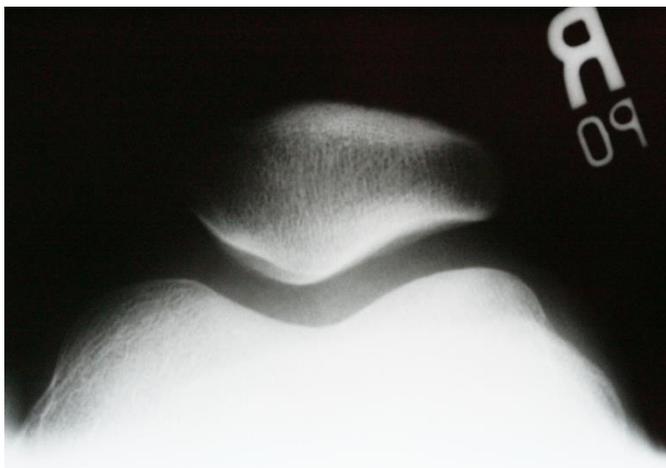


STEVEN CHUDIK MD

SHOULDER, KNEE & SPORTS MEDICINE

Patellofemoral Osteoarthritis

Arthritis of the patellofemoral joint refers to degeneration (wearing out) of the cartilage on the underside of the patella (kneecap) and the trochlea (groove) of the femur. This condition can cause anterior knee pain and limitations in stair climbing and getting up from a chair. The patella (kneecap) is a bone within the tendon of the quadriceps muscle that sits in a groove (trochlea) of the thigh bone. The protective layer of cartilage on the surface of the patella and trochlea allows the smooth, painless movement of the patella along the groove. Injury upon degeneration of the cartilage leads to arthritis, resulting in symptoms of pain, stiffness, and swelling of the knee.



Sunrise view of the patella demonstrating apparent normal joint space (indicating healthy cartilage)



Sunrise view of the patella with degenerative changes and loss of joint space

Frequent Signs and Symptoms

- Knee pain, usually in the front of the knee or behind the kneecap
- Pain that worsens with sitting for long periods, arising from a sitting position, going up or down stairs or hills, kneeling, squatting, or wearing shoes with heels
- Pain with jumping
- Usually achy pain but may be sharp
- Giving way, catching of the knee
- Often associated with swelling after activity



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Etiology (Causes)

This condition commonly occurs in the aging population, although it may occur in younger patients following trauma such as a dislocation of the patella or patella fracture. Mechanical abnormalities or poor patella tracking can occur in individuals with extreme leg mal-alignment. Injury to the cartilage surfaces from patella fractures, patella dislocation, other trauma, or overuse can accelerate the wearing out (degeneration) of the patellofemoral cartilage and lead to symptomatic patellofemoral arthritis. Surgery on the knee to “realign” the patella position can lead to abnormal mechanical forces and contribute to arthritis as well.

Risk Factors

- Age, obesity, chronic instability, high riding patella or poor patella tracking
- Overuse in sports that involve running, jumping, or squatting
- Poor alignment of the legs (knock knees, kneecaps that point toward each other when the feet are straight ahead), poorly formed trochlea (something you are born with), flat feet
- Previous injury or surgery to the knee including patella fracture, dislocation, or cartilage injury

Prevention

- Avoid activities with high shear stress or compressive force to kneecap
- Maintain appropriate conditioning:
 - Thigh, knee, and calf flexibility
 - Muscle strength and endurance
- Weight loss and proper diet
- Surgical options are available for patients with inherently poor patella position/alignment

Outcomes

Patellofemoral arthritis is a progressive condition that continues to worsen over time. Most conservative treatments are aimed at slowing the degenerative process and limiting symptoms. Conservative treatment, including physical therapy and activity modification, has been shown to offer relief for a considerable amount of time, allowing patients to return to most normal activities.

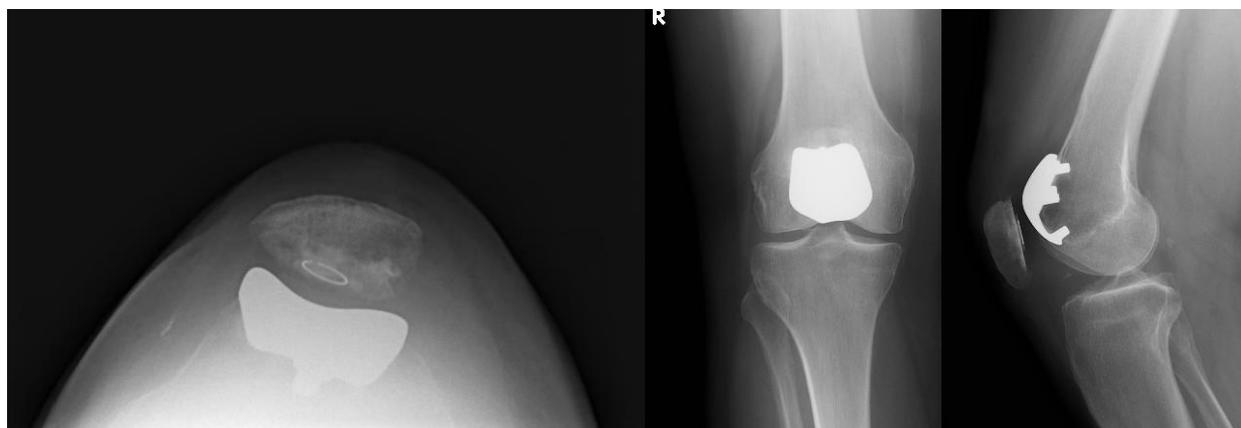


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Potential Complications

- Frequent recurrence of symptoms and disability severe enough to diminish normal activity
- Rapid progression of pain and symptoms
- Weight gain and deteriorated health due to loss of knee function and mobility
- Increased swelling
- Impaired sense of balance and loss of strength may lead to falls or other injuries



Treatment Considerations

Conservative treatment of the knee includes activity modification, physical therapy, medications, and injections. While it is important to use and move an arthritic knee, patients are cautioned to avoid overuse. Keeping the activity level below the threshold of pain and aggravation will help to improve the symptoms and prolong the ability to use the knee. This process is often aided by attending formal physical therapy to learn how to maintain range of motion, strength and function. Some patients require a cane or walker to help them ambulate as the arthritis becomes more severe.

Activity modification typically involves a decrease in time spent doing activities that stress the patellofemoral joint like jumping, running, lunges, stairs, etc. Dr. Chudik recommends biking, swimming, and water exercises as excellent choices for cardiovascular and strength exercise.



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Weight loss helps reduce arthritic knee symptoms in the majority of patients as this leads to a reduction in the weightbearing forces across the knee joint.

Medications can provide safe, long-term pain relief if taken appropriately. Tylenol (up to 4g per day) or over-the-counter NSAIDs (Aleve, ibuprofen, motrin, etc.) can be very effective for managing arthritic pain symptoms.

Injections are another popular option for conservative management of arthritis. Many patients experience significant relief from a corticosteroid injection. These injections deliver anti-inflammatory medications directly into the knee joint space.

Once these choices have failed to provide pain relief, the patient may need to consider surgical options. Although it is considered a last resort, surgery is a viable option for patients that face constant pain and functional limitations with the knee. Surgical options of arthroscopy, patellofemoral realignment surgery, isolated patellofemoral arthroplasty (replacement), and total knee arthroplasty may be indicated for severe symptoms.

Modalities (Heat and Cold)

- Cold is used to relieve pain and reduce inflammation. Cold should be applied for 10 to 15 minutes every two to three hours for inflammation and pain and immediately after any activity that aggravates your symptoms. Use ice packs or an ice massage with a cloth between the ice and your skin to prevent burning/freezing your skin.
- Use heat before performing stretching and strengthening activities prescribed by your physician or physical therapist. Use a heat pack or a warm soak.

Notify My Office If Symptoms Worse



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