Prepatellar (Kneecap) Bursitis

Bursae are small, jelly-like sacs that are located throughout the body, including around the shoulder, elbow, hip, knee, and heel. They contain a small amount of fluid, and are positioned between bones and soft tissues, acting as cushions to help reduce friction.

Prepatellar bursitis is an inflammation of the bursa in the front of the kneecap (patella). It occurs when the bursa becomes irritated and produces too much fluid, which causes it to swell and put pressure on the adjacent parts of the knee.

(Figure: Normal knee anatomy shown from the side. The bursa is small and located between the patella and the skin. In prepatellar bursitis, the bursa becomes inflamed and swollen.)

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Cause

Prepatellar bursitis is often caused by pressure from constant kneeling. Plumbers, roofers, carpet layers, coal miners, and gardeners are at greater risk for developing the condition.
A direct blow to the front of knee can also cause prepatellar bursitis. Athletes who participate in sports in which direct blows or falls on the knee are common, such as football, wrestling, or basketball, are at greater risk for the condition.

Other people who are more susceptible to the condition include those with rheumatoid arthritis or gout.

Prepatellar bursitis can also be caused by a bacterial infection. If a knee injury breaks the skin, such as an insect bite, scrape, or puncture wound, bacteria may get inside the bursa sac and cause an infection.

**Symptoms**

- Pain with activity, but not usually at night
- Rapid swelling on the front of kneecap
- Tenderness and warmth to the touch
- Bursitis caused by infection may produce fluid and redness

**Doctor Examination**

*Medical History and Physical Examination*

Your doctor will talk with you about your symptoms, such as the severity of your pain, how long you have had symptoms, and your risk factors for developing prepatellar bursitis.

Your doctor will likely ask questions regarding any signs or symptoms of infection, such as fever or chills. Prepatellar bursitis caused by an infection requires a different treatment plan.

During the physical examination, your doctor will inspect your affected knee and compare it to your healthy knee. He or she will palpate your knee checking for tenderness, and will also assess the range of motion in your knee and whether pain prevents you from bending it.

**Tests**

- **X-rays.** X-rays provide clear pictures of bone. Your doctor may order them to make sure there is not a fracture that is causing your symptoms.
- **Other imaging tests.** Computed tomography (CT) and magnetic resonance imaging (MRI) scans, and ultrasound may be obtained to check for other soft tissue injury.
- **Aspiration.** If your doctor is concerned about the possibility of infection, he or she may aspirate (draw fluid with a needle) the bursa and send this sample to the lab for analysis.

**Treatment**

Nonsurgical treatment is usually effective as long as the bursa is simply inflamed and not infected:

- **Rest.** Discontinue activities that worsen symptoms. Substitute another activity until the bursitis clears up. Low impact exercise, such as cycling, is a good option.
- **Ice.** Apply ice at regular intervals 3 or 4 times a day for 20 minutes at a time. Each session should reduce swelling considerably if the knee is also being rested.
- **Elevation.** Elevate the affected leg except when it is necessary to walk.
- **Medication.** Take an anti-inflammatory medication, such as naproxen or ibuprofen.
If the swelling and pain do not respond to these measures, your doctor may decide to drain (aspirate) the bursa with a needle, and may inject the bursa with a corticosteroid medication. The steroid medication is an anti-inflammatory drug that is stronger than the medication that can be taken by mouth.

Infectious bursitis is initially treated with antibiotics. Surgical drainage is required if the infection does not respond to antibiotics alone.

Draining the bursa may also treat chronic swelling that causes disability, but if the swelling continues, your orthopaedic surgeon may recommend surgical removal of the bursa. After surgery, the knee should regain its flexibility in a few days and normal activities can be resumed in a few weeks.

**Prevention**

You can help prevent bursitis by following these simple recommendations:

- Wear kneepads if you work on your knees or participate in contact sports such as football, basketball, or wrestling.
- Rest your knees regularly by stopping to stretch your legs. You may also consider switching activities on a regular basis to avoid prolonged stress on your knees.
- Apply ice and elevate your knees after a workout.

Last reviewed: March 2014

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