DISEASES & CONDITIONS

Baker's Cyst (Popliteal Cyst)

Baker's cysts, also known as popliteal cysts, are one of the most common disorders in the knee. These fluid-filled cysts form a lump at the back of the knee that often causes stiffness and discomfort. The condition is named after the 19th century surgeon who first described it, Dr. William Morrant Baker.

Baker's cysts typically result from a problem inside the knee joint, such as osteoarthritis or a meniscus tear. These conditions cause the joint to produce excess fluid, which can lead to the formation of a cyst.

Most Baker's cysts will improve with nonsurgical treatment that includes changes in activity and anti-inflammatory medications. Some cysts may even go away on their own, with no treatment at all.

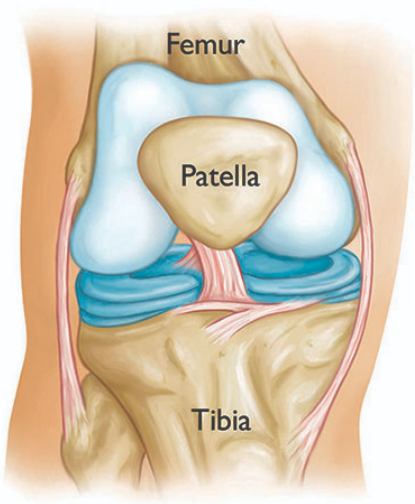
A Baker's cyst (arrow) can cause a sense of fullness behind your knee, especially when you straighten your leg.

Photo courtesy of Stuart J. Fischer, MD, FAAOS

Anatomy

The knee is the largest and strongest joint in the body. It is made up of the lower end of the femur (thighbone), upper end of the tibia (shinbone), and the patella (kneecap). A smooth, slippery tissue called articular cartilage covers and protects the ends of the bones where they meet to form a joint.

The knee joint is filled with a clear fluid (synovial fluid) that acts as a lubricant to help reduce friction within the joint. Small fluid-filled sacs called bursa cushion the joint and help reduce friction between the muscles and other surrounding structures.



The bones that make up the knee joint.

Cause

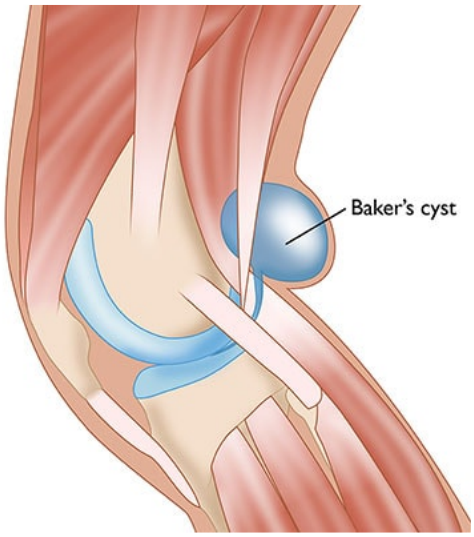
In adults, Baker's cysts usually result from an injury or condition that causes swelling and inflammation inside the knee joint, such as:

- Osteoarthritis
- Rheumatoid arthritis
- Meniscus tear
- Anterior cruciate ligament (ACL) tear
- Other conditions that damage the tissues inside the joint

In response to this inflammation, the knee produces excess synovial fluid, which travels behind the knee and accumulates in the popliteal bursa. The bursa then swells and bulges, forming a Baker's cyst.

In younger patients, Baker's cysts often have no known cause.

A cyst forms when excess synovial fluid travels to the popliteal bursa at the back of the knee.



Symptoms

Some Baker's cysts cause no symptoms and are only discovered incidentally during a physical exam or when an MRI scan is performed for some other reason. When symptoms do occur, they may include:

- A feeling of fullness or a lump behind the knee
- Knee pain
- Stiffness or tightness at the back of the knee
- Swelling in your knee and lower leg

If the cyst becomes very large, it can interfere with blood flow in the veins of your leg. This can cause pain, swelling, weakness, or even numbness if there is nerve compression. Very rarely, the cyst can even burst.

Sometimes the symptoms of a cyst may resemble those of a blood clot or deep vein thrombosis, a much more serious problem. If you have increasing pain and swelling in your calf, it is important to seek medical care right away to rule out a blood clot.

Doctor Examination

Medical History and Physical Examination

Your doctor will take a full medical history and ask you to describe your symptoms. He or she will want to know if you have had a previous knee injury.

Your doctor will then perform a careful examination of your affected knee, comparing it to your "normal" knee. During the exam, he or she will look for:

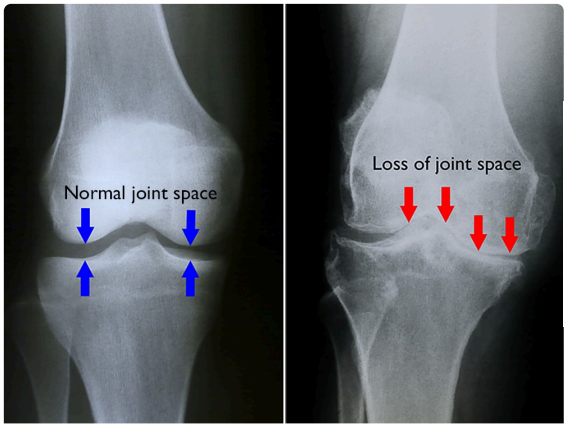
- Swelling
- Instability of the joint
- A clicking or popping noise when you bend your knee
- Joint stiffness and limited range of motion

Your doctor will also palpate (feel) the back of your knee where the cyst is located. Often, a cyst will become firm when the knee is fully extended and soft when the knee is bent.

Imaging Tests

Imaging tests may be ordered to help confirm the diagnosis and provide more information about your condition.

X-rays. X-rays provide images of dense structures, such as bone. Although a cyst cannot be seen on an x-ray, one may be ordered so that your doctor can look for narrowing of the joint space and other signs of arthritis in the joint.

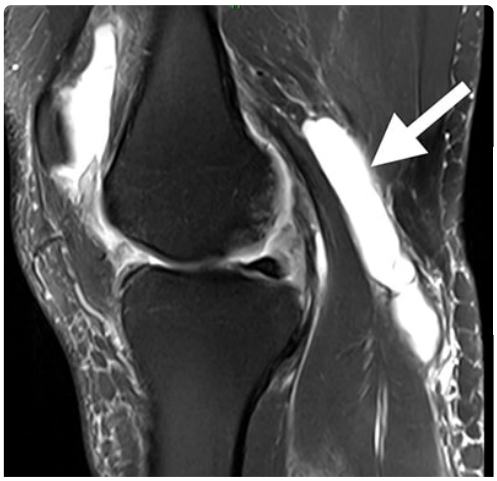


(Left) In this x-ray of a normal knee, the space between the bones indicates healthy cartilage. **(Right)** This x-ray of an arthritic knee shows severe loss of joint space.

Photo courtesy of Stuart J. Fischer, MD, FAAOS

Ultrasound. This test uses sound waves to create images of structures inside the body. An ultrasound will help your doctor see the lump behind your knee in greater detail and determine whether it is solid or filled with fluid.

Magnetic resonance imaging (MRI) scans. These tests produce clear pictures of the body's soft tissues. Your doctor may order an MRI scan to learn more about your cyst and to look for a meniscus tear or another underlying condition.



This MRI scan shows an area of fluid behind the knee, the characteristic location of a Baker's cyst.

Photo courtesy of Stuart J. Fischer, MD, FAAOS

Treatment

Nonsurgical Treatment

Most Baker's cysts will go away on their own. For cysts that do not disappear, initial treatment is always nonsurgical in nature and may include one or more of the following:

- **Observation.** Your doctor may recommend simply observing the cyst over time to ensure that it does not grow larger and cause painful symptoms.
- **Activity modification.** Decreasing your activity and avoiding high-impact activities that irritate the knee, such as jogging and aerobics, can help alleviate symptoms.
- **Nonsteroidal anti-inflammatory medications.** Drugs like ibuprofen and naproxen can help reduce pain and swelling.
- **Steroid injection.** Your doctor may inject a corticosteroid medication into your knee joint to reduce inflammation.

- **Aspiration.** In this procedure, your doctor numbs the area around the cyst, then uses a needle to drain the excess fluid from the joint. Aspiration is often performed using ultrasound to guide the placement of the needle.

Surgical Treatment

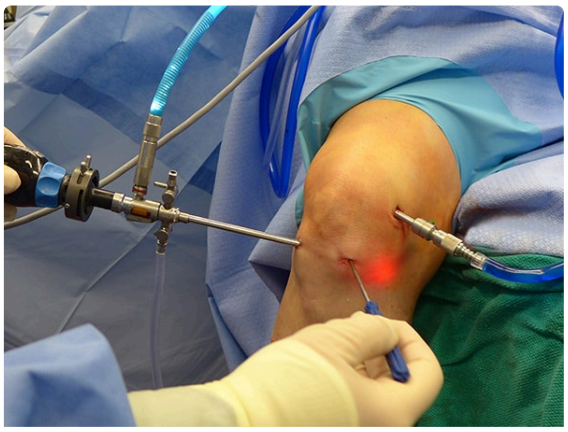
Surgical treatment for a Baker's cyst is rarely needed. However, it may be recommended if you have painful symptoms that are not relieved with nonsurgical treatment or if your cyst returns repeatedly after aspiration.

Arthroscopy. In this procedure, your doctor makes tiny incisions under anesthesia, then inserts a small camera called an arthroscope into the knee joint. The camera displays images on a video screen and your doctor uses these images to guide miniature surgical instruments.

Arthroscopy is used to treat conditions inside the knee, such as meniscus tears, that may give rise to a Baker's cyst.

Photo shows a camera and instruments inserted through portals in the knee.

Photo courtesy of Stuart J. Fischer, MD, FAAOS



Excision. For large cysts or those that are causing nerve and vascular problems, your doctor may perform an open surgical procedure to excise (remove) the entire cyst.

Recovery

It is very important to follow your recovery instructions to prevent the recurrence of a Baker's cyst.

Early movement. If your cyst has been aspirated or if you have had arthroscopic surgery, you will most likely be allowed to walk right after the procedure, but you should avoid strenuous activity during your recovery.

Bracing. Your doctor may recommend that you wear a knee brace for several weeks after surgery to immobilize your knee.

Physical therapy. Specific exercises will help improve range of motion and strengthen the muscles around the knee.

The time it takes to recover from surgery varies from patient to patient, depending on whether the underlying condition in the joint was treated during the procedure. Most patients can expect a return to full activity around 4 to 6 weeks after surgery.

Last Reviewed

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Contributed and/or Updated by

Rebecca L. Griffith, MD

Peer-Reviewed by

Stuart J. Fischer, MD, FAAOS

Mary K. Mulcahey, MD, FAAOS