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A Patient's Guide to
Popliteal Cysts

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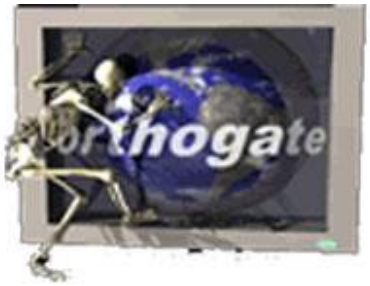

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Orthogate

Please take the time to explore our our patient education library.

Orthogate is dedicated to providing ways to improve access to the information needed to make informed decisions about healthcare in orthopaedics and sports medicine.

We encourage you to explore our site and learn more about our goals, services, and members.

Our Patient Resources section provides educational materials to help you understand orthopaedic problems and what options for treatment may be available from your orthopedic surgeon or muskuloskeletal health provider.

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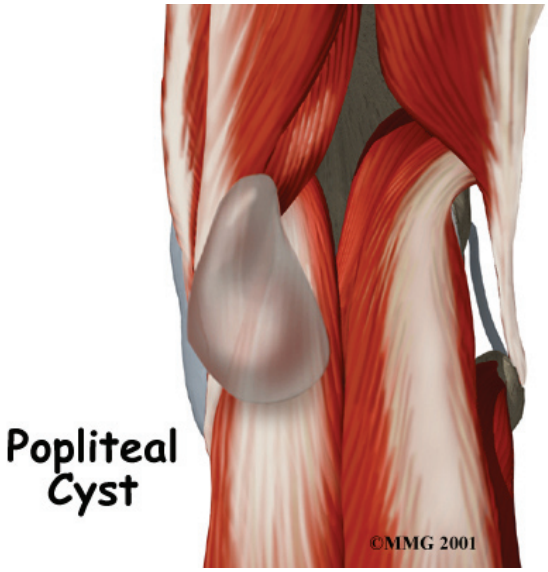


Introduction

A *popliteal cyst*, also called a *Baker's cyst*, is a soft, often painless bump that develops on the back of the knee. A cyst is usually nothing more than a bag of fluid. These cysts occur most often when the knee is damaged due to arthritis, gout, injury, or inflammation in the lining of the knee joint. Surgical treatment may be successful when the actual cause of the cyst is addressed. Otherwise, the cyst can come back again.

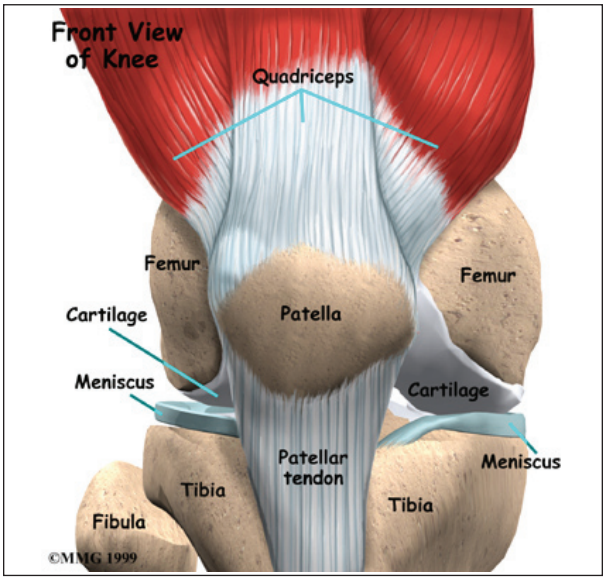
This guide will help you understand

- **how a popliteal cyst develops**
- **why a cyst can cause problems**
- **what can be done for the condition**

Anatomy

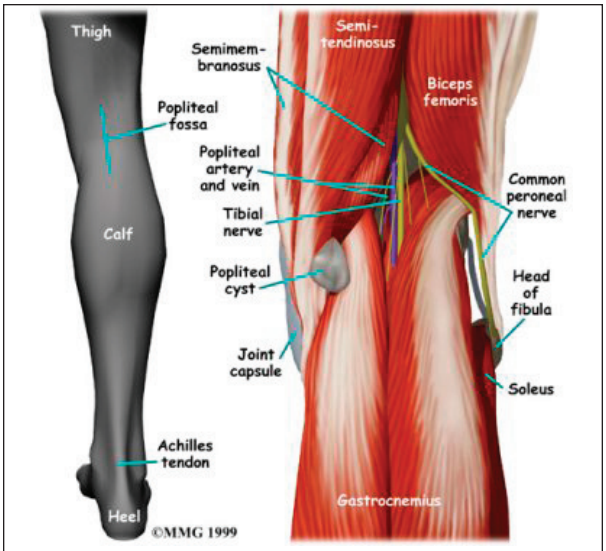
What is a popliteal cyst?

The **knee joint** is formed where the thighbone (*femur*) meets the shinbone (*tibia*). A slick cushion of *articular cartilage* covers the surface ends of both of these bones so that they slide against one another smoothly. The articular cartilage is kept slippery by joint fluid made by the joint lining (the *synovial membrane*). The fluid is contained in a soft



tissue enclosure around the knee joint called the *joint capsule*.

A popliteal cyst is a small, bag-like structure that forms when the joint lining produces too much fluid in the knee. The extra fluid builds up and pushes through the back part of the joint capsule, forming a cyst. The cyst squeezes out toward the back part of the knee in the area called the ***popliteal fossa***, the indentation felt in the back part of the knee between the two hamstring tendons and the top part of the calf muscle. Most people will be able to feel the cyst in the hollow area right behind the knee joint.



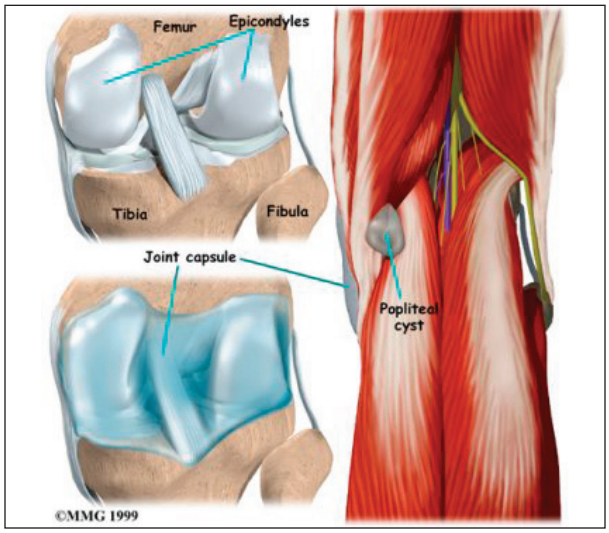
Popliteal fossa

Causes

Why does a popliteal cyst develop?

A popliteal cyst may form after damage to the joint capsule of the knee. The weakening of the joint capsule in the damaged area can cause the small sac of fluid to form. This can lead to a bulging of the joint capsule, much like what occurs when an inner tube bulges through a weak spot in a tire. The cyst may become larger over time.

A popliteal cyst can actually be a response to other conditions that cause swelling in the knee joint. This swelling is most often from problems of osteoarthritis or rheumatoid arthritis in the knee joint. It can also be caused by trauma, either from a direct blow to the knee or from repetitive activities that lead to overuse in the knee joint. A popliteal cyst is not from of a blood clot in the leg, although sometimes it can be mistaken for a blood clot.



Symptoms

What does a popliteal cyst feel like?

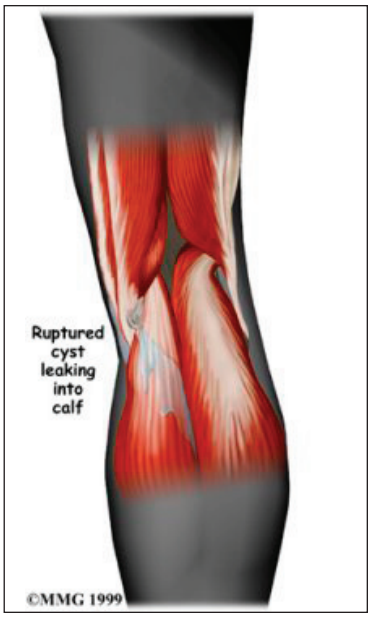
The symptoms caused by a popliteal cyst are usually mild. You may have aching or tenderness with exercise or your knee may feel unsteady, as though it's going to give out. You may feel pain from the underlying cause of the cyst, such as arthritis, an injury, or a mechanical problem with the knee, for instance a tear in the meniscus. Along with these symptoms, you may also see or feel a bulge on the back of your knee. Anything that causes the knee to swell and more fluid to fill the joint can make the cyst larger. It is common for a popliteal cyst to swell and shrink over time.

Sometimes a cyst will suddenly burst underneath the skin, causing pain and swelling in the calf. A **ruptured popliteal cyst** gives symptoms just like those of a blood clot in the leg, called *thrombophlebitis*. For this reason, it is important to determine right away the cause of the pain and swelling in the calf. Once the cyst ruptures, the fluid inside the cyst simply leaks into the calf and is absorbed by the body. In this case, you will no longer be able to see or feel the cyst. However, the cyst will probably return in a short time.

Diagnosis

How do doctors identify a popliteal cyst?

Your doctor will ask you to describe the history of your problem. Then the doctor will examine your knee and leg. A physical exam is usually all that is needed to diagnose a popliteal cyst. Unless the **cyst has ruptured**, further testing is typically not needed.



If the cyst has ruptured, additional tests will be required. Regular X-rays will not show the cyst since it is a soft tissue, and X-rays show mostly bones. A cyst can be seen with a *magnetic resonance imaging* (MRI) scan. The MRI machine uses magnetic waves rather than X-rays to create pictures that look like slices of the area your doctor is interested in. This test requires no needles or special dye and is painless. Your doctor may order an ultrasound test. This test uses sound waves to allow the doctor to see the outline of the cyst and determine whether it is filled with fluid or solid tissue. This is useful in determining whether the lump could actually be a tumor instead of a fluid-filled cyst.

Treatment

What can be done for the condition?

There are two types of treatment for popliteal cysts: surgical and nonsurgical. Whether or not the cyst has ruptured, how painful the cyst has become, or how much it interferes with the normal use of your knee will determine which is the best course of treatment for you. In adults the treatment is most often nonsurgical. If surgery is needed, it is usually done on an outpatient basis, meaning you can leave the hospital the same day. Unless there is a lot of discomfort from the cyst, surgery is rarely required.

Nonsurgical Treatment

Drawing the fluid out with a needle and syringe can reduce the size of the cyst. Then cortisone can be injected into the affected area to reduce inflammation. These are usually temporary solutions, however. Nonsurgical treatment also includes rest and keeping your leg propped up for several days.

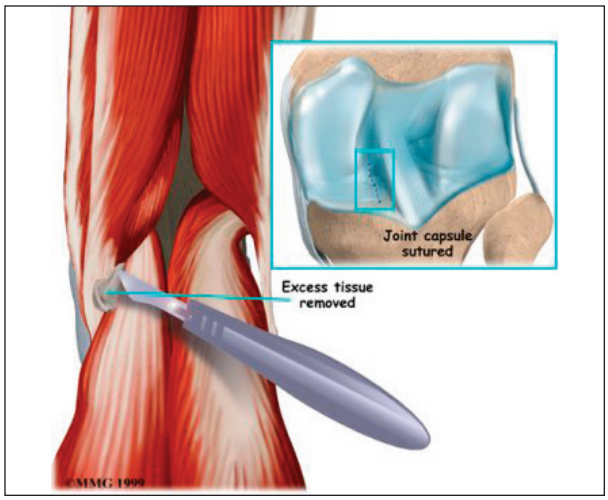
In some cases doctors have their patients work with a physical therapist who uses massage treatments, compression wraps, and electrical stimulation to reduce knee swelling. Flexibility and strengthening exercises for the lower limb may be used to help improve muscle balance in the knee.

Nonsurgical treatments are usually most effective when the underlying cause of the cyst is addressed. In other words, the effects of arthritis, gout, or injury to the knee need to be controlled.

If nonsurgical methods fail, complete removal of the cyst may be needed. Once they are reassured that the cyst is not dangerous, many people simply ignore the problem unless it becomes very painful.

Surgery

The goal of surgery is to remove the cyst and repair the hole in the joint lining where the cyst pushed through. Unfortunately, about half of the time the cyst comes back, or recurs, after being removed. Surgeons are cautious when suggesting surgery to remove a popliteal cyst because they are prone to recur. The cure



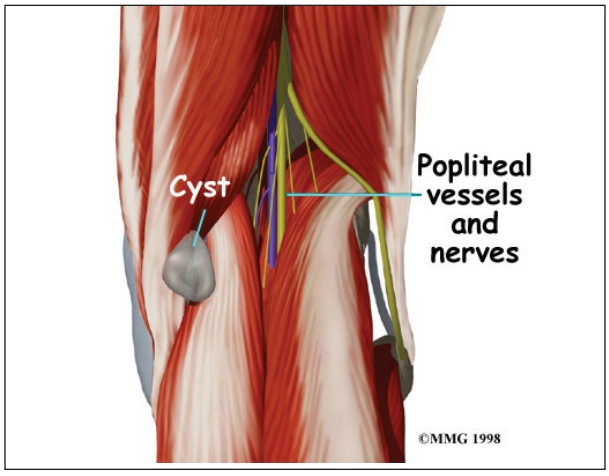
is often permanent, but preventing further cysts depends a great deal on the success of treating the underlying cause. You should be aware that there is a very real chance that your cyst may return after being removed and there is no guarantee that the surgery will be successful.

Surgery can take more than an hour to complete. It is performed either under a *general anesthetic*, which causes you to sleep during the surgery, or using *spinal anesthesia*, which numbs the lower half of your body only. With spinal anesthesia, you may be awake during the surgery, but you won't be able to watch what's happening.

An incision will be made in the skin over the cyst. The cyst is then located and separated from the surrounding tissues. The area of the joint capsule where the cyst appears to be coming from is identified. A synthetic patch may be sewn in place to cover the hole in the joint capsule left by the removal of the cyst.

Your knee will be bandaged with a well-padded dressing and a splint for support. Your surgeon will want to check your knee within five to seven days. Stitches will be removed after 10 to 14 days. You may have some discomfort after surgery, and you will be given pain medicine to control the discomfort.

A popliteal cyst forms very near the **major nerve and blood vessels** of the leg. It is possible that these structures can be injured during surgery. If an injury happens, it can be a serious complication. Injury to the nerves can cause numbness or weakness in the foot and lower leg. Injury to the blood vessels may require surgery to repair them. In addition, it is uncommon but possible that another cyst can occur.



Rehabilitation

What should I expect with treatment?

Nonsurgical Rehabilitation

With nonsurgical rehabilitation, a popliteal cyst may improve in two to four weeks. Improvement, however, depends a great deal on improvement in the underlying condition (the problems that are causing the knee to swell). As long as the joint continues to swell, the size of the cyst will ebb and flow. If the knee is kept from swelling, the cyst won't swell.

Your doctor may have you work with a physical therapist. Treatments such as ultrasound, electrical stimulation, and soft-tissue massage may be used to ease pain and swelling from the cyst.

Therapy sessions sometimes include *iontophoresis*, which uses a mild electrical current to push anti-inflammatory medicine to the sore area. This treatment is especially helpful for patients who can't tolerate injections.

After Surgery

If you have surgery to remove the cyst, you can resume your daily activities and work as soon as you are able. You should keep your knee propped up for several days to avoid swelling and throbbing. Take all medicines exactly as prescribed by your surgeon. Be sure to keep all follow-up appointments.

Your surgeon may want you to use crutches or a cane for awhile. Avoid vigorous exercise for six weeks after surgery. You should be able to resume driving two weeks after surgery. Your surgeon may have you attend physical therapy sessions to regain the strength in your leg.

Notes