

85. Baker's cyst

Last Updated: 8/26/2005

Q:"Last year I suddenly developed severe pain in my left calf and also had some calf swelling. My doctor thought it was a DVT, but a Doppler ultrasound was negative for DVT. They said I had a ruptured Baker's cyst. Can anybody explain what that is?"

A Baker's cyst (also called popliteal cyst) is a fluid-filled structure in the back of the knee. It is named after the English surgeon William Marrant Baker (born 1839-1896; www.whonamedit.com/doctor.cfm/649.html).

The cyst is an outpouching of the knee joint space into the soft tissue of the calf. The outpouching forms because of a weakness of the knee joint capsule. It contains joint fluid (= synovial fluid). It usually forms due to increased pressure of the knee joint fluid in patients with underlying joint disease, such as degenerative arthritis or rheumatoid arthritis.

Baker's cysts are pretty common and often do not cause symptoms. They typically occur in the elderly, but occasionally also in children. They occur in approximately 6 % of healthy individuals older than 50 years, and in 20 % of people with chronic knee pain. Large cysts, more than ca. 2 inches in diameter, may lead to some knee discomfort, such as:

- Impairment of bending of the knee
- Fullness, tightness, or stiffness behind the knee
- A palpable or visible swelling (see figure below)

A cyst may suddenly rupture into the calf muscles. This leads to symptoms that may be indistinguishable from deep vein thrombosis (DVT). Both conditions cause acute calf pain and swelling. However, a ruptured Baker's cyst may lead to bruising at the inner ankle a few days later, a DVT does not. And the swelling associated with a Baker's cyst is limited to the calf, whereas a DVT may also lead to thigh swelling. Cysts not causing symptoms may be diagnosed incidentally by ultrasonography performed for other reasons. A cyst large enough to cause symptoms may be diagnosed on physical examination, by finding a localized swelling behind the knee (see figure). Ultrasonography will show the cyst, as may MRI or CT of the knee. Occasionally, a Baker's cyst compresses the vein behind the knee (popliteal vein), leading to a blood clot in that vein (DVT). Occasionally, it can be difficult to distinguish a clot from a complicated cyst.

Cysts that do not cause symptoms do not need to be treated. Most cysts causing symptoms respond to injections of steroids into the knee joint. Surgical removal is rarely needed.

**References:**

1. Handy JR: Popliteal cysts in adults: a review. *Semin Arthritis Rheum* 2001;31:108-18.
2. Labropoulos N: New insights into the development of popliteal cysts. *Br J Surg* 2004;91:1313-1318.
3. Baker WM: The formation of abnormal synovial cysts in connection with the joints. *Saint Bartholomew's Hospital Reports, London*, 1885;21:177-190.