

# Baker's Cysts

The highlights:

- A Baker's cyst is a common swelling in the medial posterior fossa.
- Commonly, it is secondary to an extension of the synovial space posteriorly, and accordingly will worsen with activities that will worsen a knee effusion
- Given its prevalence and ease of diagnosis, imaging is rarely indicated
- Treatment mainstay is addressing the primary knee pathology (ex: osteoarthritis treatment)

Popliteal synovial cysts are a common sighting in the primary care setting. Commonly known as Baker's cysts, they refer to a swelling in the medial popliteal fossa.

While many patients are often distressed by their appearance, these swellings are benign. Simplistically, Baker's cysts can be explained to the patient as an extension of their knee effusion. As the joint swelling worsens, a posterior extension into the popliteal cyst acts as a reservoir for the effusion.

The diagnosis of a Baker's cyst is typically done clinically. It is typified by a medial popliteal cystic mass that increases in prominence with the knee in full extension and reduces with partial knee flexion.

The differential diagnosis for Baker's cysts includes DVT, tumours (including sarcomas and lymphoma), and popliteal artery aneurysm. These diagnoses should be suspected if the location is atypical (ex: lateral popliteal fossa), the mass is firm or pulsatile, or if there is surrounding erythema, warmth, or tenderness.

Imaging, including X-rays and ultrasound, is only necessary if the diagnosis is uncertain or if another condition is suspected.

The treatment of Baker's cysts typically relies on the treatment of the underlying joint disorder. For osteoarthritis, this involves activity modification, physiotherapy, and bracing when appropriate. When symptomatic, an intraarticular glucocorticoid injection may be indicated with or without prior drainage. As the cyst typically communicates with the joint, there is no need to target the cyst directly. Should this approach fail, an ultrasound-guided direct aspiration and injection of the cyst may be attempted.

Patients should be reminded that the Baker's cyst is likely to recur as their primary joint disorder worsens and the effusion reforms. Accordingly, invasive interventions should be reserved for symptomatic cysts (i.e. pain and stiffness).

Should you or your patient continue to have questions or concerns, a referral to your local sports medicine specialist may be appropriate. A referral to orthopedic surgery may be appropriate following failed interventions for consideration of a cyst resection or joint replacement.

Nitai Gelber, MD, CFPC

PGY-3 Sports and Exercise Medicine, University of Ottawa

Advisor: Dr. Taryn Taylor, BKin, MSC, MD, CCFP (SEM), Dip Sport Med

## References

- Acebes JC, Sánchez-Pernaute O, Díaz-Oca A, Herrero-Beaumont G. Ultrasonographic assessment of Baker's cysts after intra-articular corticosteroid injection in knee osteoarthritis. *J Clin Ultrasound* 2006; 34:113.
- Bandinelli F, Fedi R, Generini S, et al. Longitudinal ultrasound and clinical follow-up of Baker's cysts injection with steroids in knee osteoarthritis. *Clin Rheumatol* 2012; 31:727.
- Chen Y, Lee PY, Ku MC, et al. Extra-articular endoscopic excision of symptomatic popliteal cyst with failed initial conservative treatment: A novel technique. *Orthop Traumatol Surg Res* 2019; 105:125.
- Fritschy D, Fasel J, Imbert JC, et al. The popliteal cyst. *Knee Surg Sports Traumatol Arthrosc* 2006; 14:623.
- Han JH, Bae JH, Nha KW, et al. Arthroscopic Treatment of Popliteal Cysts with and without Cystectomy: A Systematic Review and Meta-Analysis. *Knee Surg Relat Res* 2019; 31:103.
- Handy JR. Popliteal cysts in adults: a review. *Semin Arthritis Rheum* 2001; 31:108.
- Marra MD, Crema MD, Chung M, et al. MRI features of cystic lesions around the knee. *Knee* 2008; 15:423.
- Torreggiani WC, Al-Ismail K, Munk PL, et al. The imaging spectrum of Baker's (Popliteal) cysts. *Clin Radiol* 2002; 57:681.