# Baker's Cyst




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## Pathophysiology

**Due To Enlargement of Bursa Between Gastrocnemius and Semimembranosus Muscles**

Enlarged-balloon between gas-truck and semi-truck-membrane

Baker's cysts are characterized physiologically by enlargement of the gastrocnemius-semimembranosus bursa, which is the fluid-filled sac that lies between these two muscles and serves as a cushion against mechanical stress. Recall that the gastrocnemius is one of the two "calf muscles", and the semimembranosus is one of the "hamstrings". Both muscles insert near the popliteal fossa behind the knee, where Baker's cysts characteristically occur.

**Often Related to Rheumatoid Arthritis or Osteoarthritis**

Roman-king Arthur and Ostrich

Baker's cysts often occur in patients who have underlying inflammatory or degenerative joint disease, especially rheumatoid arthritis and osteoarthritis. This is a result of chronic inflammation that occurs in the knee as a result of these conditions, leading to increased synovial fluid production, which subsequently accumulates in the cyst.

## Clinical Manifestations

**Often Asymptomatic**

Thumbs-up

Baker's cysts are often asymptomatic and only discovered incidentally on MRI or ultrasound performed for other reasons. This is because they tend to remain sufficiently small in size so as not to cause significant discomfort.

**Mass or Swelling Behind Knee**

Swelling behind knee

When patients with Baker's cysts are symptomatic, one of the most common complaints on presentation is a "mass" or "swelling" behind the knee, which consists of the enlarged cyst. This may cause associated leg stiffness and pain, however as many patients with Baker's cysts already experience joint pain related to rheumatoid or osteoarthritis, this may not be brought up as a significant feature on presentation.

**Acute Pain If Rupture**

Rupture-pain-bolts

Cysts that have enlarged sufficiently may undergo rupture, especially if they undergo trauma. If this occurs, patients may present with acute severe pain.

**Crescent Sign**

Croissant next to rupture

Crescent sign refers to a physical exam finding that may be characteristically seen associated with rupture of a Baker's cyst. It is characterized by an area of ecchymosis below the medial malleolus.

## Diagnosis

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**Ultrasound**

Ultrasound-machine

In patients experiencing symptoms for whom you want to establish a diagnosis, ultrasound is the test of choice for diagnosing a Baker's cyst. Baker's cysts will characteristically be seen on ultrasound as an area of fluid collection between the previously mentioned muscles, which will be seen as dark or hypoechoic.

## Management

**Treat Underlying Condition**

Doctor assessing roman-king Arthur and ostrich

For patients who are asymptomatic or mildly symptomatic, Baker's cysts are best managed by managing the underlying condition, such as rheumatoid arthritis or osteoarthritis. This allows for reduction in inflammation and irritation known to cause increased production of synovial fluid that causes enlargement of the cyst.

**Arthrocentesis**

Arthur with cent-syringe in knee

For patients with significant fluid accumulation causing debilitating pain or motion restriction, arthrocentesis may be indicated to remove excess fluid.

**Glucocorticoid Injection**

Glue-bottle-quarter on steroids-syringe

Control of inflammation can be acheived with glucocorticoid injection, which can subsequently lead to symptomatic improvement and reduced risk of recurrence. <br><br>

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