



UNIVERSITY of  
**ROCHESTER**  
MEDICAL CENTER

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### DEPARTMENT OF IMAGING SCIENCES

## Imaging Sciences Interesting Cases

### CASE 37

**A. R. Klekers, MD**

**CLINICAL PRESENTATION:** Patient is a 24-year-old male with right lateral knee pain and effusion after sustaining a twisting injury to the knee playing football.

**IMAGING FINDINGS:** Moderate sized joint effusion is seen. No fracture, dislocation, or significant arthritic changes are present. Enlarged lateral femoral condyle sulcus is evident well consistent with the clinical diagnosis of ACL injury.



**Figure 1 A&B**

### **DIAGNOSIS: ACL INJURY**

**DISCUSSION:** This study demonstrates the lateral femoral notch sign. This has been described as an indirect sign of torn ACL. It is best seen on the lateral radiograph and is characterized by an abnormally deep depression of the lateral condylopatellar sulcus. Normally this is a shallow groove notch that indicates an impacted osteochondral fracture or a localized chondral or transchondral abnormality overlying the lateral femoral notch. This has been observed with torn ACL.

Depth of lateral femoral notch can be measured on lateral radiograph by drawing a tangent line across the sulcus on its articular surface of the lateral femoral condyle. Measure depth perpendicular to line at deepest point. Depending on the study it has been suggested that a notch greater than 1.5-2.0 mm is highly suggestive of ACL injury. Limitation of the sign remains distinguishing a prominent but normal lateral femoral notch from a shallow impacted fracture of the sulcus. This sign is important to recognize so that

further evaluation can be performed with MRI to confirm ACL injury.

**REFERENCES:**

1. Pao DG. The lateral femoral notch sign. Radiology. 2001 Jun;219(3):800-1. [PubMed]
2. Cobby MJ, Schweitzer ME, Resnick D. The deep lateral femoral notch: an indirect sign of a torn anterior cruciate ligament. Radiology. 1992 Sep;184(3):855-8. [PubMed]