

# Repair of Partial Articular (Hoffa) Fracture of the Distal Femur Using a Posterolateral Approach

Ajay Chakravarthy Kanakamedala, Dylan T Lowe, Kenneth A Egol<sup>1</sup>

<sup>1</sup>NYU Langone Medical Center

## Background

Hoffa fractures are intra-articular fractures of the posterior femoral condyle in the coronal plane. These fractures are important to recognize because they require separate fixation outside of medial/lateral plates. Surgical management typically is indicated for these fractures because of the intra-articular and unstable nature of these fractures and the risk of displacement. Multiple surgical approaches can be used for the management of these injuries, depending on associated injuries. For isolated lateral Hoffa fractures, a posterolateral approach can be used. Fixation is attained with the use of posterior-to-anterior lag screws, which is associated with biomechanical properties superior to those of anterior-to-posterior screws. A posterolateral approach also allows for supplemental anti-glide plate fixation.

## Purpose

This video demonstrates repair of a Hoffa fracture via a posterolateral approach with lag screw and anti-glide plate fixation.

## Methods

The anatomy of, pathogenesis of, diagnosis of, and treatment options for Hoffa fractures are reviewed. The case presentation of a 45-year-old man with a lateral Hoffa fracture is reviewed. After a thorough discussion of the risks, advantages, and prognosis, the patient elected to proceed with repair of the partial articular distal femur fracture to decrease his risk of posttraumatic arthritis and instability.

## Results

With the patient in the prone position, a posterolateral approach to the distal femur was carried down to the fracture site, using the interval between the iliotibial band and the biceps femoris muscle. The fracture was anatomically reduced and fixed with the use of two posterior-to-anterior 6.5-mm headless compression screws followed by a 3.5-mm reconstruction plate applied in anti-glide and neutralized fashion. At 6-week follow-up, the repair was maintained clinically and radiographically, and the patient had range of motion from 0° to 80°.

## Conclusion

The posterolateral approach is a viable surgical treatment option for isolated lateral Hoffa fractures and can provide fixation biomechanically superior to that of anterior approaches. This treatment option is preferred for isolated lateral Hoffa fractures and offers good functional results; however, early range of motion must be encouraged to minimize the risk of arthrofibrosis.