How I Do...fixation of Hoffa Fractures

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Based on a tip from Mr Joel Melton.

Coronal fractures of the femoral condyle are rare injuries and were first described by Hoffa in 1904. They account for 0.65% of all femoral fractures\(^1\) with 78-85% being of the lateral femoral condyle (Figure 1).\(^1\) Medial and bi-condylar fractures have also been described but are rarer. These are high-energy fractures, involving the weight bearing part of the joint and are susceptible to displacement on axial loading and knee flexion. If treated non-operatively there is a high rate of non-union; therefore surgical fixation is usually indicated.

The aim of surgery is to anatomically reduce the fragment and fix it with absolute stability. There are several techniques described in the literature with the majority of case series using medial or lateral para-patellar approaches. Direct lateral, Swashbuckler and Gerdy’s tubercle osteotomies have also been described\(^2\).

We suggest a posterolateral approach to the knee to fix lateral Hoffa fractures. These fractures are often associated with injuries of the lateral collateral ligament and posterolateral corner. This approach allows ligamentous reconstruction to be performed at the same sitting.

The posterolateral approach (Figure 2) is best performed with the knee flexed. A curvilinear incision is made lateral to the edge of the patella down to Gerdy’s tubercle. The plane between the illotibial band anteriorly and biceps femoris tendon posteriorly can be used as one ‘window’ to assess reduction and the plane between biceps femoris and the common peroneal nerve as another more posterior ‘window’ for access which enables screw fixation.

The fracture is reduced using large pointed reduction clamps and a visual check can ensure congruity of the articular surface. Fixation of the fracture is achieved using headless compression screws or countersunk small fragment screws in a posterior to anterior direction (Figure 3). Posterior to anterior lag screws provide better biomechanical fixation, when compared to anterior to posterior fixation from an anterior approach.

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References:

References can be found online at www.boa.ac.uk/publications/JTO or by scanning the QR Code.
References