

Complex Monteggia Fractures

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Hypothesis

The spectrum of Monteggia fractures can range from isolated fractures of the proximal ulna to associated fractures of the coronoid and the radial head and concomitant ulnohumeral dislocation. Proper technique with regard to attaining anatomic ulnar fixation is key to maximizing patient outcomes.

Case Overview

This video discusses the case presentation of an 81-year-old woman who sustained a mechanical fall onto her left elbow and presented with a grade I open comminuted Monteggia fracture.

Technique

The patient was positioned supine with use of a arm holder to facilitate ease of intraoperative fluoroscopy. A posterior approach to the elbow was utilized. In patients with a comminuted ulnar fracture, such as this patient, the posterior cortex is reconstructed, after which the anterior coronoid fragments are reduced to the posterior cortex. A large, pointed reduction clamp was placed anterior to posterior to prevent displacement during screw and plate placement. By raising a thick flap, a lateral approach could be used to manage the radial head, with care taken to also repair the lateral collateral ligament. The patient's arm was placed into a posterior slab splint, and the patient was allowed to initiate elbow motion at 2 weeks postoperatively.

Results

In the experience of the 25 Monteggia fractures managed by the authors of this video, a mean 110° arc of elbow flexion-extension was achieved postoperatively, with mean Disabilities of the Arm, Shoulder and Hand scores ranging from 10 to 15 and a mean Mayo Elbow Performance Index score of 85. For complex Monteggia fractures, anatomic reduction was attained in 89% of patients. The revision rate, including revision for persistent ulnohumeral instability and formation of heterotopic ossification, was 35%.