

Arthroscopic Elbow Osteocapsular Débridement Plus Single-Incision Cubital Tunnel and Posterior Capsule Release

Constance Marie Sullivan, Kevin Ryan Cuneo, John Kopriva, Hayden Latimer Cooke¹, Eric R Wagner, Michael Brandon Gottschalk

¹Emory University

Case Overview

This video discusses the case presentation a 51-year-old man with 15 years of chronic, progressive left elbow stiffness and limited range of motion. The patient denied prior traumatic injuries or inciting events. The patient reported a visual analog pain score of 8 out of 10 and an elbow subjective value of 51%. On physical examination, the patient had 90° of elbow flexion, 35° of extension, and near full pronation and supination. Preoperative radiographs demonstrated advanced arthritis throughout the left radiocapitellar and ulnotrochlear joints, including osteophyte formation and loose bodies. After failed nonsurgical treatment via steroid injections and physical therapy, the patient elected to undergo arthroscopic osteocapsular débridement, contracture release, loose body removal, and in situ cubital tunnel release.

Method/Technique

Diagnostic elbow arthroscopy began by establishing a proximal anteromedial portal, situated anterior to the intermuscular septum and 2 cm proximal to the medial epicondyle, for viewing. A radial portal, located between the radial head, lateral epicondyle, and tip of the olecranon, was then established as a working portal. Extensive débridement of the anterior elbow joint and the anterior capsule was performed, including removal of multiple loose bodies. Focus then shifted posterior by passing the camera in the radial viewing portal around the lateral epicondyle and into the posterior joint space and then by creating a posterior viewing portal in the triceps tendon 3 cm proximal to the olecranon tip. Next, a posterolateral portal, located 1 cm anterior to the center of the line between the lateral epicondyle and the olecranon on the triceps tendon border, was created as a working portal for posterior débridement and additional loose body removal. Finally, a standard posteromedial incision was made for cubital tunnel release. The ulnar nerve was identified and decompressed in situ. Through this incision, final posterior capsule release and débridement were performed.

Results

The patient's pain was markedly improved at 6-week follow-up, and range of motion improved to 125° of flexion, 30° of extension, 80° of supination, and 80° of pronation.

Summary

Arthroscopic osteocapsular débridement is a minimally invasive and effective treatment option for patients with chronic limited motion of the elbow in the setting of diffuse osteoarthritis and loose bodies. Concomitant cubital tunnel release allows for additional posterior débridement and capsular release via the same incision.