Salvaged total elbow arthroplasty following ulnar component loosening with 9 year follow up.

Author(s): AJ Terlecky DO, HB Bamberger DO, T Graham MD

Affiliation: Grandview Hospital, Dayton, OH

Introduction: Total elbow arthroplasty has proven to be a reasonable option for treatment of inflammatory arthropathy, posttraumatic osteoarthritis, acute distal humerus fractures and humerus nonunions. There is a minimal amount of literature to guide the treatment of periprosthetic fractures or loosening of the total elbow arthroplasty. Revision of the ulnar component with allograft has been a reasonable option, however results have been variable and multiple complications have been noted (1). Cement-within-cement prosthesis has proven to be an option to relieve pain and restore function of humeral component fractures, but to our knowledge there is no literature supporting ulnar revision with this technique (2). In our experience, revision of total elbow arthroplasty from the ulna to the radius has provided another option with a good outcome.

Methods: A 73 year old patient presented to the office status post total elbow arthroplasty 7 years prior to presentation. The patient had the complaint of severe pain diffusely throughout the elbow. X rays revealed a significant amount of osteolysis resulting in ulnar component loosening. It was determined that the extent of the ulnar loosening would not respond well with revision arthroplasty with allograft. The patient underwent a revision of the ulnar component into the radius without complication.

Results: The patient had a preoperative extension lag of 30 degrees and decreased supination of 15 degrees. After the operation, she was placed into a long arm cast in neutral position for six weeks followed by physical therapy at that time. At one year followup, she had adequate flexion/extension with minimal pronation/supination which was an expected result. Her clinical exam remains unchanged at 9 year follow up with satisfactory prosthesis alignment. The patient reports no pain and is satisfied with her outcome.

Discussion: Ulnar component failure status post total elbow arthroplasty has posed a difficult circumstance for the orthopedic surgeon. If the ulna is not salvageable for a revision, few options exist prior to an elbow fusion. Through our experience, converting the ulnar component into the radius has yielded satisfactory outcomes in regards to pain relief while maintaining a functional joint.

References