

Editorial Commentary: Arthroscopic Elbow Arthritis Treatment With Osteocapsular Debridement Yields Favorable Results: On Second Thought, the Elbow Isn't That Unforgiving



S. Joshua Szabo, M.D., Editorial Board

Abstract: The elbow has been referred to as the unforgiving joint. Arthroscopy for treating elbow arthritis is both challenging and rewarding. Most joints require arthroplasty for treatment of arthritis, but the elbow is amenable to osteocapsular debridement. This is especially beneficial when elbow arthroplasty options have high complication rates and the need for permanent physical limitations. Thus, when treating arthritis, the elbow is more forgiving than once thought.

See related article on page 747

The elbow has a predilection for stiffness, and the neurovascular anatomy makes surgical access more challenging than other joints. It is a joint that several of my colleagues avoid treating. Elbow arthritis typically occurs in a younger population, the fourth and fifth decades, who often engages in physically demanding tasks at either work and/or recreation.¹ When joints degenerate with arthritis, they typically require prosthetic arthroplasty for alleviation of pain and restoration of function. Unfortunately, elbow arthroplasty has a high rate of mechanical failure, necessitating permanent activity limitations, and is not an ideal treatment option for this active population.² In their study in this issue, "A Systematic Review of Arthroscopic Versus Open Debridement of the Arthritic Elbow,"³ White, Ravi, Watson, Baghrinarayanan, and Phadnis performed a thorough systematic review, concluding that elbow arthritis treatment can have favorable results with osteocapsular debridement procedures.

The study by White et al. included 42 articles and 1097 elbows, reviewing procedure type, outcome scores, range of motion, pain scores, complications, and

satisfaction. In addition, it employed MINORS (methodological index for non-randomized trials) to assess scientific quality and risk of bias. Nearly all of the articles were level IV (39), 3 were level III, and there were no level I studies. The study showed no superiority of either open or arthroscopic techniques. It concluded comparable and significant improvement in outcome scores, significant decrease in pain scores, and similar overall complication rates. Each group gained significant motion; however, range of motion arcs were decreased in the individuals who underwent open procedures, suggesting selection bias. There was a 6% overall complication rate, with neurologic being the most frequent and comparable between the 2 groups. The ulnar nerve was the most commonly involved nerve. Rates of superficial infection, hematoma, and heterotopic ossification were also comparable, but there were no deep infections or ankylosis in the arthroscopic group as in the open group. This information is the strength of the study and invaluable to the clinician during preoperative discussions when risks are explained and expectations defined.

The study fell shy in differentiating differences in operative time, cost, postoperative pain, returns to work/sport, recovery time, and longevity of benefit, all of which may determine which procedure is superior. In addition, there was no guidance in managing the ulnar nerve or radial head. Thus, the approach for treating elbow arthritis is at the discretion of the treating physician.

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A weakness of the study was how motion gains were reported as flexion–extension arcs, not discrete flexion and extension values. Notably, flexion gains are more challenging to achieve. Guerrero et al.⁴ performed a similar systematic review, including 30 studies and 887 elbows. The findings and conclusions were similar; this study reported postoperative mean flexion of 128° for the arthroscopic group and 123° for the open group. Neither flexion would be considered functional range of motion.

Systematic reviews have strengths and weaknesses. Elbow arthritis treatment is not overly represented in the existing literature; therefore, pooling the existing data can be of great benefit as in this study. However, conclusions drawn from such pool data are only as strong as the individual studies.

Arthroscopic management of elbow arthritis is technically challenging and requires a masterful understanding of the 3-dimensional anatomy of the normal elbow and the deformity unique to the patient being treated; these cases are some of the most rewarding for me. Arthroscopy may have a longer operative time than open techniques but should afford better visualization, cause less tissue disruption and less subsequent scar, and likely quicker return to activities and work. However, I would be reluctant to recommend to a colleague treating elbow arthritis to do so arthroscopically if they were not facile and comfortable with simpler arthroscopic procedures. It is useful to know

that open techniques have comparable outcomes, bringing comfort to both the clinician and the patient if the decision is made to convert from arthroscopic to open technique.

Osteocapsular debridement, a non-arthroplasty option, proves to be safe and effective in treating patients with elbow arthritis. The elbow, at least pertaining to arthritis, seems more forgiving now. I encourage further learning of elbow arthroscopy through Arthroscopy Association of North America laboratory courses offered at the Orthopaedic Learning Center in Rosemont, Illinois. I also encourage further studies, likely multicenter, to further study this topic.

References

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