

Editorial Commentary: Ulnar Collateral Ligament Repair With Suture Augmentation May Be Superior to Reconstruction for Proximal or Distal Tears With Good- Quality Tissue



Brandon J. Erickson, M.D.

Abstract: Ulnar collateral ligament (UCL) tears in the elbow have been rising in recent years, most specifically in baseball players. Although many of these tears occur in professional (minor and major league) baseball pitchers, there has been a dramatic rise in UCL injuries in adolescents, at a rate of 9% per year. Although some UCL tears can be treated conservatively, those that fail conservative treatment often require surgical intervention to allow players to return to sport. Although UCL reconstruction has been the gold standard in surgical treatment for many years, UCL repair with suture augmentation has grown in popularity. Initial results of UCL repair with suture augmentation have been promising, and a recent review comparing UCL repair with suture augmentation from both a biomechanical and clinical outcome perspective confirms that UCL repair may be superior to reconstruction for patients with proximal or distal tears and good quality UCL tissue for repair.

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Recent data have shown that the number of ulnar collateral ligament (UCL) tears and UCL surgeries is rising. Camp et al.¹ reported on the injuries in professional baseball players and noted a significant number of UCL tears over the course of their study. Similarly, we used a database to report the number of UCL surgeries and found an average annual growth of 4.2% and the incidence of UCL reconstruction in the 15- to 19-year-old group increased at an average rate of 9.12% per year.² Several other studies have evaluated the increase in UCL injuries and surgery, and pretty much all of them have come to the same conclusion: UCL injuries are a problem. However, just identifying the problem is not enough. We as an orthopaedic sports medicine community need to solve this problem, either with injury prevention or by performing successful surgery so almost all of these players who suffer UCL injuries to return to sport (RTS) at a high level.

Although UCL reconstruction has been around now for some time and has been widely accepted as the gold

standard for surgical treatment of UCL injuries, UCL repair has been revived in the last 10 to 15 years by Drs. Savoie, Dugas, and others. Savoie et al.³ restarted the conversation about repair when they published the results of 60 primary UCL repairs and found a 97% RTS rate at 6 months. Dugas et al.⁴ furthered this conversation with the addition of the Internal Brace (Arthrex, Naples, FL) to the UCL repair, in which they published biomechanical as well as clinical results showing improved biomechanical properties of UCL repair compared with UCL reconstruction and a 92% RTS rate in 111 overhead athletes treated with UCL repair with Internal Brace augmentation.^{4,5} Given the improved rate of RTS of UCL repair compared with UCL reconstruction, which is largely cited in the 80% to 85% range, the number of UCL repairs has continued to rise.⁶

The current systematic review by Spears, Parikh, Chalmers, Smith, Freehill, and Bowman,⁷ titled “Elbow Ulnar Collateral Ligament Repair With Suture Augmentation Is Biomechanically Equivalent to Reconstruction and Clinically Demonstrates Excellent Outcomes: A Systematic Review,” nicely illustrates the advantage of UCL repair with suture augmentation both biomechanically and clinically when performed in the correct patient. When evaluating multiple

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studies, the authors found less gapping with UCL repair compared with UCL reconstruction, with excellent RTS rates. The authors of the current study astutely emphasize that the current research on UCL repair has been confined to select patients with good-quality UCL tissue and proximal/distal tears. However, in this cohort, the current review provides very encouraging results. Further work will now need to be done to determine whether UCL repair with suture augmentation is a viable treatment option for patients with midsubstance tears or in patients whose ligament quality is suboptimal. We must remain diligent when evaluating these patients who have undergone UCL repair with suture augmentation to confirm the short- and mid-term results hold true in the long term.

Disclosure

The author declares the following financial interests/ personal relationships which may be considered as potential competing interests: American Academy of Orthopaedic Surgeons, American Orthopaedic Society for Sports Medicine, and American Shoulder and Elbow Surgeons: board or committee member. Arthrex: paid consultant; research support. DePuy, a Johnson & Johnson Company, and Linvatec: research support. PLOS One: editorial or governing board. Smith & Nephew and Stryker: research support.

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