

## Operative Treatment of Elbow UCL Insufficiency Using the Docking Technique: Improving Outcomes in Adolescent Athletes

Kristofer J. Jones, MD, USA  
Joshua Dines, MD, USA  
Brian J. Rebolledo, MD, USA  
Kenneth D. Weeks, MD, USA  
Riley J. Williams, MD, USA  
David Dines,  
David W. Altchek, MD, USA

Hospital for Special Surgery  
New York, NY, USA

### Summary:

Previous reports suggest clinical outcomes in teenage athletes may be inferior to results in higher-level adult athletes. We hypothesized that UCL reconstruction using the docking technique would result in improved outcomes in adolescent athletes.

### Abstract:

#### Introduction:

The incidence of ulnar collateral ligament (UCL) insufficiency of the elbow has drastically increased in the adolescent population over the last decade due to widespread participation in overhead athletics. Previous reports suggest clinical outcomes in teenage athletes are inferior to results in higher-level adult athletes. We hypothesized that UCL reconstruction using the docking technique would result in improved outcomes in this age group.

#### Materials and Methods:

We identified 55 skeletally mature, adolescent athletes (mean age 17.6 years, range 15-18 years) that underwent UCL reconstruction between 2008 and 2010. While the majority of patients were baseball players (n=47), there were three gymnasts and five javelin throwers included in the study. Each patient underwent UCL reconstruction utilizing the docking technique following an adequate trial of nonoperative management (mean 5.8 months). At the latest follow-up, patients were evaluated to determine their ability to return to athletic activity. Clinical outcomes were classified using the Conway Scale, the Andrews-Timmerman Score, and the Kerlan-Jobe Orthopaedic Clinic (KJOC) Score.

#### Results:

At minimum two-year follow-up, 87% (48/55) of patients had excellent results using the Conway Scale. Overall, there were only two poor results (3.6%) that were observed in patients with concomitant osteochondritis dissecans (OCD) lesions of the capitellum. There were four postoperative complications in four patients (two gymnasts and two javelin throwers) who developed ulnar neuritis following UCL reconstruction. The average Andrews-Timmerman score was 83.6 (range, 30-100 SD±7.2) and the mean KJOC score was 88 (range, 40-100 SD±6.0).

#### Conclusion:

The docking technique results in favorable clinical outcomes in adolescent athletes with UCL insufficiency at a minimum of two years postoperatively. Overall, results were better than previously published reports in teenage athletes and this may be attributed to technique specific factors. Patients with concomitant intraarticular pathology should be counseled preoperatively that they might experience inferior clinical outcomes. Postoperatively, adolescent gymnasts and javelin throwers may be at increased risk for transient ulnar nerve paresthesias due to increased stress on the medial elbow.