

compared pre- and postoperatively for pitchers who returned to greater than or equal to one MLB game following revision surgery to age- and position-matched controls.

**Results:** Since 1999, 235 MLB pitchers underwent Tommy John Surgeries; 31 pitchers (13.2%) underwent revision surgery. 37% underwent revision within 3 years of their index procedure. 26 revisions had more than 2-year follow up; 17 pitchers (65.4%) returned to pitch at least one major league game while only 11 pitchers (42.3%) returned to pitch ten or more games. Of those who returned to MLB competition, the average length of recovery was 20.76 months. Compared to age- and position-matched controls, MLB pitchers undergoing revision surgery had a statistically shorter career following revision surgery (4.9 vs 2.6 seasons,  $p = 0.002$ ), and pitched fewer innings and total pitches per season.

**Conclusion:** The rate of revision Tommy John surgery is substantially higher than previously reported. For MLB pitchers, return to play after revision surgery is much lower than after primary reconstruction. Overall, the durability of MLB pitchers following revision UCL reconstruction decreases significantly compared to age- and position-matched controls.

### Two Modified Anterolateral Portals in Elbow Arthroscopy: A Cadaveric Study

SS-44

April 15, 1:45 PM

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**Introduction:** To analyze the placement of two modified anterolateral portal sites in elbow arthroscopy and demonstrate the safety of each with respect to portal sites proximity to the radial nerve.

**Methods:** Twelve fresh cadaveric elbow specimens (6 matched pairs) were prepared, anatomic landmarks were marked, and 4mm Steinman pins were inserted into three anterolateral portal sites in relation to the lateral epicondyle: 1) proximal, 2cm proximal and 2cm anterior 2) direct anterior, 2cm anterior 3) distal, 3cm distal and 1cm anterior. Each elbow was then dissected to reveal the course of the radial nerve. Digital photographs were taken of each specimen and the distance from the Steinman pin and the radial nerve was measured.

**Results:** Our proximal and direct anterior portal sites were found to be an average of 11.1mm and 13.8mm from the radial nerve, respectively. Similar to past studies we found the original distal anterolateral portal, as described by Andrews and Carson, in close proximity to the radial nerve, an average distance of 4.5mm. The distal anterolateral portal came in contact with the radial nerve 40% of the time, with 3 total Steinman pins piercing the nerve. There was a statistically significant difference in the distance between our proximal and distal anterior portals, as well as, our direct anterior and the distal

portals to the radial nerve. No significant difference was found between the distance of the proximal and direct anterior portal sites.

**Conclusion:** Our two modified, proximal and direct anterior, anterolateral portal sites should be considered safe and provides the surgeon with an adequate distance between the arthroscope and the radial nerve with little risk of iatrogenic injury. The distal portal puts the radial nerve at the most risk for iatrogenic injury. Our two modified anterolateral portal sites should be considered for use when performing elbow arthroscopy.

### Primary Repair of Traumatic Distal Bicep Ruptures: Effect of 1 vs. 2-Incision Technique

SS-45

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**Introduction:** There is no consensus on the optimal method for surgical management, and rates of perioperative complications and re-rupture may vary widely. The purpose of this study was to determine success of distal biceps repair in active cohorts.

**Methods:** All U.S. military servicemembers undergoing primary surgical repair for confirmed distal biceps rupture through the Military Health System were isolated between 2007-2013. Demographic variables (age, gender, and hand dominance) and surgical variables [time to surgery, surgical technique (e.g. single- vs. two-incision), method of fixation] were extracted. Rates of perioperative complications, recurrent distal biceps rupture, reoperation, and revision repair were evaluated.

**Results:** A total of 303 surgical repairs were performed for traumatic distal biceps rupture, including 19% for subacute or chronic ruptures (e.g. >30 days after injury). The cohort was exclusively male with an average age of 39 years (range, 20-61). The median time to the surgery was 13 days (range, 1-365) and the majority of cases were performed using a single-incision volar technique (77%). Cortical button accounted for at least 87% of all repairs, as opposed to suture anchors (8.3%) and interference screw fixation (4.4%). At an average 51-month follow-up, a total of 46 complications (15%) occurred, including traction neuropraxia ( $n=24$ ; 7.9%), lateral antebrachial cutaneous nerve ( $n=13$ ; 4.3%), recurrent rupture ( $n=10$ ; 3.3%), heterotopic ossification ( $n=8$ ; 2.6%), superficial infection ( $n=2$ ; 0.7%), radial neck fracture ( $n=1$ ; 0.3%). When compared to two-incision technique (11.9%), complications were not significantly greater with single-incision repairs (19.7%;  $p=0.22$ ). Similarly, the rate of re-rupture after primary repair with one- ( $n=8$ ; 4.0%) and two-incision ( $n=2$ ; 3.4%) was not significantly different ( $p=0.82$ ). Only two patients underwent medical discharge due to persistent elbow pain after surgery (0.7%).

**Conclusion:** There were no statistically significant differences in the rate of complications and/or re-rupture after single or two-incision distal biceps repair. In an active