Outcomes Of Radial Head Arthroplasty. A Multicenter Analysis of 405 Cases

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Summary:
A review of 405 radial head arthroplasty found excellent survival and direct correlation of revision with increasing size of radial head diameter.

Data:
Introduction: Radial head arthroplasty (RHA) is a commonly performed procedure for the treatment of comminuted radial head fractures. Indications as well as implant types continue to evolve. RHA has had good outcomes with respect to pain relief, range of motion, elbow stability, and mid-term longevity. The current literature is limited to small case series with varying implant types and short-term outcomes. We present a large series of patients from a single institution who underwent RHA and report on complications, revisions, and outcomes. Methods: After IRB approval, a retrospective analysis of RHA cases performed by 75 surgeons at 14 medical centers in an integrated healthcare system between 2006 and 2017 was completed. Patient demographics, comorbidities, implant type, implant head size, and indications were recorded. Patients were contacted via telephone at a minimum of 2 years to obtain QuickDash and Oxford scores. Results: Our study found that revision rate was positively correlated with increasing radial head size. A 26 mm head had 7.7 odds of revision compared to a size 18 mm head (95% CI 1.2 to 150.1). Over 95% of revision cases were performed within the first 36 months of the index procedure. There was a significantly higher overall re-operation rate for terrible triad (18.4%) versus isolated injuries (10.4%), p=0.04. There was no difference between Acumed Anatomic and Wright Medical Evolve radial head implants in overall re-operation, implant revision, post-operative range of motion, or patient-reported outcomes for either isolated or terrible triad injuries. There was no difference in QuickDash or Oxford scores between controls and smokers, diabetics, or those with a psychiatric diagnosis. Obese patients had a significantly lower mean post-operative Oxford score (35.5) compared to controls (38.3), p=0.02, but no significant difference in QuickDash (22.1 vs 19.1, p=0.067). Conclusions: This is the first paper in the literature to demonstrate that the risk of revision is directly correlated with implanted radial head size. There were no differences in outcomes and complications between the two main implants used. Individuals who did not undergo a revision by 3 years’ time tend to retain the implant. Terrible triad injuries had a higher all-cause re-operation rate than isolated radial head fractures, but no difference in the rate of RHA revision. These data reinforce the practice of downsizing radial head implants when deciding on a radial head implant intra-operatively.

Category: Elbow/Wrist/Hand

Does Prehabilitation Prior to Ulnar Collateral Ligament Surgery Affect Return to Sport Rate or Time in Baseball Pitchers with Partial UCL Tears?

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Summary:
Prehabilitation prior to UCL surgery has been found to improve return to sport rates. However, the effects of prehabilitation on return to sport (RTS) time in baseball pitchers with partial UCL tears is not well understood. The purpose of this study was to determine whether baseball players with partial UCL tears who performed at least 4 weeks of prehabilitation prior to surgery (Prehab) had better post-operative outcomes and quicker return to sport (RTS) time than players who attempted 0-3 weeks of physical therapy prior to UCL surgery (No Prehab). Methods: Baseball players of all competitive levels who underwent primary UCL reconstruction (UCLR) or UCL repair for partial-thickness UCL tears from 2010-2019 were included. Physician chart notes and operative notes were screened to identify whether preoperative conservative treatment was attempted. Patients were contacted via RedCap to collect postoperative outcomes (reoperation, revision, complications) and patient-reported outcomes (RTS, Kerlan-Jobe Orthopaedic Clinic [KJOC] score, Andrews-Timmermann score, satisfaction). Results: Overall, 105 baseball pitchers were included (50 Prehab vs. 55 No Prehab) followed up at 3.4 ± 2.5 postoperatively. Six pitchers underwent UCL repair, and 99 pitchers underwent UCLR. All demographics were similar between groups except the Prehab group more frequently received a gracilis graft (77% vs. 51%, p=0.038). RTS rate (Prehab: 88.1% vs. No Prehab: 93.8%, p=0.465) and RTS duration (12.8 ± 5.2 months vs. 14.0 ± 4.1 months, p=0.307) were similar between groups. All other postoperative outcomes were also similar between groups, including revision rates and patient-reported outcomes. Conclusions: Baseball players who attempt rehabilitation prior to UCL surgery have similar post-operative outcomes compared to baseball players who do not attempt rehabilitation prior to surgery. Preoperative rehabilitation may not be necessary in baseball players undergoing operative UCLR/UCL repair; however, rehabilitation still plays an important role in players who may succeed without surgery.

Category: Elbow/Wrist/Hand

CT Sagittal Image Evaluation for Osteochondritis Dissecans of the Elbow Correlates with Clinical Outcomes of Arthroscopic Debridement in Adolescent Baseball Players

Abstract ID# 21750

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Summary:
Posterior or large osteochondral defects of the humeral capitellum on preoperative reconstructed CT sagittal images were associated with poor outcomes of arthroscopic debridement for capitellar OCD in adolescent baseball players. Data: Objectives: To investigate the relationship between size and location of osteochondral defects in capitellar osteochondritis dissecans (OCD) measured on coronal and sagittal reconstructed computed tomography (CT) images and the clinical outcomes of arthroscopic debridement in adolescent baseball players. Methods: This retrospective study investigated the clinical outcomes of arthroscopic debridement for capitellar OCD in adolescent baseball players with at least 24 months of follow-up after surgery between 2008 and 2020. Outcome measures were determined using the Timmerman–Andrews score at the latest follow-up. On a preoperative reconstructed CT coronal image, defect size (%) was described as the length of the defect relative to the length of the capitellum. On a preoperative reconstructed CT sagittal image, the superior and inferior angles (degrees) were used to describe the location of the defect. Defect angle (degrees) was used to describe the size of the defect on the sagittal plane. Spearman’s rank correlation coefficient was used to examine relationships between the Timmerman–Andrews score and each of the parameters of defect size, superior and inferior angles, and defect angle as well as between each Timmerman–Andrews sub-score and these parameters. Significance was established at p < 0.05. Results: Anya Hall BS UNITED STATES
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Summary:
Baseball players who attempt rehabilitation prior to UCL surgery have similar post-operative outcomes compared to baseball players who do not attempt rehabilitation prior to surgery.

Data:
Background: The benefits of prehabilitation have been studied and implemented for ACL surgery, but have not been evaluated for UCL surgery. Therefore, the purpose of this study was to determine whether baseball players with partial UCL tears who performed at least 4 weeks of prehabilitation prior to surgery (Prehab) had better post-operative outcomes and quicker return to sport (RTS) time than players who attempted 0-3 weeks of physical therapy prior to UCL surgery (No Prehab). Methods: Baseball players of all competitive levels who underwent primary UCL reconstruction (UCLR) or UCL repair for partial-thickness UCL tears from 2010-2019 were included. Physician chart notes and operative notes were screened to identify whether preoperative conservative treatment was attempted. Patients were contacted via RedCap to collect postoperative outcomes (reoperation, revision, complications) and patient-reported outcomes (RTS, Kerlan-Jobe Orthopaedic Clinic [KJOC] score, Andrews-Timmermann score, satisfaction). Results: Overall, 105 baseball pitchers were included (50 Prehab vs. 55 No Prehab) followed up at 3.4 ± 2.5 postoperatively. Six pitchers underwent UCL repair, and 99 pitchers underwent UCLR. All demographics were similar between groups except the Prehab group more frequently received a gracilis graft (77% vs. 51%, p=0.038). RTS rate (Prehab: 88.1% vs. No Prehab: 93.8%, p=0.465) and RTS duration (12.8 ± 5.2 months vs. 14.0 ± 4.1 months, p=0.307) were similar between groups. All other postoperative outcomes were also similar between groups, including revision rates and patient-reported outcomes. Conclusions: Baseball players who attempt rehabilitation prior to UCL surgery have similar post-operative outcomes compared to baseball players who do not attempt rehabilitation prior to surgery. Preoperative rehabilitation may not be necessary in baseball players undergoing operative UCLR/UCL repair; however, rehabilitation still plays an important role in players who may succeed without surgery.

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