of this technique are still under investigation. The purpose of the present study was to characterize the in-vitro contact pressures in the acetabulum in the normal intact state, anterosuperior labral resection, and labral reconstruction with ITB autograft. Our null hypothesis is that there will be no significant differences between the groups.

**Methods:** We performed a comparative biomechanical analysis of 4 fresh-frozen human cadaver pelvis, stripped of all soft tissue and ligaments attachments to the hip. A Tekscan contact pressure mapping system (Tekscan, Boston MA) was applied with the acetabular recess to measure peak force, contact area and pressure within the entire distribution of the acetabulum. Each hip was measured in the normal intact state, after labral resection from the 12 o’clock to 3 o’clock position, and after labral reconstruction with ITB autograft application with 3 PEEK suture anchors with a mattress suture configuration. Calculations were performed throughout the natural range of motion after verification of a suction seal and with measurements taken in extension and flexion. Statistical analysis was via a Kolmogorov-Smirnov test and ANOVA, with significance set at 0.05.

**Results:** There was a statistical significant elevation in mean acetabular contact pressure (N/mm3) in flexion at the anterosuperior acetabulum after labral resection which normalized after labral reconstruction (resection, 3.2; reconstruction, 2.6; intact, 2.7: P<.001) and in extension (resection, 3.2; reconstruction, 4.6; intact, 1.5: P=.002). The mean peak contact area (mm2) was unchanged between groups in flexion (resection, 14.0; reconstruction, 13.7; intact, 18.7: P=.81) and extension (resection, 14.7; reconstruction, 15.5; intact, 18.7: P=.92). The mean peak contact pressure (N) was unchanged between groups in flexion (resection, 26.3; reconstruction, 24.3; intact, 25.3: P=.98) and extension (resection, 26.3; reconstruction, 32.5; intact, 28.0: P=.88).

**Conclusion:** Labral reconstruction with ITB autograft has been described as a treatment for labral insufficiency or degeneration by the senior author (MJP), and clinical outcomes have demonstrated significant improvement in pain and hip function. In our in-vitro biomechanical model, labral reconstruction with ITB autograft normalizes acetabular contact pressures after labral resection at time 0. Animal studies will be necessary to determine if the biomechanical properties after labral reconstruction will be maintained and also confirm biologic integration with the adjacent native labrum.

**Outcomes for Ulnar Collateral Ligament Reconstruction: A Retrospective Review Using a Validated Assessment Tool with 2 Year Follow-Up**

**SS-45**

Friday, May 2, 1:30 PM

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**Introduction:** Injury to the ulnar collateral ligament (UCL) often results in valgus elbow instability requiring reconstruction. UCL injury most commonly occurs in overhead throwing athletes, particularly baseball pitchers, however, is also see in other sports including javelin, gymnastics, wrestling, football, and tennis. Favorable outcomes and successful return to sport after reconstruction have been reported. The aim of this study was to use the KJOC shoulder and elbow validated assessment tool to report functional outcomes and return to play status in athletes undergoing UCL reconstruction.

**Methods:** A retrospective review of 37 patients undergoing UCL reconstruction was carried out over a 5-year period between 2004 -2009. Minimum follow-up was 2.2 years with an average of 3.7 years. All surgeries were performed by fellowship trained surgeons using either the Docking (N=13) or Modified Jobe techniques (N=24). Parameters including age, sport, position, return to play status, and time to return were obtained. The Kerlan-Jobe Orthopaedic Clinic Shoulder & Elbow Score (KJOC) was administered to assess final functional outcome.

**Results:** A total of 37 athletes underwent UCL reconstruction, which included 30 baseball players, 3 wrestlers, 3 javelin throwers, and 1 jujitsu competitor. In all, 29 (78%) athletes were able to return to their sport at the same previous level at an average of 11.6 months. The overall average KJOC score was 76. Athletes who returned to their previous level of play had a mean KJOC score of 77 while those who were unable to return to play had a mean score of 66. Furthermore, 83% of baseball players returned to the same level yet only 57% of the athletes in other sports returned to their previous level of participation.

**Conclusion:** The evolution and advancement in technique of UCL reconstruction has allowed both recreational and high level athletes to return to sport with increasing success. Until recently, no standardized and validated outcome measure existed to accurately compare surgical outcomes across varying surgical techniques and institutions. Our study demonstrates consistent outcomes for UCL reconstruction using the KJOC shoulder and elbow score as compared to previously reported data. Further investigation is required to determine if the KJOC assessment score is an appropriate assessment tool for non-throwing athletes following UCL reconstruction.

**Biomechanical Comparison of Ulnar Collateral Ligament Reconstruction Techniques: A Systematic Review**

**SS-46**

Friday, May 2, 1:35 PM

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**Introduction:** Since the initial description of medial ulnar collateral ligament (UCL) reconstruction in 1974, several