

Introduction: The outcomes and durability of arthroscopic treatment for glenohumeral osteoarthritis (GHOA) are not well studied. The purpose was to determine 5 yr survivorship for a comprehensive arthroscopic management (CAM) procedure for the treatment of GHOA.

Methods: This study had prior IRB approval. The CAM procedure was performed on a consecutive series of 42 young patients (44 shoulders) with GHOA. All patients had clinical and radiographic features, which would otherwise qualify them for total shoulder arthroplasty (TSA). The CAM procedure included glenohumeral chondroplasty, capsular release, and synovectomy, humeral osteoplasty, axillary nerve neurolysis, subacromial decompression, loose body removal, microfracture and biceps tenodesis. Patients a minimum of 5 years out from surgery were included. Outcomes scores were collected including ASES and satisfaction. Failure was defined as progression to TSA. Kaplan Meier survivorship analysis was performed.

Results: Results: 42 patients (with 44 shoulders) were included. All were recreational athletes. 7 were former collegiate or professional athletes. Mean age at surgery was 52 yrs (range, 27 to 68), with 13 women and 29 men. The mean follow-up on 86% of the cohort was 6 yrs (range, 5 to 8). 11 shoulders (26%) progressed to TSA, at a mean of 2.9 yrs (1.0-5.4). One progressed to another surgery for stiffness at a mean of 5.6 months, and another underwent a revision CAM procedure at 7.9 yrs. Mean pre-op ASES score was 64.5 (SD+11.6) and 86.7 (SD+16.6) at final follow-up. Median satisfaction was 10 (range, 2-10). From this cohort, Kaplan Meier survivorship was 84.6% at 3 yrs and 73.3% survivorship at 5 yrs.

Conclusion: The long term durability of arthroscopic management for symptomatic GHOA is important to understand for proper surgical decision-making, particularly in young patients with GHOA. At a mean of 6 yrs and minimum of 5 yrs after the CAM procedure, we found acceptable outcomes scores with survivorship at 3 years of 84.6% and at 5 yrs of 73.3%

Mid-Term Complications and Re-operation Rates Following Pectoralis Major Tendon Repair in the Young Active Population **SS-37**

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Introduction: We sought to determine the functional outcomes, complications, and reoperation rates in a cohort of young highly-active individuals undergoing pectoralis major repair.

Methods: All patients with pectoralis major rupture undergoing surgical repair were isolated from the Military Health System. Demographic variables, injury characteristics (e.g. location, mechanism, chronicity), and surgical technique were recorded. Self-reported pain scale (SRPS, i.e. 0-10), range of motion, and strength were tracked.

Rates of complications, functional outcomes, return to duty, re-rupture, and re-operation were also recorded. Primary endpoints of interest included clinical failure (i.e. inability to return to military function), surgical failure, and presence of major or minor complications. Variables associated with failure were evaluated using t-test and chi-square univariate analysis.

Results: 257 patients underwent pectoralis major repair with mean follow-up of 47.8±17.1 months (range: 24.1–89.5). The average age was 31.5±7.2 years and all patients were male. 89 (35%) patients were injured during combat deployments, and bench press was the predominant mechanism of injury (n=158; 61.5%). Complete ruptures of sternocostal and clavicular heads occurred in 120 (51%), and 109 (50%) of the tears occurred at the myotendinous junction. Average SRPS improved from 3.1±1.5 to 0.5±1.1 at final follow-up. There were 45 minor complications (37 patients), most commonly persistent anterior shoulder pain (n=19; 7%). 42 major complications occurred in 32 patients, including 15 re-ruptures in 14 patients (5.8%). 242 patients (94%) were able to return to full military duty and 34% of patients deployed after surgical repair. Insertional (36%) and myotendinous (36%) disruptions were associated with greater risk of surgical failure (p=0.0014), and myotendinous tears accounted for 54% of total failures (p=0.073). Furthermore, increasing body mass index and psychiatric comorbidity were associated with greater risk of clinical (p=0.0002; p=0.0169) and total failure (p=0.0097; p=0.016), respectively.

Conclusion: In the largest study to date, 94% of patients are able to return to full military duty after primary pectoralis major repair and 5.8% experience re-rupture.

Evaluation of Hyperosmolar Irrigation Solution for Shoulder Arthroscopy: A Prospective, Double-blind, Randomized, Controlled Study **SS-38**

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Introduction: A hyperosmolar irrigation fluid has been reported to be safe and have potential benefits for use during shoulder arthroscopy in a pre-clinical translational animal model study. The present study was designed to compare the clinical effects of a hyperosmolar solution to a standard isotonic solution with respect to periarticular fluid retention based on net weight gain and change in shoulder girth, as well as associated pain, after shoulder arthroscopy.

Methods: Under IRB approval, a prospective, double-blind, randomized, controlled trial was performed to compare isotonic (LR, 273mOsm/L) and hyperosmolar (593mOsm/L) irrigation solutions used for arthroscopic