

be useful to the clinician in determining prognosis and operative indications for hip arthroscopy.

A Comparison of Staged vs Simultaneous Hip Arthroscopy for Selected Patients With Symptomatic, Bilateral Femoroacetabular Impingement

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ANDREA SPIKER, M.D., PRESENTING AUTHOR

RYAN DEGEN, M.D., M.Sc., F.R.C.S.C.

DANYAL NAWABI, M.D., F.R.C.S (ORTH)

KARA FIELDS, M.S.

C. WENTZEL, B.A.

BRYAN KELLY, M.D.

STRUAN COLEMAN, M.D.

Introduction: Symptomatic, bilateral femoroacetabular impingement (FAI) has been increasingly recognized in recent years. Treatment options include staged or simultaneous (single anesthetic) bilateral hip arthroscopy, however the outcomes of the latter are largely unknown. The purpose of this study was to compare clinical outcomes and complication rates of staged versus simultaneous bilateral hip arthroscopy.

Methods: Between March 2010 and June 2013, 1800 hip arthroscopy cases were reviewed, identifying 81 patients (162 hips) who underwent bilateral hip arthroscopy for symptomatic FAI. Twelve patients (24 hips) had undergone a simultaneous procedure with a minimum of 1-year follow-up. This group was matched 1:2 for age, sex, and alpha angle, to a control group of 24 patients (48 hips) that had undergone a staged procedure. Patient-reported outcome scores, including the Modified Harris Hip Score (mHHS), the Hip Outcome Score-Activity of Daily Living (HOS-ADL), and the Hip Outcome Score-Sport-specific Subscale (HOS-SSS) were obtained preoperatively at 6 months, 1, and 2 years postoperatively.

Results: Patient demographics (age and sex) were comparable between groups ($p > 0.95$). Mean preoperative alpha angle was $65.3 \pm 9.6^\circ$ in the simultaneous group and $65.9 \pm 11.2^\circ$ in the staged group ($p = 0.6$). At a mean of 17.8 months (range, 12-33 months), there was significant improvement ($p < 0.001$) in all patient reported outcome scores (mHHS, HOS-ADL, HOS-SSS). The mean single anesthetic traction time was 90.8 ± 21.9 minutes (sum of both hips) in the simultaneous group, compared with a combined two-anesthetic traction time of 85.7 ± 27.2 minutes in the staged group ($p = 0.579$). There were no traction-related complications in either group. No patients in the simultaneous group required revision surgery, while one patient in the staged group required lysis of adhesions at 24 months postoperatively.

Conclusion: Simultaneous bilateral hip arthroscopy is safe and effective, resulting in improved patient-reported outcomes at 1-year follow-up comparable with the results of staged treatment.

The Effects of Arthroscopic Lateral Acromioplasty on the Critical Shoulder Angle and the Anterolateral Deltoid Origin: An Anatomical Study

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JAN KATTHAGEN, M.D., PRESENTING AUTHOR

DANIEL MARCHETTI, B.A.

DIMITRI TAHAL, M.Sc

TRAVIS TURNBULL, Ph.D.

PETER MILLETT, M.D, M.Sc

Introduction: A critical shoulder angle (CSA) greater than 35° is associated with rotator cuff tears (RCTs). Reduction of a CSA greater than 35° to the "favorable" range of $30-35^\circ$ may potentially lower the risk of primary RCTs or decrease re-tears after rotator cuff repair. The aims of this study were to investigate if (1) a standard acromioplasty and (2) a lateral acromion resection alters the CSA without affecting the deltoid origin.

Methods: First, the native CSAs of 10 human cadaveric shoulders (6 male, 4 female, average age 54.2 years) was determined with the use of fluoroscopy. The test setup allowed for consistent repetitive measurements. Next, a standard arthroscopic anterolateral acromioplasty was performed and the CSA was then re-assessed fluoroscopically. Then, a lateral acromioplasty was performed with a 5mm lateral acromion resection using a 5mm burr, and the CSA was measured again. The native CSA was compared to: (1) the CSA after acromioplasty and (2) the CSA after lateral acromion resection using a paired t-test. Finally, the acromial deltoid attachment was evaluated anatomically for damage to the anterolateral origin.

Results: The average native CSA ($34.3 \pm 2.1^\circ$) was reduced significantly ($p < 0.001$) by standard acromioplasty (mean CSA = $33.1 \pm 2.0^\circ$) and was further reduced by lateral acromion resection (mean CSA = $31.5 \pm 1.7^\circ$; $p < 0.0001$). In three specimens with a pre-surgery CSA greater than 35° , the CSA was reduced to the desired range of $30-35^\circ$ by the combination of a standard anterolateral acromioplasty and a 5mm lateral acromion resection. The acromial deltoid attachment was found to be well-preserved in all specimens.

Conclusion: Standard arthroscopic acromioplasty as well as a 5mm lateral acromion resection each reduced the CSA significantly and did not damage the deltoid origin. Future investigations will determine whether the combination of both techniques can be used in clinical practice to reduce a CSA $> 35^\circ$ to the desired range of $30-35^\circ$.

Outcomes and Survivorship After Arthroscopic Management of Glenohumeral Osteoarthritis With a Minimum 5 Year Follow-up

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JUSTIN MITCHELL, M.D., PRESENTING AUTHOR

MARILEE HORAN, M.P.H.

JOSHUA GREENSPOON, B.Sc

PETER MILLETT, M.D, M.Sc