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The Role of Acromioplasty, Bursectomy and Distal Clavicle Resection when Repairing Rotator Cuff Tears – 24 Month Outcome Data from the New Zealand Rotator Cuff Registry

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Summary:
Twenty four month outcome data from the New Zealand Rotator Cuff Registry showed patients who underwent combined acromioplasty and bursectomy were associated with the highest Flex-SF and lowest pain scores, distal clavicle excision although infrequently done is associated with higher pain scores at follow up.

Abstract:
INTRODUCTION
The role of acromioplasty, with or without bursectomy, has long been recognized as a useful adjunct to rotator cuff repairs. However, outcome data comparing acromioplasty versus no acromioplasty has been mixed. Distal clavicle resection is becoming more widespread, and has been shown to be beneficial in those with acromioclavicular joint symptoms. The current study, using 24 month outcome data from the New Zealand rotator cuff registry, aims to explore the following questions. Is acromioplasty at the time of rotator cuff repair associated with improved functional and pain outcomes at 24 months? Secondly, is acromioplasty with or without bursectomy associated with better functional or pain scores? Thirdly, is distal clavicle resection at the time of rotator cuff repair associated with improved functional or pain outcomes?

METHODS
The New Zealand rotator cuff registry is a multi-centre, multi-surgeon prospective study of rotator cuff repairs carried out across New Zealand from March 2009 until December 2010. Demographic data, baseline Flex-SF (a shoulder specific functional score), and baseline pain scores were collected at enrolment. Intra-operative data was collected by the surgeon at the time of surgery, which included the use of acromioplasty, bursectomy, and/or distal clavicle resection. Follow Flex-SF and pain scores were collected at 6-, 12- and 24- months post operatively. Overall, 1383 patients were enrolled in the registry cohort, with 84% 24 month follow up. The current study analysed the follow-up Flex-SF and pain scores, against the use of acromioplasty, bursectomy, distal clavicle resection, and combinations of these.

RESULTS
Overall 91% (1261 patients) underwent acromioplasty in the registry cohort. Those who underwent acromioplasty were older (58 years versus 53 years, $p < 0.01$) and had larger tear areas (4.9 versus 6.43 cm2, $p < 0.01$). Flex-SF scores and pain scores at 24 months were significantly better in those that underwent acromioplasty versus no acromioplasty, 40.2 versus 37.6 for Flex-SF ($p < 0.01$),and 1.47 versus 1.82 for pain (p 0.01). Most patients underwent combined acromioplasty and bursectomy, 85% (1173), and this was associated with the highest Flex-SF and lowest pain scores. There was no significant difference in Flex-SF or pain scores at 24 months in acromioplasty alone versus bursectomy alone.

Distal clavicle resection was carried out in 96 patients (7%), of these 46% were arthroscopic, and 54% were open.

There was no difference in Flex-SF scores at 24 months, but a trend to increased pain scores at 24 months in those who underwent a distal clavicle resection (1.73 versus 1.47, p 0.06), however improvement scores from baseline to 24 months are similar (3.10 versus 3.18, p 0.7).

CONCLUSION

This is the largest available prospective cohort of rotator cuff repairs. The use of acromioplasty is associated with improved functional and pain scores at 24 months. The best combination for functional and pain scores seems to be acromioplasty combined with bursectomy. Distal clavicle resection is still an infrequent practice. There is a trend to higher pain scores at 24 months in those that underwent a distal clavicle resection, however this may be due to the underlying pathology being different as there was no difference in pain improvement scores. There is no difference in open versus arthroscopic distal clavicle resection.