

## **Shoulder Pain in primary care: diagnostic accuracy of clinical examination tests for non-traumatic acromioclavicular joint pain**

Cadogan et al. (2013). Shoulder pain in primary care: diagnostic accuracy of clinical examination tests for non-traumatic acromioclavicular joint pain. *BMC Musculoskeletal Disorders* 14:156. OPEN ACCESS: <http://www.biomedcentral.com/1471-2474/14/156>

### **Background**

Non-traumatic AC joint pain has numerous causes; capsulo-ligamentous injury/instability, inflammatory arthropathy, degenerative or post-traumatic arthropathy, osteolysis. Clinical diagnosis is important to identify the correct management pathways.

### **Aims and Objectives**

To estimate the diagnostic accuracy of traditional ACJ tests in a primary care population and to compare this accuracy with other clinical findings to determine the most valid assessments. 62% of participants reported non-traumatic ACJ pain.

### **Methods**

208 Patients over 18 presenting to primary care (GP or PT) with the first episode of shoulder pain were included. Fractures/dislocations/surgeries/referred pain cases were excluded.

Traditional ACJ-specific tests include Hawkins & Kennedy test, O'Brien/active compression test, cross-body adduction test and pain response to palpation. The entire physical examination included ROM (Passive and active), Strength and scapuloclavicular assessments.

Subjectively, questionnaires (shoulder pain and disability index, fear avoidance beliefs questionnaire and a health survey) were completed and a typical history was taken. Following the clinical examination participants underwent a standardised x-ray series and received an US scan.

Those tests provocative of pain and specific clinical-features were identified for pre- and post-injection of local anaesthetic into the ACJ. Pain was recorded pre- and post-testings using a 100mm VAS. A Positive anaesthetic response (PAR) was recorded, and set at 80% or more reduction in pain intensity. This PAR was calculated for each test.

### **Results**

Accuracy of traditional ACJ tests: No traditional ACJ tests were associated with a PAR. Sensitivity ranged from .14 (O'Briens) to .70 (Hawkins & Kennedy). Specificity ranged from .26 (Cross-body adduction) to .92 (O'Briens). A combination of tests improved both sensitivity (when none were positive for pain) and specificity (when all were positive for pain).

5 clinical variables were associated with a PAR: repetitive mechanism of pain onset, absence of referred pain below wlbow, observation of a thickened/swollen ACJ, typical symptoms not reproduced/aggravated by passive GHJ abduction or external rotation.

### **Discussion**

Traditional ACJ tests considered to be diagnostic for ACJ pain were of limited value in a cohort of primary care patients with predominantly subacute and chronic pain of non-traumatic onset.

The highest level of diagnostic accuracy for identifying a predominant source of ACJ pain was observed for combinations of the five history and physical examination variables. The five clinical-feature tests were considerably more accurate in identifying those likely to report an 80% PAR than the traditional tests.

### **Considerations**

The onset of pain with repetitive mechanisms should be included in history taking.

### **Conclusion**

The widespread acceptance of traditional ACJ tests in primary healthcare settings may have been premature. Combinations of several other history and physical examination findings including pain-referral patterns, PROM and mechanism of onset appear to be of more diagnostic value in non-traumatic ACJ pain populations.