The Scapular Dyskinesis Test: is it reliable and valid?

M J Smith¹, R Goldsmith², K Nicholas², S Owen²

¹School of Healthcare Sciences, College of Biomedical and Life Sciences, Cardiff University, UK
²Cardiff and Vale University Health Board, Cardiff, UK

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Is scapular position, movement and control of relevance to shoulder pain/dysfunction?

If so, what is the best way to assess scapular position, movement and control?

Arguably this depends on the question you are looking to answer, the setting for the study and the resources available.

One such approach is the Scapular Dyskinesis Test (SDT).


Visual observation and subjectively classified.

**Advantages** – uses no equipment, non-mutual exclusivity of movement components, dynamic.

**However** – developed and tested on college-level overhead athletes; requires movement in 2 planes with hand-held weight.

Can it be used in its current form with an NHS secondary care setting population?
Study design

Study 1: n=76 patients with clinical diagnosis of SIS/RCT in an NHS secondary care setting. Videos of scapular movement recorded during scaption; where tolerated they used a hand-held weight. One of the variables in larger prognostic study.

Study 2: Nested sample of 30 patients. Inter-rater reliability study between 2 experienced musculoskeletal physiotherapists. Agreement was calculated via linear weighted Kappa.

Large number of other variables collected; however BMI and active humeral range of movement (ROM) used to compare with original McClure et al. (2009) study. Also pain (VAS) and shoulder function (OSS) measured.

Ethics approval: REC reference 10/MRE09/28
Results

Study 1: In patients with a clinical diagnosis of SIS/RCT in an NHS setting, 42% (n= 32/76) were unable to tolerate a loaded trial. McClure et al (2009) requires 2 x loaded trials for quantifying SDT.

Study 2: Agreement between the 2 raters was only fair (Kappa of 0.33, p=0.002). McClure et al (2009) reported agreement of Kappa = 0.48 to 0.61 (left/right).

Mean (SD) BMI of 29.0kgm$^{-2}$ (6.3kgm$^{-2}$).
Mean (SD) active humeral ROM of 138° (25°).
Mean (SD) VAS pain score of 5.9 (2.2) out of 10 (worst pain).
Mean (SD) OSS of 31.6 (7.7) out of 48 (least impaired function).
Conclusion

SDT in published form lacks ecological validity in patients with clinical diagnosis of SIS/RCT in a UK public health (NHS) secondary care setting

SDT in published form cannot be applied reliably in patients with clinical diagnosis of SIS/RCT in a UK public health (NHS) secondary care setting

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McClure et al (2009) used overhead athletes; inclusion criteria of BMI <30kgm\(^{-2}\) & NRS <7/10