

## LETTER TO THE EDITOR

# Regarding the instability severity index score (ISIS)

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Sir,

Thank you for the opportunity to respond to the letter submitted to the journal by Houghton-Clemmey and Boileau [1].

The purpose of our study [2] was to examine the radiographic portion of the instability severity index score (ISIS) and not the score as a whole. We consider the ISIS as a useful tool and would like to acknowledge the considerable work that went into the development of the tool by the original authors. We believe that the ISIS has changed the approach to the treatment of post-traumatic glenohumeral instability. The score has raised a number of very important questions regarding the management of post-traumatic glenohumeral instability and the indications for arthroscopic and open approaches to surgical stabilization.

Although our results and those of Rouleau et al. [3] may appear contradictory, both may occur simultaneously, and the results of one do not necessarily invalidate the results of the other. As demonstrated by Rouleau et al. the ISIS score in its entirety is a valid and reliable measure that may be used with confidence in guiding the management of post-traumatic glenohumeral instability [3]. Their study has only recently been published and was not available for review at the time of the preparation of our manuscript. Had it been available, it most certainly would have been considered as part of the evaluation of our results, and cited in our paper's discussion.

Careful evaluation of the ISIS score allows for an understanding of why these two results may occur concurrently. The first three components of the score, in our opinion, are subject to little debate, and, as such, are reliable between and among observers. For example, the inter- and intra-rater reliability of the first component (age) should be perfect. There is no doubt as to whether an individual is younger than the age of 20 years. Similarly, the next two components are also likely to have near perfect reliability. This represents five points of the total score. The radiographic portion, as we have shown, has moderate reliability. Combining the reliabilities of the score's components mitigates the lower reliability of the radiographic component. Thus, the overall score may still be reliable, and remain a useful clinical tool, despite the lower reliability of the radiographic component. Improving the radiographic component of the ISIS will only serve to strengthen the score and further enhance its clinical utility.

The authors of our study are all trained in interpreting shoulder radiographs, and comprise three upper extremity fellowship trained surgeons (M. Bouliane, R. Glasgow and D. Sheps) with a minimum of 6 years of clinical experience, as well as a senior musculoskeletal radiologist (R. Lambert). Although years of experience did correlate with improved intra-rater reliability, we contend that any scoring system designed to guide clinical practice should be successfully used in all clinicians' hands, especially those with less experience. It is these less experienced clinicians who would most rely on a tool such as the ISIS to guide them with treatment decisions.

Overall, we agree that the components of the ISIS score are the important factors to consider when considering options for the treatment of post-traumatic glenohumeral instability. We also agree that, when considered wholly, the ISIS score has acceptable inter- and intra-rater reliability and is a useful clinical tool. However, we respectfully submit that the radiographic component does not have acceptable clinical reliability, particularly in less experienced hands, and potentially should be altered to improve the score's overall strength and its corresponding clinical utility.

## References

1. **Houghton-Clemmey R, Boileau P.** Regarding the instability severity index score (ISIS). *Shoulder Elbow* 2013; 6:63.
2. **Bouliane MJ, Chan H, Kemp K,** et al. The intra- and inter-rater reliability of plain radiographs for Hill–Sachs and bony glenoid lesions: evaluation of the radiographic portion of the instability severity index score. *Shoulder Elbow* 2013; 5:33–8.
3. **Rouleau DM, Herbert-Davies J, Djahangiri A, Godbout V, Pelet S, Balg F.** Validation of the instability shoulder index score in a multicenter reliability study in 114 consecutive cases. *Am J Sports Med* 2013; 41:278–82.

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