

# Evaluating Instruments for Assessment of Elbow Function

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Any new therapeutic approach or development to medical conditions must be precisely validated by the scientific community before it can be safely recommended or used. In order to talk the same language, and to compare results in the same scales, there must be a consent of the instruments that measure the outcome of these treatments. The use of scoring systems has been widely accepted in the measurement of patient outcome in musculoskeletal disorders. However, the number of scoring systems, the variables they measure and their clinical and epidemiological validation as scientific instruments is currently a matter of great interest. We have seen reports of Shockwave Therapy for tennis elbow for nearly 15 years, but still many international scientific communities believe that there is not enough evidence to recommend this therapy. However, the literature does not support with solid evidence the surgical alternative to treat a rebel tennis elbow. In the past five years many orthopaedic research groups, including ours, have reported clinical case series and case-control studies showing the benefits of ESWT. However, clinical scales are either conflictive or non comparable, and there is a clear need to define proper scales in order to use reliable data that can be compared to report valid and reproducible results. Bosque University Orthopaedics started a prospective study that will compare the results of ESWT and surgery for tennis elbow. In the design process of the project we found different scales that we studied thoroughly to use as reliable instruments to compare these two procedures. A problem aroused: which scale should we use?. VAS is the most common one, and is an one-dimensional scale that allows the measurement of pain intensity with good reproducibility (Scudds 2001). The Disabilities of the Arm Shoulder and Hand questionnaire (DASH) is a long questionnaire that evaluates the upper limb as a whole. It has been validated and has excellent reproducibility (MacDermid 2000). Roles and Maudsley scale is the most frequent instrument found in ESWT papers. It was described in 1972 and is a fast way to compare results with easy questions. However it seems to be somehow simple, and evaluates only four stages in a subjective manner. Nirschl scale is more specific as it involves pain, range of motion and activities. However we did not find any validation studies of this scale in the literature. MacDermid published a scale that evaluates function and pain. But probably the most complete scale for elbow evaluation we found was reported by the American Shoulder and Elbow Surgeons in 1999, where J.W. King et al developed an instrument for elbow evaluation with specific sections for pain, function, treatment satisfaction and objective medical evaluation. We believe one of the most important issues in comparing ESWT with other treatment alternatives is the instruments and scales that we use in our protocols and publications. We propose that International societies like ISMST should create or validate the scales that can compare with solid criteria the outcome of patients in order to report our results with all the evidence needed in new therapeutic tools. In this presentation, we compare all elbow scales in the literature in order to discuss the best recommendation for our clinical researchers as an international consensus in Vienna 2005.