

The Visual Analogue Scale as an Outcome Assessment Tool

Outcome assessments (OA) are tools that evaluate patient status and progress. They have been used for years in research and in private settings. OAs have become much more widely used in recent years as doctors are challenged by their peers, and carriers to support their management recommendations and opinions regarding function and outcome.

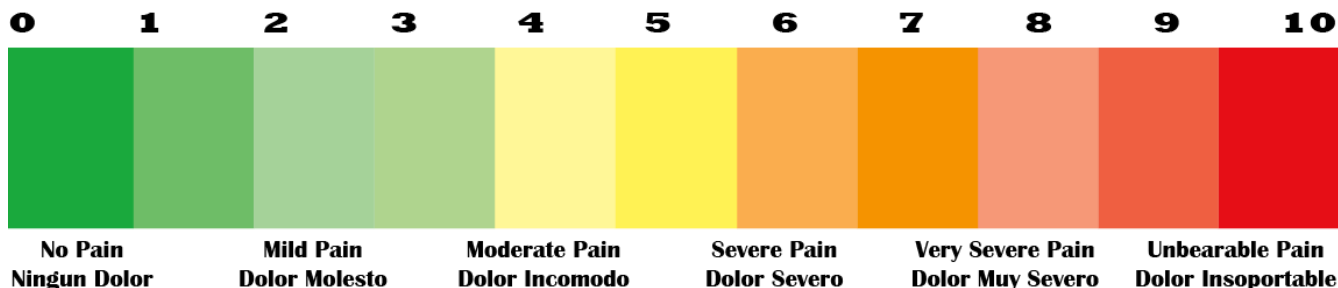
A review of the literature identifies over 28 different scoring systems just for lower back pain. The AMA Guides now recommends the use of OAs when performing permanent impairment evaluations. Despite the large number of OA tools available, no particular OA tool has consistently been proven to be more valid, reliable or clinically sensitive than any other. In other words, while all OA tools have gone through validity testing none are necessarily better than others, despite claims made by the researchers themselves or by parties with interests of their own.

Probably the oldest and most well known OA tool is the visual analogue scale (VAS). The visual analogue scale is a line, usually 10 cm long, with each end-point clearly marked and described. Patients are asked to pick a number on the line that represents their pain level or intensity. This numeric value provides a quantitative variable that can be inserted into standard statistical tests for research or used clinically as a data point for follow-up assessments.

Many attorneys have questioned the simplicity of the tool and the value in their client's documentation. You should know that the VAS is an accepted OA tool that has been repeatedly validated in the research. In fact, many other OA tools are validated against the VAS as a standard. It is a statistically reproducible method for scoring patient outcomes, particularly when used serially throughout a patient's care to show improvement or lack thereof.

Other OAs have recently been suggested as being the gold standard. These include the DASH for upper extremity evaluations, Roland-Morris for back pain, Neck Pain Disability Index for neck pain, Oswestry for function, SCL-90R, etc. However, few of these have been validated for gender, ethnic, language or cultural bias. In some of the populations we attend to these are very real considerations. As an example, under-educated populations or people with language barriers are unable to consistently complete complex and sophisticated OA questionnaires which can be many pages long and confusing. For these populations, a simple VAS diagram is sufficient to determine pain intensity and demonstrate a trend towards improvement or stationary status. When needed, more sophisticated OAs can be utilized to define other more specific functional limitations but as a guide to treatment efficacy the VAS tool is more than sufficient.

Below and attached is a sample of the VAS that we use in our practices. We have added a color scale and bilingual verbiage to add a multimodal experience for our patients and to improve its accuracy. In the end, it is the doctor's experience with the patient over many encounters and time that ultimately defines the efficacy of treatment and the outcome of the patient. Until one OA demonstrates significant superiority over all others you should be comfortable knowing that the VAS scale can accomplish the same clinical and documentation benefit as almost any other OA tool. Your feedback and comments about our newsletters are always welcome and appreciated. Dr.Shaw@ShawChiropractic.com



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List of Common Outcome Assessment Tools

ABC (Activities-specific Balance Confidence Scale)	Numeric Rating Scale
ASES (American Shoulder and Elbow Surgeons Score)	Occupational role questionnaire
Back illness pain and disability nine-item scale	Orebro Musculoskeletal Pain Questionnaire (OMPQ)
Back pain functional scale	Oswestry disability index
Back pain interference scale	Outcome measure in lumbar spinal stenosis
Bournemouth questionnaire	Outcome Rating Scale
Canadian Occupational Performance Model – (COPM)	Pain Beliefs & Perceptions Inventory
Chronic Pain Scale	Pain Catastrophising Scale (PCS)
Clinical back pain questionnaire	Pain Disability Questionnaire
Croft Disability Questionnaire	Pain response to activity and position questionnaire
Dallas pain questionnaire	Pain Self-Efficacy Questionnaire (PSEQ)
DASH (Disabilities of arm, shoulder & hand) Score	Patient-specific functional scale
Disability rating index	Patient-Specific Functional Scale
Distress and Risk Assessment Method (DRAM)	Penn Shoulder Score
FABQ (Fear Avoidance Beliefs Questionnaire)	Physical impairment scale
Fear-Avoidance Beliefs Questionnaire	PI-NRS (Pain Intensity Numerical Rating Scale)
Fugl-Meyer Assessment	POMA (Performance Oriented Mobility Assessment)
Functional outcomes questionnaire for spinal disorders	Quadruple Visual Analog Scale
Functional rating index	Quebec Back Pain Disability Scale
General function score	Quebec Back Pain Disability Scale
Goal Attainment Scale	Quick DASH
Human Activity Profile	Resumption of activities of daily living scale
Jan van Breemen functional scale	Roland–Morris disability questionnaire
Knee Injury and Osteoarthritis Outcome Score (KOOS)	Short Form 36 Bodily Pain Scale (Sf-36 Bps)
LEFS (Lower Extremity Functional Scale)	Short Form McGill Pain Questionnaire
Low back outcome score	Shoulder Pain and Disability Index
Low back pain rating scale	SPADI (Shoulder Pain and Disability Index)
Lower Extremity Functional Scale	Spinal pain independence measure
Lysholm Score	SPPB (Short Physical Performance Battery)
McGill Pain Questionnaire	Symptom Check List 90R
Million visual analogue scale	Upper Extremity Functional Index
Modified Work Apgar	Vernon & Mior Cervical Spine Score
NASS lumbar spine outcome assessment <i>instrument</i>	Waddell disability index
NDI (Neck Disability Index)	West Haven-Yale Multidimensional Pain Inventory
Neck Disability Index	Whiplash Disability Questionnaire
NPRS (Numeric Pain Rating Scale)	WOMAC (Western Ontario and McMaster Universities Osteoarthritis Index)