

Questionnaire: Oswestry Disability Index (Revised) (Hudson-Cook et al. 1989)

The Revised Oswestry Disability Index (ODI) is a useful tool for the initial and periodic monitoring of the effect of low back pain on patients' activities of daily living (ADL). This questionnaire will serve patient care in two ways: first, as an in-house feedback between doctor and patient, and second, as data to justify continued care to a third-party payer.

The ODI, which is considered to be *very reliable*, is frequently used for quantifying a patient's loss of daily function, as perceived by the patient. It can be used on any low back patient but may have particular utility in medicolegal cases—personal injury (PI) or worker's compensation—or in any complicated case with significant potential impairment.

Grotle (2004) found the ODI to be equally appropriate for both acute and chronic low back pain and to be equally responsive as the Roland Morris Disability Questionnaire (RMQ). Lauridsen (2006), however, found the RMQ to be a more responsive instrument than the ODI for patients with low back pain only, while it was equally as responsive for patients with a combination of LBP and leg pain. (Lauridsen et al. 2006) Baker suggested the ODI was better suited for patients with more severe effects on ADLs while the RMQ may be superior for patients with milder effects. (Baker et al. 1989)

The modified ODI has several practical applications.

- It can be used to establish initial severity of the patient's condition (based on the degree of effect on ADL).
- It is a quantifiable method of tracking improvement or establishing maximum therapeutic effect.
- It can be used to assess a patient's impaired activities, which may suggest the need for therapeutic intervention.

(See Table: Suggested Therapeutic Interventions Based on Patient Response to Oswestry.)

Administering the Oswestry

This questionnaire is for low back pain only and is usually administered during the first patient visit, either supervised or unsupervised. It can be given at regular intervals at the clinician's discretion, ranging from every office visit to whenever there is a formal evaluation.

Scoring the Oswestry

There are 10 sections, each with six items—and a maximum score of 5 for each section, with no pain getting a score of "0" and the most pain receiving a "5." For example, in the sample below, patients marking the first box would received a "0" for this section; those marking the last box would get a "5."

SAMPLE:

SECTION 3: Lifting

- I can lift heavy weights without extra pain.
- I can lift heavy weights but it causes extra pain.
- Pain prevents me lifting heavy weights off the floor.
- Pain prevents me lifting heavy weights off the floor but I can manage if they are conveniently positioned, e.g., on a table.
- Pain prevents me lifting heavy weights but I can manage light to medium weights if they are conveniently positioned.
- I can only lift very light weights at the most.

If each section is answered, add up the 10 scores, double it, and add a “%” sign after it. For example, a score of 16 would equal 32%. If more than one or more answers are given in a section, use the highest score.

If a section is not answered, add up the completed sections and divide by the maximum score of sections that were completed. For example, let’s say that nine (of the total 10) sections were answered with a score of 15. You would divide 15 by the maximum possible from answering nine questions, which would be 45 (9 X 5).

$$15/45 = 0.333$$

Convert to a percentage by moving the decimal two places to the right and you have 33%. Effect on ADLs can then be interpreted using this percentage. (Lauridsen et al. 2006)

Note: In order to be valid, a patient must answer at least 8 of the 10 sections on the test.

When tracking a patient's progress, the Oswestry scores may not always match the patient's rate of improvement. Therefore, it is important to further interview the patient to determine why there is a discrepancy.

In such cases, consider whether the questionnaire may have been administered during an exacerbation (especially if it is administered infrequently). Another possibility is that patients may mark the same item scored on subsequent administrations (e.g., washing and dressing increase the pain....) even though the *intensity* of pain or the *frequency* of pain may have actually diminished due to the therapy. It is also possible that in specific key areas of daily living, the patient has not actually experienced any improvement.

Interpreting Scores (Fairbanks et al. 1980)

Special Note: Scores using the Revised Oswestry Questionnaire do not constitute a basis for legal impairment or disability ratings. They are, nonetheless, useful in medicolegal cases.

How Much Change is Necessary?

Various authors have set the minimum amount of clinically important difference or change (MCID) at different thresholds, averaging about 10% (+/- 2) of the baseline score with one author suggesting 16.3%. In absolute numbers, 4-6 points is thought to be meaningful. (Liebensen 2007)

Stratifying the Impact

Minimal Impact on ADLs: 0 - 20%

This group of patients can cope with most ADLs with or without any modification. **Note:** One report by Delitto *et al.* used a score of 11% for discharge and return to work.¹

Moderate Impact on ADLs: 21 - 40%

This group experiences a greater impact on ADLs and may show more pain with movement. Travel and social life may be more difficult. The back condition can usually be managed by conservative treatment.

Severe Impact on ADLs: 41 - 60%

Pain remains the main problem in this group of patients. Travel, personal care, social life, and/or sleep are affected. Consideration should be given to a possible psychological overlay.

Crippling Impact on ADLs: 61 - 80%

Back pain impinges on most aspects of these patients' lives both at home and at work, and positive intervention is required, which may include surgery, conservative care, and/or psychiatric consultation.

Bed Bound or Symptom Magnification:

81 - 100%

Delitto found that patients with scores above 75% may have substantial pain even at rest. These patients will spend most of their time in bed due to actual pain or they are exaggerating their symptoms. Differentiation can often be accomplished through careful observation of the patient during the examination. Psychological or psychiatric consultation should strongly be considered.

Charting

Oswestry scores should be reported as a percentage (e.g., 20%). In a narrative format, sample language might be “The revised Oswestry Questionnaire revealed a 20% impact on activities of daily living.”

Table: Suggested Therapeutic Interventions Based on Patient Response to Oswestry

- **Personal care, social life, and traveling**

Ask patient what specifically s/he is having trouble with and why. Have the patient demonstrate the motion or activity. Analyze for poor movement strategies or muscle imbalances that may need to be addressed. In cases of traveling by car, discuss methods of getting in and out of the vehicle, position of seats, supports, etc.

- **Lifting**

Teach patient lifting strategies. Consider evaluating for poor leg strength. Encourage lumbar stabilization tracks that promote co-contractions.

- **Walking**

Consider therapeutic interventions based on gait analysis.

- **Sitting**

Have patient demonstrate sitting posture. Consider postural training, lumbar back support, and pelvic wedges. Consider putting patient on the lumbar stabilization Sitting Track, emphasize exercise ball activities.

- **Standing**

Analyze standing posture. Consider standing track and rocker board work.

- **Sleeping**

Analyze sleeping posture. Work with patient using pillows and positioning to identify more comfortable sleeping positions.

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