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Oswestry Disability Index (ODI)

Introduction/background information

The development of the Oswestry Disability Index (ODI) was initiated by John O'Brien in 1976. It was developed after interviewing patients with low back pain. A range of drafts of the questionnaire were piloted, and the final version was published in 1980[1]. Since that time the ODI has been widely used as a condition-specific outcome measure for patients with spinal disorders, and was developed for use in secondary care settings[2,3].

The ODI is comprised of ten items with associated statements for the patient to select which reflect the patient's ability to manage their everyday life while dealing with their pain. The items include:

- Pain intensity
- Personal care (e.g. washing and dressing)
- Lifting
- Walking
- Sitting
- Sleeping
- Sex life (if applicable)
- Social life

The original version of the ODI has been revised since its original development. The most recent revision was published in 2000[4].

Translations

The ODI has been validated for use in a wide range of languages including French, Finnish, Italian, Chinese, Brazilian-Portuguese, German, Danish, Japanese, Korean, Arabic, Turkish, Greek, and Polish.

Mode of use

The patient is asked to complete the ODI and answer based on the statement they feel applies to them. In clinical settings, the ODI can be used at baseline and at intervals of 2 weeks after while treatment continues. A 10% change has been identified as being clinically meaningful.

Scoring and interpretation

Each of the ten items in the ODI has six statements from which patients are requested to select one. This allows scoring from 0-5 for each item, for example, looking at the first item:

Item on ODI	Statement	Score
Pain intensity	I have no pain at the moment	0
	The pain is very mild at the moment	1
	The pain is moderate at the moment	2
	The pain is fairly severe at the moment	3
	The pain is very severe at the moment	4
	The pain is the worst imaginable at the moment	5

A maximum score of 50 is possible. The score obtained by individual patients can be multiplied by 2, and this will provide a percentage score.

If all of the ten items have been completed by the patient it is represented: -

$$\text{Score} = \frac{\text{Total score of the patient}}{\text{Total raw score possible}} \times 100 = \frac{30}{50} \times 100 = 60\%$$

If the patient has failed to complete all items, e.g. if one item has been missed:

$$\text{Score} = \frac{\text{Total score of the patient}}{\text{Total raw score possible}} \times 100 = \frac{30}{45} \times 100 = 67\%$$

The scores can be interpreted using the following information:

ODI score	**Disability interpretation**	**Additional comments**
0% - 20%	Minimal disability	This group can cope with most activities of daily living. No treatment is indicated usually, apart from education in terms of advice about lifting, sitting posture, physical activity, and diet. Patients in this group sometimes report difficulties with sitting, and this may be an important factor if their occupation involves prolonged periods of sitting activities.
21% - 40%	Moderate disability	This group experiences more pain and problems with Activities involving sitting, lifting, and standing produce particular difficulties for this group. This has an impact on their travel and social life, and it can result in being signed off work.
41% - 60%	Severe disability	Pain is reported as the main problem for this particular group of patients. However, travel, personal care, social life, sexual activity, and sleep are also affected. These patients require detailed investigation to rule out possible red flags.
61% - 80%	Crippled	Back pain affects all aspects of the lives of these patients in their home and working environment. They require active intervention.
81% - 100%	Bed-bound or exaggerating symptoms	Patients require careful observation during their physical examination to discriminate between patients who are experiencing severe pain or exaggerating their

		symptoms.

Validity and reliability

The ODI has been tested extensively for validity and reliability in a range of different settings[2,5,6,7].

References:

1. Fairbank J, Couper J, Davies J, et al. The Oswestry low back pain questionnaire. Physiotherapy 1980;66:271–273.
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4. Fairbank JCT, Pynsent PB. The Oswestry Disability Index. Spine 2000;25(22):2940–2953
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7. Mannion AF, Junge A, Fairbank JC, et al. Development of a German version of the Oswestry Disability Index. Part 1: cross-cultural adaptation, reliability, and validity. European Spine Journal. 2006;15(1):55-65.