

The Oswestry Low Back Pain Disability Questionnaire

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ONE OF THE biggest problems in assessing patients with low back pain is the lack of reliable subjective methods. Comparative measurements are possible in other musculoskeletal disorders, particularly in disabilities of the hip. Professor J Charnley uses a 'green card' system routinely at Wrightington Hospital on all patients undergoing replacement arthroplasty of the hip, and a functional disability score is obtained for pain and gait. But the same clarity of assessment has not been possible for patients with low back pain. For the last four years in Oswestry we have been developing a questionnaire which is completed by the patient and which gives us a percentage score of his level of function. By disability we mean the limitations of a patient's performance compared with that of a fit person (Garrad and Bennett, 1971). The questionnaire is printed on pink paper, since it has been found that forms on coloured paper are more readily accepted by patients (Eastwood, 1940). Clear type, capital letters and underlining (represented in print by bold lettering) all help to make the form simple to complete.

The Questionnaire

The questionnaire shown overleaf is divided into ten sections selected from a series of experimental questionnaires designed to assess limitations of various activities of daily living. The chosen sections were those found to be most relevant to the problems suffered by people with low back pain. Each section contains six statements. This was found to be the most suitable number for obtaining accurate assessments, without confusing the patient. Each statement describes a greater degree of difficulty in that activity than the preceding statement. The statements are sentences which usually contain one idea and are simply worded (Bennett and Ritchie, 1975).

The patient marks the one statement in each section which describes his limitations most accurately. The questionnaire takes 3½ to five minutes to complete and about one minute to score. For patients with reading problems it may take ten minutes or more to dictate and for an assistant to complete the form. Each section is scored on a 0-5 scale, 5 representing the greatest disability. The scores for all sections are added together, giving a possible score of 50. The total is doubled and expressed as a percentage. If a patient marks two statements, the highest scoring statement is recorded as a true indication of his disability. If a section is not completed

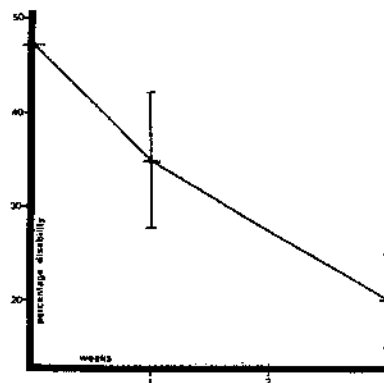
because it is inapplicable (eg Section 8 — Sex Life), the final score is adjusted to obtain a percentage.

The self-administered questionnaire avoids any interviewer bias and ensures uniformity of presentation. The combination of closed questions and self administration gives a reliable format (Collen *et al*, 1969). There is evidence that this type of questionnaire is comparable with data collected by an interviewer and it can be up to twice as effective in uncovering certain problems (Metzner and Mann, 1952; Stouffer, 1950; Young, 1972).

Validity

The questionnaire is a valid indicator of disability if its score closely reflects the patient's observed disability and symptoms. A group of 25 patients involved in a research project were studied. They were suffering from their first attack of low back pain and there was a strong likelihood of spontaneous recovery. The questionnaire was completed at weekly intervals and the gradual improvement over two to three weeks was reflected in the scores. Fig 1 shows the improvement of their mean scores by the third week (t-test, $P < 0.005$).

Fig 1: Graph showing changes in mean disability score (\pm SEM) with time in a group of 25 patients with primary low back pain. The score after three weeks is significantly better than on admission (t-test $p < 0.05$)



Reliability

Test-retest

The questionnaire should give a consistent score when answered on different occasions if the condition being measured has not changed. Twenty-two patients with chronic low back pain were asked to complete the ques-

The Robert Jones and Agnes Hunt Orthopaedic Hospital, Oswestry, Shropshire

Department for Spinal Disorders

Name Address Date

Date of birth Age

Occupation Hospital No

How long have you had back pain? Years Months Weeks

How long have you had leg pain? Years Months Weeks

Please read:

This questionnaire has been designed to give the doctor information as to how your back pain has affected your ability to manage in everyday life. Please answer every section, and mark in each section

only the *one box* which applies to you. We realise you may consider that two of the statements in any one section relate to you, but please just mark the box which most closely describes your problem.

Section 1 — Pain Intensity

- I can tolerate the pain I have without having to use pain killers.
- The pain is bad but I manage without taking pain killers.
- Pain killers give complete relief from pain.
- Pain killers give moderate relief from pain.
- Pain killers give very little relief from pain.
- Pain killers have no effect on the pain and I do not use them.

Section 2 — Personal Care (Washing, Dressing, etc)

- I can look after myself normally without causing extra pain.
- I can look after myself normally but it causes extra pain.
- It is painful to look after myself and I am slow and careful.
- I need some help but manage most of my personal care.
- I need help every day in most aspects of self care.
- I do not get dressed, wash with difficulty and stay in bed.

Section 3 — Lifting

- I can lift heavy weights without extra pain.
- I can lift heavy weights but it gives extra pain.
- Pain prevents me from lifting heavy weights off the floor, but I can manage if they are conveniently positioned, eg on a table.
- Pain prevents me from lifting heavy weights but I can manage light to medium weights if they are conveniently positioned.
- I can lift only very light weights.
- I cannot lift or carry anything at all.

Section 4 — Walking

- Pain does not prevent me walking any distance.
- Pain prevents me walking more than 1 mile.
- Pain prevents me walking more than ½ mile.
- Pain prevents me walking more than ¼ mile.
- I can only walk using a stick or crutches.
- I am in bed most of the time and have to crawl to the toilet.

Section 5 — Sitting

- I can sit in any chair as long as I like.
- I can only sit in my favourite chair as long as I like.
- Pain prevents me sitting more than 1 hour.
- Pain prevents me from sitting more than ½ hour.
- Pain prevents me from sitting more than 10 mins.
- Pain prevents me from sitting at all.

Section 6 — Standing

- I can stand as long as I want without extra pain.
- I can stand as long as I want but it gives me extra pain.
- Pain prevents me from standing for more than 1 hour.
- Pain prevents me from standing for more than 30 mins.
- Pain prevents me from standing for more than 10 mins.
- Pain prevents me from standing at all.

Section 7 — Sleeping

- Pain does not prevent me from sleeping well.
- I can sleep well only by using tablets.
- Even when I take tablets I have less than six hours sleep.
- Even when I take tablets I have less than four hours sleep.
- Even when I take tablets I have less than two hours sleep.
- Pain prevents me from sleeping at all.

Section 8 — Sex Life

- My sex life is normal and causes no extra pain.
- My sex life is normal but causes some extra pain.
- My sex life is nearly normal but is very painful.
- My sex life is severely restricted by pain.
- My sex life is nearly absent because of pain.
- Pain prevents any sex life at all.

Section 9 — Social Life

- My social life is normal and gives me no extra pain.
- My social life is normal but increases the degree of pain.
- Pain has no significant effect on my social life apart from limiting my more energetic interests, eg dancing, etc.
- Pain has restricted my social life and I do not go out as often.
- Pain has restricted my social life to my home.
- I have no social life because of pain.

Section 10 — Travelling

- I can travel anywhere without extra pain.
- I can travel anywhere but it gives me extra pain.
- Pain is bad but I manage journeys over two hours.
- Pain restricts me to journeys of less than one hour.
- Pain restricts me to short necessary journeys under 30 minutes.
- Pain prevents me from travelling except to the doctor or hospital.

Comments

Scoring (not seen by patients)

For each section the total possible score is 5; if the first statement is marked the section score = 0, if the last statement is marked it = 5.

If all ten sections are completed the score is calculated as follows:

Example: $\frac{16}{50}$ (total scored) / (total possible score) x 100 = 32%

If one section is missed or not applicable the score is calculated:

Example: $\frac{16}{45}$ (total scored) / (total possible score) x 100 = 35.5%

tionnaire at the same time and under similar conditions on two consecutive days. The table shows the results of the test-retest trials. A correlation coefficient of 0.99 ($P < 0.001$) was found between the two tests.

Test-retest reliability of questionnaire when completed on two consecutive days by 22 patients

Correlation coefficient of test-retest reliability $r = 0.99$
 $P < 0.001$

No of patients	No of sections with error	Percentage test-retest reliability of paired forms
8	0	100
5	1	98
4	2	96
5	3	94

Internal consistency

To confirm that the scores of individual sections related consistently to the total disability score, the completed questionnaires of the 22 patients with chronic low back pain were divided into five groups. We calculated the mean scores for the individual sections in each of these groups. These were plotted graphically (fig 2) and demonstrate that the mean score of each of the sections tends to rise with that of the pain section, showing a good internal consistency.

Interpretation of Disability Scores

0%-20%: Minimal Disability

This group can cope with most living activities. Usually no treatment is indicated, apart from advice on lifting, sitting posture, physical fitness and diet. In this group some patients have particular difficulty with sitting, and this may be important if their occupation is sedentary, eg a typist or lorry driver.

20%-40%: Moderate Disability

This group experiences more pain and problems with sitting, lifting and standing. Travel and social life are more difficult and they may well be off work. Personal care, sexual activity and sleeping are not grossly affected, and the back condition can usually be managed by conservative means.

40%-60%: Severe Disability

Pain remains the main problem in this group of patients, but travel, personal care, social life, sexual activity and sleep are also affected. These patients require detailed investigation.

60%-80%: Crippled

Back pain impinges on all aspects of these patients' lives both at home and at work and positive intervention is required.

80%-100%

These patients are either bed-bound or exaggerating their symptoms. This can be evaluated by careful observation of the patient during the medical examination.

Examples of Use

A study of 25 patients with primary low back pain has already been mentioned. Their symptoms tended to resolve quickly and changes in their mean disability score can be seen over the first three weeks after referral to the spinal disorders department (fig 1).

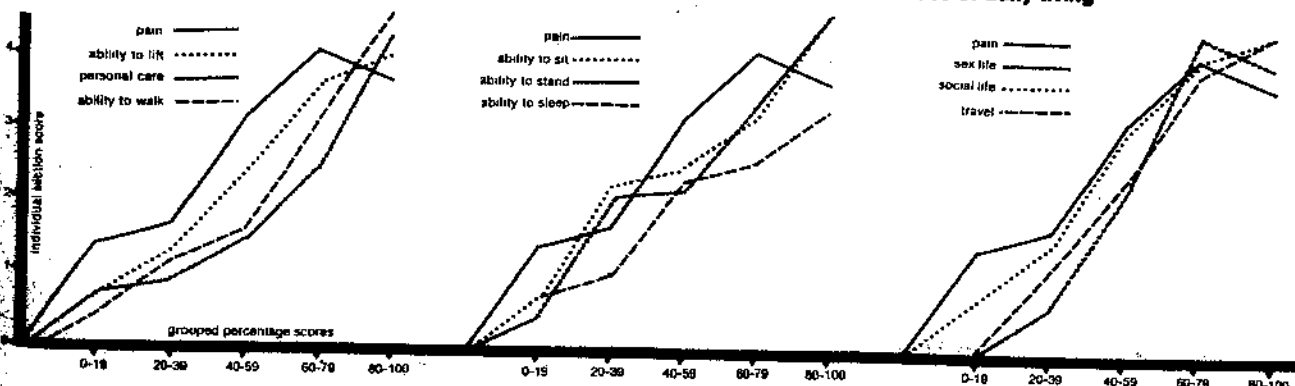
The disability score was also used to demonstrate that there was no difference in the severity of symptoms in two sub-groups of patients in the same study.

All new patients referred to the department complete the questionnaire when they first attend. The disability score is used as a guide to a patient's treatment programme. It cannot be used in isolation since it makes no allowance for the demands of a patient's job, his age or psychological make-up. However, it does ensure that important aspects of disability which are often forgotten are recorded in the patient's notes. Later, changes in the score may be used in monitoring the subsequent progress of the patient through treatment.

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Fig 2: Graphs of mean scores of individual sections of completed questionnaires grouped on percentage scores, showing relationship between pain and various activities of daily living



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OSWESTRY LOW BACK PAIN QUESTIONNAIRE

This questionnaire has been designed to give the physical therapist information as to how your pain has affected your ability to manage everyday life. Please answer all sections. Completely fill in only one circle in each section that applies to you. We realize that you may consider that two or more choices apply to you, but please fill the one circle that most clearly describes your problem.

Section 1 - PAIN INTENSITY

- I have no pain.
- I have no pain except when I move a certain way.
- I have minimal pain most of the time.
- I have moderate pain most of the time.
- I have severe pain most of the time.
- I have intense/intolerable pain most of the time.

Section 2 - PERSONAL CARE (washing, dressing, etc.)

- I can take care of myself normally without causing extra pain.
- I can take care of myself normally, but it causes extra pain.
- It is painful to take care of myself and I am slow and careful.
- I need some help, but manage most of my personal care.
- I need help every day in most aspects of self care.
- I do not get dressed, wash with difficulty, and stay in bed.

Section 3 - LIFTING

- I can lift heavy weights without pain.
- I can lift heavy weights, but it causes extra pain.
- Pain prevents me from lifting heavy weights off the floor but I can manage if they are conveniently position on a table.
- Pain prevents me from lifting heavy weights, but I can manage light to medium weights if conveniently positioned.
- I can lift only very light weights.
- I can not lift or carry anything at all.

Section 4 - WALKING

- Pain does not prevent me from walking any distance.
- Pain prevents me from walking more than one mile.
- Pain prevents me from walking more than 1/2 mile.
- Pain prevents me from walking more than 1/4 mile.
- I can only walk using a cane or crutch.
- I am in bed most of the time.

Section 5 - SITTING

- I can sit in a chair as long as I like.
- I can only sit in my favorite chair as long as I like.
- Pain prevents me from sitting more than one hour.
- Pain prevents me from sitting more than 30 minutes.
- Pain prevents me from sitting more than 10 minutes.
- Pain prevents me from sitting at all.

Section 6 - STANDING

- I can stand as long as I want without pain.
- I can stand as long as I want, but it gives me extra pain.
- Pain prevents me from standing more than one hour.
- Pain prevents me from standing more than 30 minutes.
- Pain prevents me from standing more than 15 minutes.
- Pain prevents me from standing at all.

Section 7 - SLEEPING

- Pain does not prevent me from sleeping well.
- I can sleep well only by taking medication.
- I have less than 6 hours sleep because of pain.
- I have less than 4 hours sleep because of pain.
- I have less than 2 hours sleep because of pain.
- Pain prevents me from sleeping at all.

Section 8 - SEX LIFE

- My sex life is normal and causes no extra pain.
- My sex life is normal, but causes extra pain.
- My sex life is nearly normal, but is very painful.
- My sex life is severely restricted because of pain.
- My sex life is nearly absent because of pain.
- Pain prevents any sex life at all.

Section 9 - SOCIAL LIFE

- My social life is normal and give me no extra pain.
- My social life is normal, but gives me extra pain.
- Pain has no effect on my social life other than limiting some energetic interests like dancing.
- Pain has restricted my social life and I do not go out as often.
- Pain has restricted my social life to my home.
- I have no social life because of pain.

Section 10 - TRAVELING

- I can travel anywhere without extra pain.
- I can travel anywhere, but it gives me extra pain.
- Pain is bad, but I manage trips over 2 hours.
- Pain restricts me to trips of less than one hour.
- Pain restricts me to trips of less than 30 minutes.
- Pain prevents me from traveling except to the doctor or hospital.