

Questionnaire: How to Use the Roland Morris

The Roland Morris disability questionnaire (RMQ) is a short functional disability questionnaire for patients with low back pain with or without leg symptoms. It is comprised of 24 statements describing possible current activity restrictions.

RMQ can be used on any routine low back patient, but may be particularly appropriate in medicolegal cases—such as personal injury (PI) or worker's compensation—or in any complicated case with significant potential impairment.

Note: It is clinic policy that in the case of lumbar disc herniation, either an Oswestry Disability Index (ODI) or RMQ must be used.

The RMQ can be used as an outcome measure for monitoring the effect of low back pain on patients' activities, before and during treatment. The questionnaire will serve patient care in a number of ways:

- Encourages feedback between practitioner and patient.
- Helps determine therapeutic endpoint or medically stationary status.
- As justification for continued care.

Validity, Reliability and Responsiveness

The RMQ has been tested in comparison to the Sickness Impact Profile, the Oswestry Questionnaire, the Million Visual Analogue Scale and the Waddell Disability Index. It has been found to have good comparative levels of reliability,^{*} construct validity,[‡] and

responsiveness. (Beurskens 1995, Deyo 1986, Underwood 1999)

Lauridsen (2006) found the RMQ to be responsive in patients with LBP lasting both longer and shorter than 30 days, in both primary and secondary care settings. Grotle (2004) found the RMQ and ODI to be equally useful for acute or chronic low back pain. Lauridsen's study, 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 2006) Baker suggested that the RMQ may be superior for patients with more mild effects on activities of daily living (ADL) while the ODI was better for patients with more severe effects. (Baker 1989)

Administering and Scoring the Roland Morris

This questionnaire is usually administered during the first patient visit. It can be given at regular intervals at the clinician's discretion.

The RMQ has 24 statements describing possible activity restrictions. The patient is instructed to check each statement that describes a current activity restriction. The number of check marks is totaled and the patient is given one point for each check mark. The

* Tests of Reliability of RMQ (Beurskens 1995)

Test-retest correlation

r=.91 (same day)

r= 0.83 (3 weeks)

r=0.72 (within 6 mos.)

‡Construct validity of RMQ (Deyo 1986)

Judged by correlation with the physical dimension subscale of the Sickness Impact Profile, the RMQ appears at least as valid as the SIP. However, compared to the SIP, the RMQ does not appear to give a good reflection of psychological distress.

scores range from zero (indicating no disability) to 24 (indicating severe disability). (Roland et al. 1983)

Various authors have set the minimum amount of clinically important difference or change (MCID) at different thresholds. Most commonly it is suggested to be a change of 2-5 points. For patients with little disability, 1-2 points has been recommended with a 7-8 point change in patients with high levels of disability. (Liebensen 2007)

DEFINITIONS

Test Validity

Test validity is crucial for establishing the clinical usefulness of an assessment instrument. Validity refers to how accurately an assessment procedure measures the clinical state of a patient as compared to a gold standard. (Haas 1999) However, there is no gold standard for evaluating *impairment* of functional ability in relation to back trouble. There are a number of problems standing in the way of establishing a gold standard test for back pain and disability.

- The severity of a patient's pain does not necessarily predict the degree of disability.
- The self-assessed severity of both pain and disability is largely subjective and not amenable to external validation.
- There are large inter- and intraobserver errors in the clinical assessment and physical examination of the back. (Beurskens 1995)

In the absence of a gold standard, validity is used as a suitable surrogate. Construct validity is established through comparison with other measures that are theoretically related to the clinical condition being evaluated.

Functional status questionnaires for patients with back pain are tested for construct validity by comparison with other instruments and with other clinical features that would be expected to correlate with physical function.

Reliability refers to the repeatability of a test and it indicates precision and consistency. A reliable test is repeatable, precise and consistent.

Responsiveness refers to a test's ability to measure change over time.

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References

- Baker JD, Pynsent PB, Fairbank JCT. The Oswestry disability index revisited: its reliability, repeatability and validity, and a comparison with the St. Thomas's disability index. In: Roland MO, Jenner JR (Eds). *Back Pain: New Approaches to Rehabilitation and Education*. New York: Manchester University Press; 1989: 174-86.
- Beurskens AJ, et al. Measuring the functional status of patients with low back pain. *Spine* 1995;20(1):1017-28.
- Deyo RA. Comparative validity of the sickness impact profile and shorter scales for functional assessment in low-back pain. *Spine* 1986;11(9): 951-4.
- Grotle M, Brox JI, Vollestad NK Concurrent Comparison of responsiveness in pain and functional status measurements used for patients with low back pain. *Spine* 2004;29(21):E492-E501.
- Haas M, et al. The routine use of spinal displacement analysis: a dissent. *JMPT* 1999;22(4):254-9.
- Lauridsen HH, Hartvigsen J, Manniche C, Korsholm L, Grunnet-Nilsson N. Responsiveness and minimal clinically important difference for pain and disability instruments in low back patients. *BMC Musculosk Disorders* 2006;7:82.
- Liebensen, C. *Rehabilitation of the Spine*, 2nd ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2007.
- Roland M, Morris RA. Study of the natural history of back pain. *Spine* 1983; 8(2):141-4.
- Underwood MR, et al. Evaluation of two time-specific back pain outcome measures. *Spine* 1999;24(11):1104-12.