

Virtual Mentor

Ethics Journal of the American Medical Association
February 2005, Volume 7, Number 2

Clinical Pearl

Assessing Quality Of Life In Patients With Lumbar Sciatica

by Bernd E Will, MD, and Matthis Synofzik

Evaluating Sciatica

Sciatica, a very common and costly medical condition, describes a *set of symptoms* rather than a *diagnosis*, and it is difficult to find criteria for successful treatment. To evaluate success of surgery for lumbar degenerative disc, for example, one might repeat the radiological diagnostics and compare them with the preoperative findings, observe physiologic changes (eg, nerve conduction) or look for improvement in clinical findings (eg, weakness). But there is increasing doubt among clinicians that these traditional, objective measures of medical success present a valid and sufficient indication of outcomes from the *patient's* perspective. Of what worth are radiological findings if they do not sufficiently represent the patient's evaluation of the sciatic symptoms—either because the patient's subjective impairment is much greater than suggested by the radiological findings [1] or vice versa, the radiological findings show lumbar nerve compression but the patient's impairment is mild [2,3]? Objective measures do not always correlate with subjective experiences. To assess the functional impact of sciatica for patients more validly, quality-of-life (QoL) scores have been developed for use in research and clinical settings. The improvement in health-related QoL as measured by these scores can be seen as the main goal of sciatica treatment [4, 5].

QoL Considerations in the Evaluation of Treatment of Spinal Disorder

Although the concept of QoL and the methodology of its assessment still remain controversial, there is enough agreement on the core set of measures to assess QoL. All good QoL questionnaires have in common that they can be easily understood by the patients, easily interpreted by the physician, and administered quickly (1-10 minutes [6]), which is a prerequisite for successful application in hasty clinical life. Criteria for an effective QoL measure are [4]:

- Specificity to disease, setting, and population
- Content validity (What domains and items are included?)
- Face validity (Do patients and physicians agree that these questions are relevant to their complaint?)
- Feasibility (Is it easy to understand and to use?)

Back-specific function scores ask about impairments that are particular to patients with spinal disorders: standing, walking, bending down, getting dressed, etc.

For every questionnaire there is a simple algorithm for adding the single item points together to obtain an overall score that broadly classifies patients into the categories of “unimpaired,” “mildly impaired,” “strongly impaired,” or “very heavily impaired” by

the disease. Since the various QoL questionnaires correlate highly with each other, they can be used by physicians in different specialties. QoL scores typically assess quality of life in 5 domains [6]:

- Function (back-specific questionnaires employ Roland-Morris [7], Oswestry [8])
- Work disability (work status, days off work, etc.)
- Pain (Bodily Pain Scale of SF 36 [9], Chronic Pain Grade [10])
- Satisfaction (back-specific Patient Satisfaction Scale [11]; global questions).
- General health status (e.g. SF-36 [12])

Whereas measures of function and work disability are related to physical capabilities (house work, mobility, dressing, etc), the general health status and satisfaction measures also include dimensions like social function, emotionality, and so on [6]. The former measures have a more objective and descriptive character, which makes them more similar to the traditional clinical physiological measures and easier to integrate into the clinical decision-making process. The latter are more subjective and prescriptive in character, making it harder for the physician to control and evaluate the variables and overall outcomes [13].

Using QoL in Sciatic Patients for Clinical Decision-Making

In the clinical decision-making process for patient's with lumbar sciatica, quality-of-life measures aid in:

- *The assessment of the severity of the low back disorder at baseline,*
- *The assessment of the individual response to specific treatment over time,* eg, postoperative improvement of low back pain; follow-up of an individual patient under conservative therapy when comparing the QoL score at patients' admission with later score evaluations; final evaluation of patients' progress while in the hospital through a QoL score before admission and after admission,
- *Exposing evaluation discrepancies between physicians and patients.* For example, when comparing the individual patient's score with his or her own clinical impression, the physician should be highly alerted by certain discrepancies: why does the patient perceive his health state significantly worse than the physician thinks it is? Or vice versa: why does it appear to the physician that the patient is strongly impaired whereas the patient himself reports being quite well? In clinical life the former discrepancy probably occurs more often, but the latter scenario might illustrate a general misinterpretation of patients' own view of their lives (See the journal discussion of the disability paradox in this issue [14,15]).
- *Evaluating outcome of general treatments,* eg, one-level discectomy compared to two-level discectomy [16],
- *Guiding decision making about hospital care options,* eg, all patients with lumbar disc surgery who afterwards still affirm more than half of the questions of the Roland-Morris questionnaire should be given extended stationary therapy.
- *Evaluating cost-effectiveness,* eg, for patients with clearly defined indications for surgery, lumbar disc surgery is generally more effective than continued medical treatment only in the short-term, but not when long-term outcomes are considered [17].

Putting QoL in Sciatica Patients into Practice: the Maine-Seattle Back Questionnaire

An example of an instrument for determining QoL for a specific disease like sciatica is the Maine-Seattle back questionnaire portion of the Roland-Morris Disability Questionnaire [6], one of the most respected and frequently used back-specific functional status measures. A portion of the questionnaire is shown below.

Instructions: As you read this list of statements from the Maine-Seattle portion of the Roland-Morris Disability Questionnaire, think of yourself today. When you read a sentence that describes you today, put a check in the “yes” column. If the sentence does not describe you today, you put a check the “no” column.

1. I change position frequently to try and get my back or leg comfortable.
2. Because of my back problem, I use a handrail to get upstairs.
3. I get dressed more slowly than usual because of my back problem or leg pain (sciatica).
4. I only stand for short periods of time because of my back problem or leg pain (sciatica).
5. Because of my back problem, I try not to bend or kneel down.
6. I find it difficult to get out of a chair because of my back problem or leg pain (sciatica).
7. My back or leg is painful almost all the time.
8. I sleep less well because of my back problem.
9. I stay in bed most of the time because of my back or leg pain (sciatica).
10. Because of my back problem, my sexual activity is decreased.
11. I keep rubbing or holding areas of my body that hurt or are uncomfortable.
12. Because of my back problem, I am doing less of the daily work around the house than I would usually do [6].

Although the linkage between QoL diagnostics and therapeutic decision making is ethically justifiable [18], it has been poorly investigated or established [13, 19-21], and more research on this link is needed [22-23]. There is also increasing—almost scandalous—evidence that QoL considerations still seem to play a relatively minor role even in the physician's decision to modify or discontinue important, patient-centred treatments such as palliative chemotherapy [24]. The patient's self-reported QoL, however, can and should assist in clinical decision making. Here are several examples of how these scores may guide physician's decision making and improve medical practice:

- When seeing a patient for the first time in a clinical or hospital setting, the patient's QoL rating can indicate the need or urgency for intervention. Hence some intervention can be offered before more costly and time-consuming diagnostic procedures are carried out [25-27].
- If the pain and dysfunction score does not go down after treatment during a hospital stay, the physician reliably knows that the treatment measures applied so far were insufficient and that he or she has to work out a better treatment plan. If the score goes down over a reasonable period of time, the physician

knows that his or her treatment protocol has been successful and has a reliable treatment for this patient.

- If the score goes down during a hospital stay, the physician can demonstrate improvement to the patient and can explain the purpose of the initiated treatment. For example, this may help to convince the patient that it is necessary to go to physical therapy on a weekly basis even after being checked out of hospital. This can help the patient's understanding of the physician's decision-making process [28-29].
- If the score remains high and all neurological therapy options are depleted, the neurologist now has a valid basis to discuss the case with neurosurgical colleagues and argue for the need of a discectomy.

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Bernd E. Will is an assistant professor for neurosurgery at the University Hospital of Tübingen, Germany. He received his training in internal medicine, conservative orthopaedics, physical therapy and in neurosurgery.

Mathis Synofzik is this month's Virtual Mentor editor.

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