

Clinical update: low back pain

See [Comment](#) page 725 Every year one in five adults will have low back pain.¹ Even in silent sufferers (ie, those not seeking treatment), the back is the second most frequent location of pain.² Acute episodes, lasting less than 3 months (90% of cases), are usually benign and do not need specific treatment. Indeed, overtreatment is often the major danger for these patients. However, the 5–15% of acute cases with an established cause do need to be identified at the first consultation and treated accordingly. Chronic low back pain, lasting more than 3 months, accounts for no more than 10% of cases but is one of the greatest health problems in industrialised societies, with costs of US\$100–\$200 billion a year.³ Many reviews and assessment or treatment guidelines are available to help the primary care doctor to manage acute low back pain.⁴ By contrast, few documents offer advice on outcome assessment, and the first

international guidelines on prevention of low back pain⁵ and the management of chronic cases⁶ have only recently been published. Here we summarise the basic principles of management and outcome assessment in low back pain, on which evidence-based daily practice can be based.

In diagnosis, specific spinal disorders (vertebral fractures, tumours, infections, inflammatory diseases, and symptomatic disc herniation or spinal stenosis) occur in only a few patients with acute low back pain in primary care. After a brief diagnostic triage, on the basis of identification of “red flags” and a limited neurological and musculoskeletal examination, about 85% patients can be classified as having non-specific low back pain.⁴ For chronic non-specific low back pain, the new guidelines recommend triage and the assessment of “yellow flags” (panel). Further clinical examinations, such as spinal and soft-tissue palpation, segmental range of motion, and straight leg-raising, cannot be recommended.⁶

Diagnostic imaging tests are not routinely indicated for non-specific low back pain and should be reserved for patients who are candidates for surgery or in whom a systemic disease is strongly suspected.⁴ Such tests do not help to plan conservative care. Moreover, they can have a negative effect on the patients’ sense of well-being.⁷ Overall, MRI is the best procedure for diagnosis when radicular compressions, discitis, or neoplasms are suspected.⁶ For imaging studies, compliance by primary care physicians with the guidelines is poor. There are many reasons explaining the enthusiasm of both patients and doctors for radiographic studies, some of which are patient-related (eg, the wish to identify an objective cause of the pain), others related to the clinician (eg, the fear of missing a severe abnormality), and others related to the therapeutic interaction (eg, the desire to convince the patient that his or her expectations and worries are being taken into account).⁸

Low back pain is not a clinical entity but a symptom, with different stages of impairment, disability, and chronicity. Physical examination and objective measures of function (eg, range of motion, back strength) are at best only weakly associated with outcomes that are more relevant to patients and to society, such as symptom relief, daily functioning, and work status.^{9,10} Assessment

Panel: Management of low back pain^{4,6}

Acute (<6 weeks)

- First consultation: gather information on core outcome domains
- Rule out pain of non-spinal origin
- Rule out specific causes (red flags)
- No routine imaging
- Inform and reassure patient. Advise to stay active and continue daily activities, if possible including work
- Prescribe analgesia, if necessary (1st choice: paracetamol; 2nd choice: non-steroidal anti-inflammatory drugs)
- Consider adding muscle relaxants (short course) or referring for spinal manipulation
- Avoid over-medicalising, especially in patients with favourable outcome
- Be aware of yellow flags (inappropriate attitudes and beliefs about back pain, inappropriate pain behaviour, emotional problems)

Subacute (6–12 weeks)

- Re-assessment
- Bear in mind minimum clinically important difference of core outcome tools
- Consider patients’ expectations
- Consider yellow flags if outcome is not favourable
- Re-assess regularly by valid outcome tools to evaluate response to treatment
- Focus on function
- Give priority to active treatments
- Consider multidisciplinary programme in occupational setting for workers with subacute low back pain and sick leave (>4–8 weeks)

Chronic (>12 weeks)

- Repeat thorough clinical examination
- In cases of low impairment and disability, simple evidence based therapies (ie, exercises, medication, and brief interventions) might be sufficient
- In cases of more severe disability or chronicity, give priority to multidisciplinary approaches (biopsychosocial)

of these patient-oriented factors is therefore essential, before treatment and at follow-up.⁶ A seminal paper on outcome measures in low back pain recommended that the following five domains be included in the assessment: pain, back-specific function, generic well-being, disability (work and social), and satisfaction with care.⁹ Numerous ways exist to assess each dimension.¹¹

Because pain is the reason that patients with low back pain typically seek care, this symptom should be considered one of the main outcomes to assess. Pain is one of the most sensitive or responsive measures when treatment effects are assessed in low back pain.¹² Two key dimensions are pain intensity (how much a person hurts) and pain affect (emotional arousal and disruption from the pain experience).¹³ Three types of scale are typically used to measure intensity: visual analogue scales, verbal rating scales, and numerical rating scales. Head-to-head comparisons of different scales suggest that they are similar in rates of incorrect responding (eg, leaving blank, marking between categories, extending beyond the maximum, giving a range rather than a single estimate) and predictive validity, but that numerical rating scales are the most practical for ease of administration of scoring, sensitivity, and responsiveness to change.

A key point in the assessment of pain is the minimum clinically important difference (MCID). The MCID is the minimum score difference that constitutes a noteworthy clinical change. This value is rarely absolutely fixed, but instead provides an indication of relevant change.¹⁴ For patients with acute low back pain, the MCID on the 0–100 visual analogue scale is about 35 units; for chronic low back pain, the corresponding value is typically 20–25 units.¹⁴ Similar relative values have been reported for numerical rating scales.¹⁴

Several validated methods are available to assess the other important outcome dimensions (back-specific function, generic wellbeing, disability, and satisfaction with care).^{9,11} However, the time required to administer these instruments is a major obstacle to their widespread use. The initiative from an international group of primary care experts, to introduce a core-set of just six questions suitable for use in a wide variety of settings, was in this respect a welcome solution to the conflicting demands of comprehensiveness and administrative burden.⁹ Two recent reports indicate that the metric properties of the core set and its ease

of administration make it a highly practicable, reliable, and sensitive instrument when respondent's burden is a concern.^{15,16} Such simple methods are not only relevant at the individual level, but are also essential to encourage clinicians to collaborate with national and international registries and databases, a fundamental step in the evaluation of the efficacy of (new) therapeutic techniques. Indeed, the core set has been adopted by the Spine Society of Europe for its Spine Tango registry (the questionnaire is freely available in various languages).

The current recommendations for patients with acute low back pain include: adequate information and reassurance; advice to stay active and continue normal activities; analgesia, if necessary; and (consideration of) spinal manipulation for patients who are failing to return to normal activities. Bed rest, back-specific exercises, epidural steroids, and traction are strongly discouraged.⁴

An important issue is when should the patient with acute low back pain be reassessed. There is no evidence here to make a firm statement. Most guidelines recommend re-evaluation if the acute symptoms are not diminishing after a variable number of weeks. The European guidelines acknowledge the lack of evidence, but recommend flexible use of a 4–6 weeks' threshold for reassessment.⁴ A recent article suggests that primary care physicians can reasonably ask patients with any indicators of a poor prognosis (such as pain intensity ≥ 5 on a 0–10 numerical rating scale, self-reported pain in the leg and/or the upper body, a disability score >14 on the Roland and Morris questionnaire) to return for reassessment 1 month after the first consultation.¹⁷

In putting together the European guidelines for the management of chronic low back pain, almost 40 different therapies were scrutinised for evidence of effectiveness and only six were ultimately recommended: non-steroidal anti-inflammatory drugs, weak opioids, supervised exercise, brief educational interventions, cognitive behavioural treatment, and multidisciplinary biopsychosocial rehabilitation.⁵ The guidelines cautioned, however, that even for these recommended treatments the effects were only modest because of, at least in part, the heterogeneous nature of the underlying problem in non-specific low back pain. It was suggested that future research should include the search for ways to improve the classification and

identification of specific subgroups of patients with chronic low back pain. Rather than focusing on the assignment of pathoanatomical labels to subgroups, the most successful approaches in this direction (currently only in acute or subacute low back pain) have used response to treatment as the reference standard in developing clinical prediction rules based on a minimum set of signs, symptoms, and functional characteristics.^{18,19} After validation in larger more diverse groups of patients, on a prospective basis and within randomised trials, these prediction rules should represent a major advance in attempting to dispense with the one-size-fits-all approach to the treatment of non-specific low back pain. In the meantime, the focus should clearly be placed on reassurance, the provision of adequate information, and an active approach to management.

It is becoming increasingly clear that patients' expectations need to be taken into account in the treatment process: first and foremost, patients wish to be taken seriously.²⁰ They believe it important that clinicians give clear and understandable feedback during the clinical examination, give explanations and reassurance about the pain, deal with psychosocial issues, and discuss what can be done (by either the patient or the doctor). Improved structuring of the consultation, and more use of open-ended questions, summarising, and repetition, should help to create a "good back consultation".²⁰

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