Triage for Nonspecific Lower-back Pain

Sherri Weiser, PhD*; and M. Rossignol, MD, MSc, FRCPC†

Unremitting lower-back pain has long been a costly and personally devastating problem in society. Guidelines for the treatment of lower-back pain have provided evidence-based recommendations to help identify patients who will benefit from specific types of treatment in an effort to reduce costs and human suffering. However, there is little evidence that these guidelines are being applied in the daily practice of health care providers. Practical information is required to assist health care providers in triaging patients for specific treatments so that interventions can be targeted only to those who need them. In this way, iatrogenic complications and unnecessary costs can be contained. This chapter provides information on how to triage the patient with nonspecific lower-back pain for optimal care. The recommendations are supported by evidence-based guidelines, and when these are not available, best practice principles. Because appropriate treatment varies depending on the length of time a patient is suffering from lower-back pain, the chapter is divided into recommendations for acute, subacute, chronic and recurrent phases of lower-back pain.

Level of Evidence: Level V (expert opinion). See the Guidelines for Authors for a complete description of the levels of evidence.

Lower-back-pain–related costs and disability remains a growing problem in western cultures, despite efforts to address the problem. Although specific lower-back pain that is characterized by fracture, tumor, infection, cauda equina syndrome, or systemic disease is a more serious medical condition, nonspecific lower-back pain comprises the majority of complaints. In 1990, office visits for nonspecific lower-back pain totaled almost 15 million, making it the fifth highest reason for a doctor’s visit. Only 10% of these patients will have pain that persists longer than six weeks. However, this minority consumes eighty percent of back–pain-related costs.

Evidence-based guidelines for the treatment of lower-back pain have been developed to provide a uniform algorithm for identifying patients that will benefit from specific diagnostic tests and treatments. A review of guidelines developed in 11 different countries concludes that their recommendations are quite similar. By targeting treatment only to those patients who need it, iatrogenic complications and unnecessary costs can be minimized.

Although treatment guidelines are a giant step forward the few investigations into the practical application of these guidelines suggest they are not being followed closely. Because they offer information only if there is reasonable empirical evidence to endorse a particular treatment or procedure, there are gaps associated with many of the recommendations, leaving them open to interpretation. For example, there are ambiguities about exactly which psychological and social factors should be assessed and when this should be done. In addition, exercises are recommended, but no specific suggestions are provided as to which ones should be used, at what intensity and for how long. These limitations open the door for different interpretations of the guidelines and may be one reason why there is insufficient adherence to their recommendations.

In order to triage patients with lower-back pain successfully for treatment, it is necessary to delineate a consistent way of identifying patients who may be at risk for delayed recovery. When high quality, empirically-based evidence is not available, health care providers must rely on best practice procedures to guide treatment. We combine guideline recommendations with best-practice approaches to provide practical information about how to triage patients with lower-back pain and obtain optimal results.

What is Triage?

Triage may be described as “sorting and allocating aid on the basis of need for or likely benefit from medical treat-
In the case of nonspecific lower-back pain, the assumption is that pain will progress according to the natural history of lower-back pain unless certain signs or symptoms associated with poor outcome are present. If present, these signals represent the possibility of delayed recovery or chronicity and the need for specific interventions.

The terms “triage” and “screening” sometimes have been used interchangeably when referring to the identification of patients with acute nonspecific lower-back pain whose pain is likely to become chronic. However, screening usually is defined as “the examination of a group of usually asymptomatic individuals to detect those with a high probability of having or developing a given disease.” The goal of clinical screening is to identify individuals who may be at risk of developing lower-back pain. Although authors of some studies indicate that certain psychosocial factors can identify healthy individuals at risk for nonspecific lower-back pain, the effect is small. Currently, there is no evidence that clinical screening for the risk of nonspecific lower-back pain is of any value. Concurrently, efforts at primary prevention that target clinical factors largely have been unsuccessful.

The goal of triage is to maximize the benefits of treatment and to minimize unnecessary costs and suffering associated with undertreating or overtreating a patient with nonspecific lower-back pain. There are a number of physical, psychological, and social factors that have shown strong and consistent relationships with outcome. These factors can be used to target likely candidates for delayed recovery. In addition, there is evidence to support specialized treatments for patients at risk for chronic pain. We will use the term “triage” to refer to the identification of patients who may benefit from specific treatment goals.

**Why is triage important?**

The natural history of nonspecific lower-back pain shows an excellent prognosis. Eighty to ninety percent of all patients will improve in the first 2 weeks with no treatment at all. Up to 90% of patients will recover in the first month and the pain will impede fewer than 5% of patients 3 months latter. However, the small percentage of patients whose pain becomes chronic comprises the majority of all costs and suffering related to nonspecific lower-back pain. Some of these problems may be eliminated by triage.

Triage based on recognized medical, psychological, and workplace risk factors for chronicity can help to direct treatment in a way that maximizes the results. In this way patients would receive only the treatment they need to recover. This is imperative because the consequences of undertreating or overtreating a patient can be disastrous.

The potential of iatrogenic damage exists when physicians prescribe unnecessary treatment and diagnostic tests. For example, prescription medications can cause side effects or become habit forming. Also, x-rays or magnetic resonance imaging (MRI) tests may reveal common abnormalities that do not alarm the physician but can be a great cause of concern for the patient. Abenhaim et al speculate that one reason that a specific diagnosis for lower-back pain results in chronicity is the label itself, regardless of the presence or absence of a physical lesion.

**Phases of Nonspecific Lower-back Pain**

Phases of nonspecific lower-back pain are defined by the time from the onset of the current episode of pain. The distinct phases have predictive value in that there is a relationship between the duration of pain and a patient’s prognosis. For the outcome of “return to work” for example, an individual who has been out of work fewer than 3 months has better than a 90% chance of returning. At 1 year out of work the odds decrease substantially, and at two years, there is almost no chance of a patient returning to work. Because the patient profile is different in each phase, the goal of triage may vary. Therefore, each phase will be discussed separately.

We will address triage of nonspecific lower-back pain in four phases; acute, subacute, chronic, and recurrent. The acute phase refers to a patient with pain up to 4 weeks after onset. The subacute phase refers to a patient with pain from 4 to 12 weeks after onset, and the chronic phase indicates a patient with pain for more than 3 months. Recurrent lower-back pain may be defined as pain that recurs 3 months after the resolution of the previous episode. This is considered a distinct episode and is different from unrelenting chronic pain.

**Types of Triage**

Three types of triage will be considered in each phase; medical, psychological, and physical work environment. Medical triage includes physical symptoms, pathologies and function of the patient. Psychological triage includes psychopathology, psychological states, and individual perceptions sometimes referred to as psychosocial factors.

Triage based on the physical work environment indicates physical demands or conditions that the patient confronts on the job. In all cases, the strength of evidence for triaging patients will be presented based on high quality randomized controlled studies and systematic reviews. When no direct evidence is available, the concept of “best practice” will guide recommendations.

**Acute Phase**

The general objective of triage for the patient with lower-back pain in the acute phase is to rule out conditions that
can affect the prognosis early on. The most important goal is to identify specific serious conditions, or red flags, that require urgent treatment. The reciprocal goal is to avoid a course of treatment in those patients for whom treatment is unnecessary.

The identification of serious urgent conditions has been recognized universally as an important goal in the initial treatment of a patient with lower-back pain. Even if they are rare, these conditions are easy to identify in primary care by questioning the patient and require no special test at the initial triage. Carter et al classified patients in their guidelines for the treatment of lower-back pain in three categories based on initial triage (Appendix 1). The particular interest in this classification is not only to identify red flags (Category C) but also to distinguish patients with nerve root pain (Category B) from those with simple mechanical pain (Category A), patients in the former group being expected to recover more slowly than the latter. The systematic search for nonorganic signs at the physical examination will help the clinician make the distinction between categories B and C.

The recommended treatment of patients with red flags (Category C) is the urgent investigation of a serious pathology such as cancer, infection, fracture, or neurologic compromise from disc displacement. In the absence of red flag, patients with nerve root pain (Category B) will be observed closely by their physician for the persistence or worsening of neurologic signs and symptoms. If deficits are progressive or severe, emergent intervention is required. Minor neurologic signs and symptoms usually resolve without specific intervention.

There is strong evidence that imaging techniques should be avoided if no red flag is suspected. Specialized tests should be ordered only when systemic pathology is suspected or surgery is considered. The increasing sophistication of imaging technology has lead to a rise in the number of false-positive tests. Even though these findings are innocuous from a medical standpoint, they can have deleterious effects on patients. Erroneous beliefs about the seriousness of back pain are difficult to change and may lead to behaviors, such as activity restriction, that can worsen pain. In fact, a false-positive test can worsen the prognosis and represents the most frequent adverse effect of triage in the acute phase of lower-back pain.

There is weak evidence for a formal psychological and psychosocial assessment in the acute phase of nonspecific lower-back pain. However, some authors recommend screening for these factors as early as two weeks after onset of pain. This is because of the strong relationship between these factors and outcome at later stages. It seems logical to flag these warning signs as early as possible.

The purpose of gathering such information at this stage is twofold. First, the physician can attempt to dispel irrational or maladaptive beliefs held by the patient by repeating accurate and optimistic messages. One study found that introducing information aimed at reducing psychological distress in the acute stage decreased work absence. Second, individuals who have these characteristics automatically should be considered at risk and should be referred for psychological evaluation immediately if they have not improved at the 4-week mark.

Authors of several studies show that these factors, when identified in the acute phase, predict future disability. For example, Nordin et al found that the extent of functional disability expressed by the subject as measured using the Oswestry Disability Index near the onset of the back pain episode predicted sickness absence from work 4 weeks after injury. Pincus et al found evidence that certain variables such as distress and somatization assessed in the acute stage predict chronicity, however, other variables such as coping strategy showed weak or no predictive value.

At this stage, best practice dictates an informal assessment of psychological and psychosocial risk factors. Formal assessment by a psychologist or counselor or standard questionnaires can be off putting at this juncture as patients are likely to assume that the physician believes that the pain is not organically based and therefore, not “real.” Also, while certain factors such as distress, fear of activity, and negative perceptions of work and its impact on pain have been linked repeatedly to poor outcomes at later stages of nonspecific lower-back pain there is less evidence about what psychological factors should be identified in the acute phase of lower-back pain. A modicum of distress in the form of anxiety, fear, and anger are normal reactions to severe pain. This should be explained to patients so that they are comfortable sharing their reactions to pain. Patients also may be questioned about concerns they have about their job and returning to work. If distress is noted, efforts should be made to emphasize the patient’s excellent diagnosis. If the patient remains extremely distressed about pain or functional limitations and expresses negative work attitudes despite these reassurances, these issues should be reevaluated at the next visit. At followup, if the patient has not improved at all, has failed to follow recommendations, or displays extreme signs of stress, an early psychological consultation should be discussed.

In the acute phase of lower-back pain, the clinician should question the patient on previous history of chronic lower-back pain or recurring lower-back pain. A short occupational history including the job title, a description of the working environment, and working schedule is valuable information to foresee potential difficulties and to reduce delays in returning to work in the eventuality that
a patient’s absence at work would go beyond the acute phase of back pain.\textsuperscript{37}

**Subacute Phase**

Because the majority of patients with nonspecific lower-back pain recover within the first 4 weeks, the subacute phase of nonspecific lower-back pain is a critical juncture. There is strong evidence that pain lasting more than four weeks is a risk factor for disability; the likelihood of chronicity increases considerably at this time. Therefore the goal of triage in this phase is to prevent chronicity. This is accomplished by improving function and removing or modifying psychological, social, and environmental barriers to recovery whenever possible.

Even at this phase, a majority of patients will improve and return to normal function with evidence-based interventions such as injections and active physical therapy. Therefore, it particularly is important at this point to identify those patients with the highest risk of developing chronic pain through careful medical and psychological evaluation.

The objective of medical triage in the subacute phase is to identify patients with lower-back pain whose conditions have not improved or have worsened after 4 weeks of the onset of pain. Research on the prognostic value of a stagnant or worsening functional score after the first 4 weeks of onset of pain has shown consistent associations with a reduced probability of returning to work during the subacute phase.\textsuperscript{32}

Several tools have been validated for the clinical evaluation of the functional status of patients with lower-back pain.\textsuperscript{5} As an example, Appendix 2 shows the Quebec Back Pain Disability Scale that has been used widely. Scores are based on a total of 100 points. On average, the score should improve by at least 10 to 20 points during the acute phase of lower-back pain. In the subacute phase, a patient with a score that has not improved by at least 10 points for a period of 4 weeks is at high risk of developing chronic pain. The clinician should intensify the search for specific barriers facing the patient in his or her return to work and to normal activity. Another possibility is the patient who improves slowly but steadily. In that case, the clinician can help by referring that patient to a supervised exercise program.

There is good evidence that psychosocial factors substantially affect the transition from acute to chronic pain.\textsuperscript{33} In addition there is moderate evidence that multidisciplinary interventions addressing these factors are superior to alternative treatments at this stage.\textsuperscript{20} Therefore, a psychosocial evaluation is recommended for all patients who are not expected to regain normal function 4 weeks after pain onset.\textsuperscript{34}

Kendall outlined “yellow flags.”\textsuperscript{21} These are psychological and social factors for which there is moderate to strong evidence of an association with outcome. These are the presence of a belief that back pain is harmful or potentially severely disabling, fear-avoidance behavior and reduced activity levels, tendency to low mood, withdrawal from social interaction, and high expectations of passive treatment(s) rather than a belief that active participation will help.\textsuperscript{22} Work perceptions include dissatisfaction with the job or workplace, work stress, and the belief that work will exacerbate pain. There is strong evidence that these factors are modestly related to poor occupational outcome and also should be assessed.\textsuperscript{40}

In order to triage effectively, it is important to understand the specific beliefs and concerns that prevent recovery. Best practice indicates that the clinical interview is the gold standard for triaging patients in this stage. A comprehensive interview conducted by a psychological expert is the best option. Patients often will respond well to this referral if it is explained to them that they can learn ways of coping with pain and handling the stress of nonspecific lower-back pain by speaking with an expert in the field of psychology.

Numerous valid and reliable self-report screening questionnaires exist to assess distress, pain beliefs and social perceptions. Most are excellent research tools and provide insight into the patient’s experience. Some recommend clinical cutoff scores that have been associated with chronicity such as the Oswestry Disability Questionnaire\textsuperscript{9}, the Distress and Risk Assessment Method (DRAM)\textsuperscript{28}, and the Acute Low Back Pain Screening Questionnaire\textsuperscript{26}. However, these tools should never be used in isolation to diagnose or to treat a patient. They provide only partial information. They are best used to confirm impressions obtained during a clinical interview or to guide referral to a specialist.

If a referral to an expert is impractical or not acceptable to the patient, the healthcare provider can ask several key questions. In addition to assessing the risk factors mentioned above, the information obtained can provide specific target areas for treatment. Based on the work of Kendall et al.,\textsuperscript{21} Waddell and Burton,\textsuperscript{40} and others, a brief series of questions is suggested that the physician can use to determine if referral to a psychological specialist is necessary (Appendix 3).

A referral to a psychological professional is warranted if the patient exhibits any of the warning signs for delayed recovery. In addition, best practice dictates that several other observations may indicate a poor prognosis and require specialized treatment: (1) if the patient fails to improve in the expected amount of time; (2) if the patient fails to comply with recommended treatment; (3) if the
patient believes stress is the main source of lower-back pain; and (4) if additional treatments fail.

In the subacute phase, the clinician should identify specific barriers facing the patient in his or her return to work, especially for patients who show no improvement in their functional status. The goal is to recommend a gradual return to work, specifying restrictions that can be managed in the workplace. At that point, medical interventions count for less than 20% of the success for return to work; workplace interventions account for the rest. Clinical recommendations for restrictions at work can be guided by using the grid shown in Appendix 4.

In the spirit of gradual return to the job, the restrictions should be temporary while the functional status continues to be monitored. Authors of one study showed that placing patients with nonspecific lower-back pain with heavy physical jobs on open-ended temporary restrictions did not increase their likelihood of returning to full duty. Therefore, best practice indicates that a specific date for return to full duty should be established at the time restrictions are recommended.

Clinicians should refrain from recommending permanent partial or total disability from work. It is not possible to distinguish between physical and psychosocial environmental factors at work in a clinical assessment. Furthermore, the “permanent disability” label is likely to result for those patients with chronic pain and such a label often is difficult to overcome.

**Chronic Phase**

The general objective of triage of the patient with chronic lower-back pain is to minimize delays in identifying chronicity so that care can be adapted to the role of achieving the best functional status while reducing suffering, healthcare consumption, and adverse reactions from medication.

Medical triage for identifying the patient with chronic lower-back pain starts at the first medical visit. While more than 80% of initial consultations for lower-back pain are made for ongoing pain, less than 5% of patients have chronic pain. At the initial questionnaire, if the current episode of back pain already has caused considerable restriction of activities for a period of more than 12 weeks, it should be considered chronic. Among those completely disabled from work, the likelihood of returning to work in the following year remains in the order of 50%. Patients with chronic lower-back pain should be referred without delay to specialized multidisciplinary care because the success of this type of intervention may be inversely related to the duration of the disability at the time of referral.

There is good agreement among international guidelines for the treatment of lower-back pain that all patients with nonspecific lower-back pain for more than 12 weeks require a comprehensive psychosocial evaluation. There is strong evidence that disability caused by nonspecific lower-back pain has more relationship to complex psychosocial factors than clinical or physical factors. In addition, there is strong evidence that patients who remain disabled 3 months after pain onset have an increasingly difficult time returning to work. This means, that in addition to a thorough physical examination, a functional and psychosocial assessment done by a professional in the field of psychology should be mandatory.

Information obtained in the clinical interview can be used to triage patients into appropriate programs. Multidisciplinary treatments are recommended. However, there is some controversy about whether patients with chronic pain can be rehabilitated to an extent that justifies such programs. For example, Waddell and Burton have claimed strong evidence that treatments aimed at returning patients with chronic nonspecific lower-back pain to work are ineffective. Others agree, showing moderate to strong evidence that behavioral and/or multidisciplinary treatment for chronic pain is effective for pain and function, but the evidence is unclear for return to work.

Unemployment is a large part of the cost of chronic nonspecific lower-back pain. Therefore a poor result on this outcome should recommend against these programs for patients with chronic pain. However, at least one author has shown a return-to-work rate for patients with chronic lower-back pain to be 71%. These conflicting results may be attributed to the comparison of different or mixed populations of patients with chronic nonspecific lower-back pain. Some authors have attempted to identify factors that predict success in multidisciplinary treatment programs; perceived disability, psychopathology, and motivation are associated with the outcome of treatment. However, there is no evidence that triaging patients along these dimensions leads to successful treatment outcomes.

It seems that there are at least two types of patients with chronic nonspecific lower-back pain. Patients with chronic nonspecific lower-back pain who have been poorly treated, who have a job to return to, and who are motivated to get well must be differentiated from the patients who give their lives over to the pain and adopt a new identity based on the role their pain allows them. Psychological evaluation is crucial to triage patients with chronic lower-back pain. A comprehensive clinical interview includes pain history and symptoms, treatment and responses, activity impairment, family, friends, workplace factors, pain attitudes and beliefs, motivation to return to work, psychological history, and current psychological status. At this stage it is important to assess the effects of mood state on recovery. Patients may also be triaged for psychotropic
medications such as antidepressants if it is suspected that distress will interfere with their participation in recommended treatments.

Triage into evidence-based rehabilitation should proceed for those patients with chronic pain. If a patient has had evidence-based care with poor results or is not interested in working hard to regain a healthy lifestyle, the patient should be told that pain management is their only option. The likelihood of such patients benefiting from multidisciplinary treatment is low.

Usually, patients out of work for very long periods of time do not have a job to return to. Even though the patient’s general attitude toward work is important in deciding treatment, there is no evidence that past work perceptions effect rehabilitation in individuals with chronic nonspecific lower-back pain. Therefore, it is not necessary to assess risk from this standpoint. Because pain, however, is considered chronic when it lasts more than 3 months, some patients do have a job to return to. If this is the case, questions about work should be ascertained in the same manner as in the subacute stage. No workplace triage is recommended to the primary care clinician during this phase.

Recurrent Back Pain

Recurrent lower-back pain is defined as the repetition of two or more episodes of disability from normal activity over a period of 12 months that are separated by at least 3 months of normal functioning. This definition is used to avoid confusion with chronic lower-back pain. The goal of triaging recurrent lower-back pain patients is to prevent further recurrences.

Questioning the patient at the initial visit can identify recurrent back pain. Although no scientific evidence exists on triaging based on recurrent back pain, its existence may indicate important information regarding workplace hazards or yellow flags that have been overlooked in previous episodes.

Recurrent nonspecific lower-back pain can signal important psychosocial factors that have yet to be detected. Despite the absence of scientific evidence for the usefulness of triage in these patients, it would be prudent to proceed as if they were at risk and assess them as one would a patient with subacute nonspecific lower-back pain. If the patient has more than one recurrence that results in lost work days, a comprehensive psychosocial evaluation including psychological and psychosocial factors may be justified. Psychological treatments or multidisciplinary options should be considered immediately when traditional medical care is unsuccessful.

The tool proposed in Appendix 4 can help determine specific workplace hazards that could explain the recurrence pattern of lower-back pain. As the patient improves, the recommendations for gradual return to work should be followed.

DISCUSSION

Overall, triage can be a helpful tool to guide the treatment of patients with nonspecific lower-back pain. However, there are several caveats to consider. There are varying degrees of evidence that medical, psychological, and occupational risk factors can be helpful in predicting chronicity and determining who would be likely to benefit from specific treatment strategies (Appendix 5). For instance, empirical studies show that some psychological factors such as negative beliefs about pain are consistently associated with poor outcomes in the subacute phase of pain. However, aggregate data is not applicable to all individuals. Therefore, clinical judgment must always supplement the results of screening tools. Also, as most cases of nonspecific lower-back pain resolves without intervention, physicians should interpret psychological factors with caution in the early stage of injury.

Until more research is done that will add to the strength of the evidence in some instances, best practice guidelines must be followed. None of the recommendations given here replace the good judgment of an experienced clinician. Patients may sometimes request treatments for which there is no evidence. If the physician believes that such treatments will do no harm and may provide psychological benefits to the patient, they may choose to permit them. These types of decisions are based on clinical experience and are at the discretion of the individual physician.

We have yet to determine the comparative value of specific treatments. There are no high-quality randomized controlled studies that have assigned patients with similar risk factors to different types of treatment. For example, do patients with poor psychological prognosticators benefit more from psychological interventions than they do from physical ones? Do all at-risk patients require multidisciplinary care to improve? This information would further streamline medical treatment and lead to improved outcomes.

There still is a good deal about nonspecific lower-back pain that is not understood. It remains a complex, multifaceted problem and needs to be addressed as such. Treating physicians should consider medical, psychological, and workplace factors simultaneously when evaluating a patient. Ultimately however, the physician should engage the cooperation of the patient as a partner in treatment. It is unlikely that any type of treatment will work or have a high compliance rate if the patient does not assume responsibility for his or her own well being.

It has been stated that existing guidelines for lower-back pain provide important information but have not be
implemented as easily as it was hoped. Based on these guidelines and best practice recommendations, we have attempted to present a practical and universal approach to the care of lower-back pain. It is contended that it is possible to successfully identify patients who require specific types of care at all phases of nonspecific lower-back pain through careful triage. Once this is achieved appropriate care can be provided, and we may find ourselves one step closer to a solution to the lower-back pain puzzle.

Acknowledgment

The authors thank Rudi Hiebert, ScM for his assistance in the preparation of this manuscript.

References


37. van den Hoogen HM, Koes BW, van Eijk JT, Bouwer LM. On the accuracy of history, physical examination, and erythrocyte sedimen-
tation rate in diagnosing low back pain in general practice. A cri-

38. van Tulder MW, Assendelft WJ, Koes BW, Bouter LM. Spinal
radiographic findings and nonspecific low back pain. A systematic
39. Waddell G. The Back Pain Revolution. Edinburgh, Scotland: Chur-
chill Livingston; 2004.
40. Waddell G, Burton AK. Occupational Health Guidelines for the
Management of Low Back Pain at Work Evidence Review. London:
Faculty of Occupational Medicine; 2000.
41. Waddell G, McIntosh A, Hutchinson A, Feder G, Lewis M. Low
Back Pain Evidence Review. London: Royal College of General
Practitioners; 1999.

APPENDIX 1. CATEGORIES OF PATIENTS
WITH LOWER-BACK PAIN AT INITIAL TRIAGE

A. Simple back pain—General characteristics:
• Age between 20 and 55 years.
• Pain restricted to lumbosacral region, buttocks, and
thighs.
• Pain “mechanical” in nature, ie, varies in time and with
physical activity.
• Good general health.

B. Nerve root pain—General characteristics:
• Unilateral leg pain worse than lower-back pain.
• Pain generally radiates to foot or toes.
• Numbness or paresthesia in same distribution.
• Nerve irritation signs such as a reduced straight-leg rais-
ing test that reproduces leg pain.
• Motor, sensory, or reflex changes that are limited to one
nerve root.

C. Red flags for possible serious spinal
pathology—General characteristics:
• Age of onset younger than 20 or older than 55 years.
• Violent trauma such as a fall from a height or a motor
vehicle crash.
• Constant, progressive, non-mechanical pain.
• Night pain not relieved in supine position.
• Thoracic or abdominal pain.
• Previous history of carcinoma, systemic steroids, drug
abuse, HIV.
• Unexplained weight loss, systemically unwell.
• Persistent severe restriction of lumbar flexion.
• Widespread neurology.
• Saddle anesthesia, difficulty urinating, fecal inconti-
nence.
• Structural deformity.

APPENDIX 2. QUEBEC BACK PAIN DISABILITY
SCALE
TODAY, do you find it difficult to perform the following
activities because of your back? (Circle the number cor-
responding to the level of difficulty)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Not Difficult at All</th>
<th>Minimally Difficult</th>
<th>Somewhat Difficult</th>
<th>Fairly Difficult</th>
<th>Very Difficult</th>
<th>Unable to Do</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Get out of bed</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Sleep through the night</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Turn over in bed</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Ride in a car</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Sit in a chair for several hours</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. Climb one flight of stairs</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. Walk a few blocks (300–400 m)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. Walk several miles</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. Reach up to high shelves</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. Throw a ball</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. Run one block (about 100 m)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. Take food out of the fridge</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14. Make your bed</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15. Put on socks (pantyhose)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>16. Bend over to clean the bathtub</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>17. Move a chair</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>18. Pull or push heavy doors</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>19. Carry 2 bags of groceries</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>20. Lift and carry a heavy suitcase</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Total score: (maximum 100)


Copyright © Lippincott Williams & Wilkins. Unauthorized reproduction of this article is prohibited.
APPENDIX 3. PSYCHOLOGICAL TRIAGE

1. Do you believe that you can recover from lower-back pain?
2. What activities are you avoiding because of your lower-back pain? Why?
3. How has your mood been since you’ve had lower-back pain?
4. How have your relationships with family, friends and coworkers been affected by your back pain?
5. What type of treatment(s) do you think will help you?
6. How do you feel about your job?
7. What effect, if any, do you think your job will have on your lower-back pain?
8. When do you expect to return to work?
9. What do you think has prevented you from getting better?

APPENDIX 4. BACK PAIN AND WORK ABILITY

This questionnaire is about the way your back pain is affecting your ability to perform various work-related tasks and activities. SUPPOSE, your job requires one of the activities listed below. We would like to know if you would be able or unable to perform these activities today. Please choose one response option for each activity (do not skip any activities), and circle the corresponding number.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Able</th>
<th>Probably Able</th>
<th>Probably Unable</th>
<th>Unable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Frequent lifting and carrying of light weights (5-10 lbs)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. Frequent pulling and pushing with moderate strength</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. Frequent lifting and carrying with heavy weights (over 40 lbs)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. Frequent twisting and stretching of your back</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. Frequent squatting and kneeling</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. Bending over or stooping for long periods of time</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. Standing up for periods of 20–30 minutes at a time</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8. Standing up or walking continuously for several hours</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9. Frequently walking up and down stairs</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10. Sitting continuously for several hours</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Total score: (maximum 30)

Would you be able to work TODAY if your job required any of the following activities?

APPENDIX 5. EVIDENCE SUMMARY

Acute Phase
1. There is strong evidence that prognosis is influenced by the presence of red flags.
2. There is strong evidence that imaging techniques are unnecessary if no red flags are present.
3. There is moderate evidence that assigning a medical label to patients without red flags increases the risk of chronicity.
4. There is moderate evidence that some psychosocial factors predict chronicity.
5. There is weak evidence for conducting a formal psychological evaluation.

Subacute Phase
1. There is strong evidence that a patient’s risk for chronicity increases at 4 weeks.
2. There is strong evidence that certain psychological and psychosocial factors are associated with delayed recovery.
3. There is moderate evidence that treatment should be multidisciplinary.
4. Best practice dictates that psychological information be obtained by interview.
5. Best practice dictates identifying occupational barriers to returning to work.

Chronic Phase
1. There is strong evidence that the risk a permanent disability increases at 3 months.
2. There is strong evidence that disability is related to psychological and psychosocial factors.
3. There is strong evidence that treatment should be multidisciplinary.
4. Best practice dictates that motivated patients with chronic pain receive work rehabilitation.
5. Best practice dictates identifying occupational barriers to returning to work if the patient has a job.

Recurrent Back Pain
Best practice indicates that the subacute protocol should be used.