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Practice Guideline

Clinic on
Low-Back Pain in
Interdisciplinary
Practice



2007

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Clinic on Low-Back Pain in Interdisciplinary Practice

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CLIP Clinical Practice Guideline

Introduction

This CLIP guideline was designed as a practical everyday reminder.

The clinical practice guideline for low back pain was developed in 2005 and 2006 with the support of the Robert-Sauvé Research Institute in Workplace Health and Safety (“Institut de Recherche Robert-Sauvé en santé et sécurité du travail”) and with the collaboration of five organizations representing primary healthcare professionals. Although this guide is based on an extensive review of the best available scientific evidence and the assessment of the knowledge in all areas of low back pain management, it is built around the know-how of practicing clinicians, thereby combining evidence-based practice with the participants’ clinical experience.

This CLIP guideline was designed as a practical everyday reminder and a training tool for professionals of all disciplines. The “interdisciplinary” nature of the guideline will be fully achieved if it facilitates information exchange between professionals. This is the Guideline’s intended use which appears to us, to be the only way to approach the current clinical situation.

Rapid evolution of knowledge and practices requires periodic updating of such a guideline. We are happy to count among the collaborators in this project the Quebec Rehabilitation Network (“Réseau provincial de recherche en adaptation et en réadaptation du Québec – REPAR/FRSQ”), which will take over to ensure the continuing relevance and validity of the guideline.

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Assessing the low back pain patient

Management principles of Unit 1

- 1.1 Types of low back pain
- 1.2 Spinal imaging
- 1.3 Stages of low back pain
- 1.4 Obstacles to return to activities
- 1.5 Progression of the patient's condition

Levels of evidence

Recommendations are made according to four levels of scientific evidence based on the quality of supporting studies.

Strong:

Based on consistent findings in several high quality studies

Moderate:

Based on consistent findings in lesser quality studies, particularly with small numbers of subjects

Poor:

Based on the results of only one study or inconsistent findings in several studies

Lack of evidence:

Based on studies with no comparison group, on theoretical considerations or on expert consensus

Principle 1.1

Type of low back pain

Statement of principle 1.1

In order to detect serious problems requiring immediate or specialized treatment, the clinical examination should triage patients according to the three types of low back pain (table 1.1).

Table 1.1 Three types of low back pain to be used in patient triage

A Simple back pain

General characteristics:

- Lumbar or lumbosacral pain with no neurological involvement
- “Mechanical” pain, varying over time and with physical activity
- Patient’s general health is good

B Back pain with neurological involvement

The patient must have one or more symptoms **and** signs indicating possible neurological involvement.

Symptoms

- Pain radiating below the knee, which is as intense or more intense than the back pain
- Pain often radiating to the foot or toes
- Numbness or paresthesia in the painful area

Signs

- Positive sign for radicular irritation as tested, for example, by straight leg raising
- Motor, sensitivity or reflex signs supporting nerve root involvement.

C Back pain with suspected serious spinal pathology (red flags)

General characteristics

- Violent trauma (such as a fall from height or an automobile accident)
- Constant, progressive, non-mechanical pain
- Thoracic or abdominal pain
- Pain at night that is not eased by a prone position
- History of or suspected cancer, HIV or other pathologies that can cause back pain
- Chronic corticosteroid consumption
- Unexplained weight loss, chills or fever
- Significant and persistent limitation of lumbar flexion
- Loss of feeling in the perineum (saddle anesthesia), recent onset of urinary incontinence

The risk of a serious condition may be higher in those under 20 or over 55 years of age. Particular attention must be paid to the previously mentioned signs and symptoms in patients in these age groups.

Level of supporting evidence

Moderate

The most common recommendation published throughout the world in clinical practice guidelines concerns initial patient triage (Koes et al, 2001). The main sought after goal is the identification of red flags (category “C”) requiring immediate medical or surgical attention. In general, patients with neurological signs and symptoms (category “B”) progress statistically twice as slow as patients with simple back pain (category “A”).

Interpretation

Red flags are warning signs that should lead the clinician to investigate for a serious pathology in need of immediate diagnosis (category “C”). These are mainly lumbar complications from a serious trauma or a disease such as cancer. In practice, such complications are rare but systematic questioning and examination is required in order to detect them.

Neurological signs and symptoms in the patient with back pain with no red flags (category “B”) often resolve themselves without recourse to surgery. A referral for a specialized consultation should not be required until the clinician has observed a functional deficit that is persistent or deteriorating after four weeks. Hence, aside from observing the progression of neurological signs and symptoms, management of these patients is identical to that for simple pack pain (category “A”).

Diagnostic triage can be repeated when needed according to progression. Diagnostic triage of low back pain is useful in screening for red flags and weighing the urgency of medico-surgical treatment. It does not exclude the use of validated sub-categories to guide treatment choices and adjustments.

Bibliography

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Principle 1.2

On spinal imaging

Statement of principle 1.2

Radiographic, MRI or CT scan examinations are rarely indicated for patients with simple back pain.

Level of supporting evidence

Strong

In patients suffering from simple low back pain, X-ray, CT scan or MRI results are not associated with the symptoms described by the patient or his perceived disability.

Van Tulder and collaborators reviewed articles published before 1996 on the relationship between simple back pain and X-ray results. They concluded that there is no evidence of a causal relationship between X-ray findings, particularly degenerative changes, and simple back pain.

For the two other types of back pain, particularly in patients over 55 years of age, a recent literature review concluded that simple X-ray were sufficient to exclude spinal pathology (Jarvik et al, 2003). Specialized imaging tests (such as CT scan and MRI) should be reserved for cases in which surgery is being considered or where there is a strong suspicion of systemic disease.

Interpretation

When patient history and physical examination reveal no red flags, a reliable clinical diagnosis can be made without recourse to medical imaging techniques.

When specialized diagnostic imaging examinations are performed e.g. a scan or MRI, results must always be interpreted in light of the clinical findings. Unnecessary use of these highly sensitive examinations will produce numerous false positive results, which can create a labelling effect for the clinician and his patient that can in itself contribute to a less favourable prognosis.

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Principle 1.3

Stages of back pain.

Statement of principle 1.3

The clinician should assess the patient's perceived disability and the probability of a return to usual activities, either in the fourth week if back pain related disability persists, or at the first consultation if the patient has a history of long lasting disability due to back pain.

Table 1.3.1 The three categories of back pain duration at the initial consultation

	Length of disability	Probability of return
Acute back pain :	0 - 4 weeks	80 - 100%
Subacute back pain :	4 - 12 weeks	60 - 80%
Persistent back pain :	More than 12 weeks	Less than 60%

Level of supporting evidence

Strong

The probability of return to work decreases with the length of disability due to low back pain, creating three stages (table 1.3.1). Disability is defined as a reduction in an individual's capacity to perform usual activities.

The study of the relationship between a longer absence from work and a weaker probability of return to usual activities has shown reproducible results in several states, including Quebec. A review carried out by Pengel et al (2003) shows that the progression of prognosis in relation to the duration of back pain is confirmed not only for return to work but also for level of perceived disability.

The assessment of perceived disability to determine the impact of low back pain on the patient's health is one of the recommendations most frequently found in practice guidelines

Interpretation

The classification of low back pain into stages permits the identification of the turning points (acute, subacute and persistent) at which the clinician should adapt the treatment on the basis of a deteriorating prognosis. This adjustment is determined in part by the prediction of long-term disability or probability of return to work. The SCL BPPM questionnaire (Dionne, 2005) can be used for the general population (table 1.3.2), while the RAMS questionnaire (Dionne et al, 2005) can be used for workers (table 1.3.3). When the SCL BPPM predicts moderate or elevated risk of disability, or when the RAMS predicts partial success or failure to return to work, the clinician should intensify the search for the obstacles preventing the return to usual activities or refer the patient to a clinician capable of identifying such obstacles.

Adjustment of management also depends on the assessment of the patient's perceived disability using a standardized questionnaire. This assessment can be done by means of the "Quebec back pain disability scale" developed and validated in Quebec (table 1.3.4) (Kopec, 1996).

Table 1.3.2 SCL Back Pain Prediction Model (SCL BPPM)

The following questions ask about how you felt in the past month. Please, check only one box for each question. <u>In the past month, how much were you distressed by:</u>		Not at all (0)	A little bit (1)	Moderately (2)	Quite a bit (3)	Extremely (4)	Don't know
		Section A	1 Worrying too much about things	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	2 Feeling no interest in things	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3 Feelings of worthlessness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	4 Feelings of guilt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	5 Feeling lonely or blue	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	6 Feeling low in energy or slowed down	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	7 Sleep that is restless or disturbed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	8 Feeling everything is an effort	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	9 Blaming yourself for things	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	10 Feeling hopeless about the future	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Section B	11 Faintness or dizziness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	12 A lump in your throat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	13 Feeling weak in parts of your body	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	14 Heavy feeling in your arms or legs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	15 Trouble getting your breath	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	16 Hot or cold spells	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	17 Numbness or tingling in parts of your body	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Scoring scale:

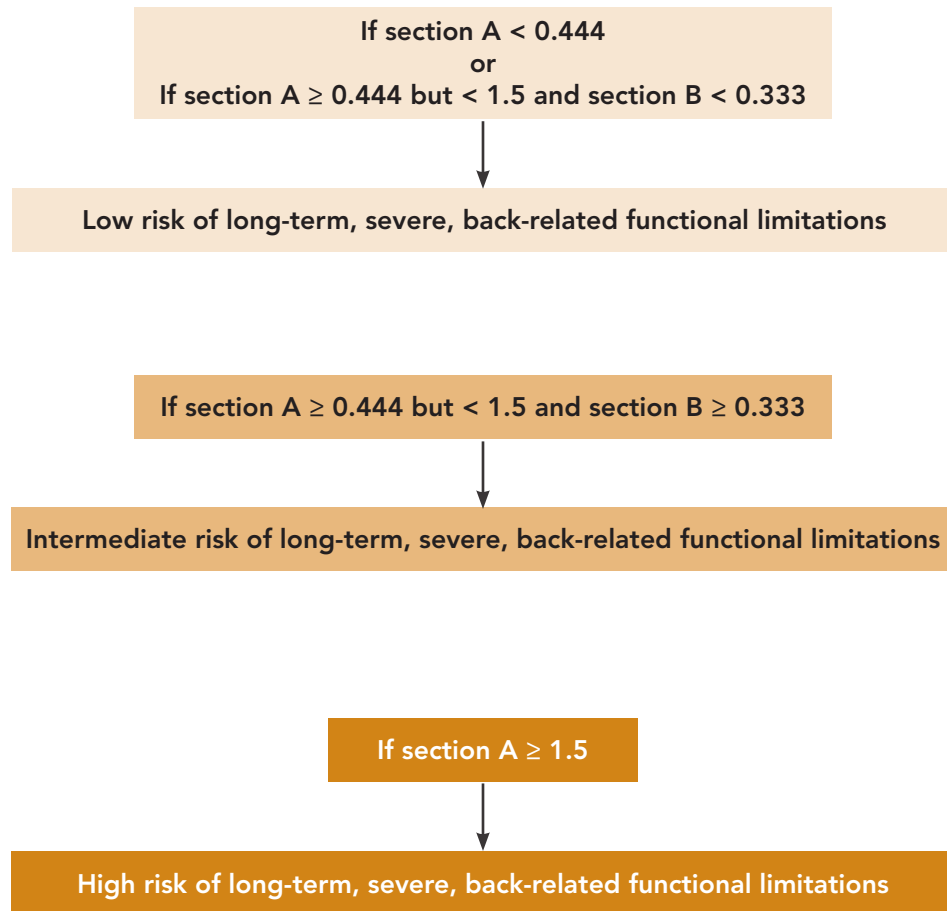
Not at all=0, A little bit=1, Moderately=2, Quite a bit=3, Extremely=4, Don't know=missing.

Scoring:

Scores for each of the questions of a section are totaled and this sum is divided by the number of nonmissing answers. Questions 1 to 10 give the score for section A, and 11 to 17 for section B.

Section scores are not valid if the following number of answers are missing: four or more in section A, and three or more in section B.

Interpretation:



Dionne CE. Psychological distress confirmed as predictor of long-term back-related functional limitations in primary care settings. *Journal of Clinical Epidemiology* 2005; 58(7):714-8

Table 1.3.3 RAMS questionnaire for back pain prognosis

Instructions to clinicians: Ask the following questions using the rule. Stop the questionnaire once you have identified a probability of returning to work.

Q1: Do you think you will be back to your normal work within 3 months?.

Q2: Does the pain radiate from your back into your legs or arms?

Q3: Have you ever had back surgery?

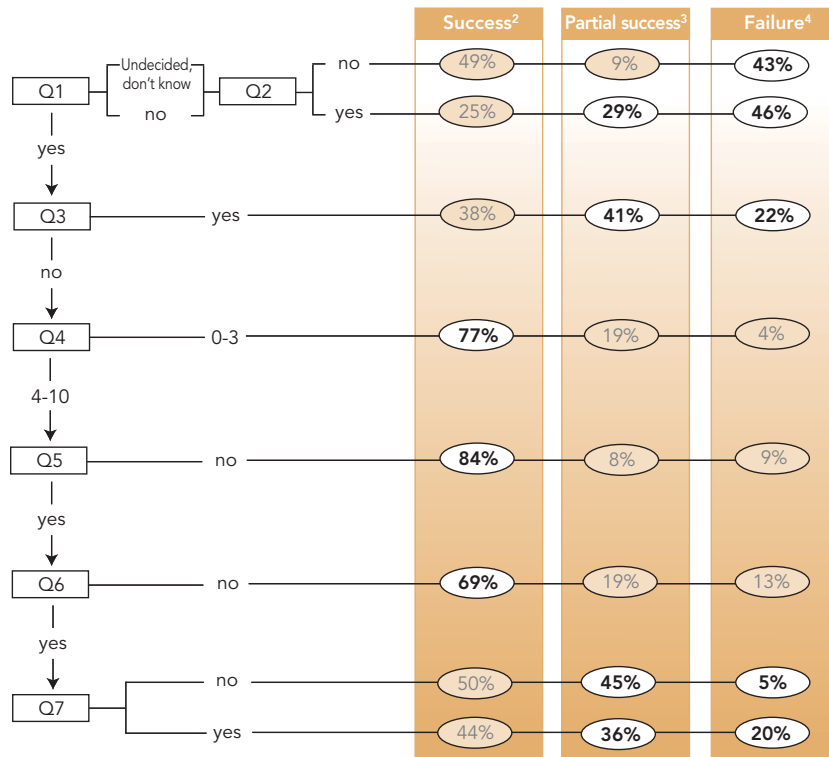
Q4: On a scale of none (zero) to 10, how would you rate the pain, on average? (Just over the last 6 months.)

Q5: Do you change positions often, trying to get comfortable?

Q6: Do you think you're more irritable or bad-tempered with people than usual?

Q7: Does your back pain affect your sleep?

Clinical rule



High-probability categories in each group are in the white circles.

2 **Success:** Probability of returning to previous job, with low level of functional limitations and few recurrences of work absenteeism.

3 **Partial success:** Probability of returning to previous job, but with high level of functional limitations and/or several recurrences of work absenteeism.

4 **FAA (Failure after attempt):** Probability of not returning to previous job after one or several attempts.

4 **Failure:** Probability of not returning to previous job, without having made any attempt.

Dionne CE, Bourbonnais R, Fremont P, Rossignol M, Stock SR, Larocque I. A clinical return-to-work rule for patients with back pain. CMAJ 2005; 172(12):1559-67.

Table 1.3.4 The Quebec Back Pain Disability Scale

Note to clinician: This questionnaire has a comparative value, the results of which must be compared to preceding results in order to observe the evolution of disability.

This questionnaire is about the way your back pain is affecting your daily life. People with back problems may find it difficult to perform some of their daily activities. We would like to know if you find it difficult to perform any of the activities listed below, because of your back. For each activity there is a scale of 0 to 5. Please choose one response option for each activity and circle the corresponding number. Today, do you find it difficult to perform the following activities because of your back?

	Not difficult at all	Minimally difficult	Somewhat difficult	Fairly difficult	Very difficult	Unable to do
1. Get out of bed	0	1	2	3	4	5
2. Sleep through the night	0	1	2	3	4	5
3. Turn over in bed	0	1	2	3	4	5
4. Ride in a car	0	1	2	3	4	5
5. Stand up for 20-30 minutes	0	1	2	3	4	5
6. Sit in a chair for several hours	0	1	2	3	4	5
7. Climb one flight of stairs	0	1	2	3	4	5
8. Walk a few blocks (300-400 m)	0	1	2	3	4	5
9. Walk several kilometres	0	1	2	3	4	5
10. Reach up to high shelves	0	1	2	3	4	5
11. Throw a ball	0	1	2	3	4	5
12. Run one block (about 100m)	0	1	2	3	4	5
13. Take food out of the refrigerator	0	1	2	3	4	5
14. Make your bed	0	1	2	3	4	5
15. Put on socks (pantyhose)	0	1	2	3	4	5
16. Bend over to clean the bathtub	0	1	2	3	4	5
17. Move a chair	0	1	2	3	4	5
18. Pull or push heavy doors	0	1	2	3	4	5
19. Carry two bags of groceries	0	1	2	3	4	5
20. Lift and carry a heavy suitcase	0	1	2	3	4	5

Scoring: Add all lines. Total out of 100: _____

Kopec, JA, Esdaile, JM, Abrahamowicz, M., Abenham, L, Wood-Dauphinee, S, Lamping, DL & Williams JI. (1995). The Quebec Back Pain Disability Scale. *Spine*, 20(3): 341-352.

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Dionne CE. Psychological distress confirmed as predictor of long-term back-related functional limitations in primary care settings. *Journal of Clinical Epidemiology* 2005; 58(7):714-8.

Kopec JA, Esdaile JM, Abrahamowicz M, Abenham L, Wood-Dauphinee S, Lamping DL, Williams JI. The Quebec Back Pain Disability Scale: conceptualization and development. *Journal of Clinical Epidemiology* 1996; 49(2):151-61.

Principle 1.4 Obstacles preventing the return to usual activities

Statement of principle 1.4

When the probability of returning to usual activities is deemed to be low (Principle 1.3), the clinician must seek to identify the obstacles preventing the return to usual activities.

Level of supporting evidence

Strong

There is a high level of evidence supporting the influence of certain clinical, psychosocial and work-related factors in the probability of returning to usual activities. In order to reduce their impact, these factors or obstacles must be identified. The identification of the obstacles preventing the return to usual activities is one of the most commonly recurring recommendations in clinical practice guidelines published internationally (Staal et al, 2003).

Interpretation

As mentioned in Principle 1.3, where the likelihood of returning to daily activities is deemed to be low, the clinician must intensify his efforts to identify obstacles preventing the return to usual activities. By identifying these obstacles, the clinician can adapt treatment or quickly refer the patient to other resources if necessary to avoid chronicity.

In a literature review, Waddell et al (2003) identified the obstacles having a major impact on the ability to return to usual activities. They are:

- clinical: intensity of pain, perceived disability, perception of health in general, symptoms (with no signs) of radiating pain below the knee, history of prolonged back pain.
- psychosocial: psychological distress, depression, fears and beliefs, catastrophizing, somatization
- work related: satisfaction at work, patient's projection with regards to returning to work, financial incentives, absence from any type of work

These obstacles appear to be interrelated, that is, when improvement is obtained in one area it results in improvement in the others (Sullivan et al, 2005). Table 1.4.1 shows the key obstacles to be assessed as well as the tools to be used in their assessment.

Table 1.4.1 Key obstacles preventing the return to usual activities and assessment tools

Obstacles (Assessment tools)
Intensity of pain (visual analogue scale)
Perceived disability (Quebec Back Pain Disability Scale or Roland-Morris Disability Questionnaire or Oswestry Disability Questionnaire)
Symptoms (with no signs) of radiating pain below the knee (Clinical consultation)
Fears and beliefs (Tampa Scale for Kinesiophobia, Table 1.4.2)
Patient projection regarding return to work (A question in the Fear-Avoidance Beliefs Questionnaire (FABQ), Table 1.4.3)
Catastrophizing (Pain Catastrophizing Scale Table 1.4.4)
Absence from any type of work (Employment status)

Table 1.4.2 Tampa Scale for Kinesiophobia (TSK-11)

	Strongly disagree	Disagree	Agree	Strongly agree
Instructions:				
Please carefully read each question and circle the number that best describes your feelings.				
1. I'm afraid that I might injury myself if I exercise	1	2	3	4
2. If I were to try to overcome it, my pain would increase	1	2	3	4
3. My body is telling me I have something dangerously wrong	1	2	3	4
4. People aren't taking my medical condition seriously enough	1	2	3	4
5. My accident has put my body at risk for the rest of my life	1	2	3	4
6. Pain always means I have injured my body	1	2	3	4
7. Simply being careful that I do not make any unnecessary movements is the safest thing I can do to prevent my pain from worsening	1	2	3	4
8. I wouldn't have this much pain if there weren't something potentially dangerous going on in my body	1	2	3	4
9. Pain lets me know when to stop exercising so that I don't injure myself	1	2	3	4
10. I can't do all the things normal people do because it's too easy for me to get injured	1	2	3	4
11. No one should have to exercise when he/she is in pain	1	2	3	4
Scoring: Add all lines. Total out of 44: _____				

Kori SH, Miller RP, Todd DD. Kinesiophobia: A new view of chronic pain behavior. Pain Management 1990; 3:35-43.

Table 1.4.3 Patient projection regarding return to work

Please circle the number from 0 to 6 to say how much you agree or disagree with this statement.

	Completely disagree			Unsure			Completely agree
I do not think that I will be back to my normal work within 3 months.	0	1	2	3	4	5	6

Waddell G, Newton M, Henderson I, Somerville D, Main CJ. A Fear-Avoidance Beliefs Questionnaire (FABQ) and the role of fear-avoidance beliefs in chronic low back pain and disability. *Pain* 1993;52(2):157-68.

Table 1.4.4 Pain Catastrophizing Scale (PCS)

Everyone experiences painful situations at some point in their lives. Such experiences may include headaches, tooth pain, joint or muscle pain. People are often exposed to situations that may cause pain such as illness, injury, dental procedures or surgery.

We are interested in the types of thoughts and feelings that you have when you are in pain. Listed below are thirteen statements describing different thoughts and feelings that may be associated with pain. Using the following scale, please indicate the degree to which you have these thoughts and feelings when you are experiencing pain.

0 – Not at all **1** – To a slight degree **2** – To a moderate degree **3** – To a great degree **4** – All the time

When I'm in pain ...

- | | | |
|----|--------------------------|--|
| 1 | <input type="checkbox"/> | I worry all the time about whether the pain will end |
| 2 | <input type="checkbox"/> | I feel I can't go on |
| 3 | <input type="checkbox"/> | It's terrible and I think it's never going to get any better |
| 4 | <input type="checkbox"/> | It's awful and I feel that it overwhelms me |
| 5 | <input type="checkbox"/> | I feel I can't stand it anymore |
| 6 | <input type="checkbox"/> | I become afraid that the pain will get worse |
| 7 | <input type="checkbox"/> | I keep thinking of other painful events |
| 8 | <input type="checkbox"/> | I anxiously want the pain to go away |
| 9 | <input type="checkbox"/> | I can't seem to keep it out of my mind |
| 10 | <input type="checkbox"/> | I keep thinking about how much it hurts |
| 11 | <input type="checkbox"/> | I keep thinking about how badly I want the pain to stop |
| 12 | <input type="checkbox"/> | There's nothing I can do to reduce the intensity of the pain |
| 13 | <input type="checkbox"/> | I wonder whether something serious may happen |

Scoring: Add all lines. Total out of 52: _____

Sullivan MJL, Bishop S, Pivik J. The pain catastrophizing scale: development and validation. *Psychol Assess*, 1995, 7: 524-532

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Sullivan MJ, Ward LC, Tripp D, French DJ, Adams H, Stanish WD. Secondary prevention of work disability: community-based psychosocial intervention for musculoskeletal disorders. *J Occup Rehabil* 2005; 15(3):377-92.

Waddell G, Burton AK, Main CJ. Screening to Identify People at Risk of Long-term Incapacity for Work. London: Royal Society of Medicine Press Ltd, 2003.

Principle 1.5

Progression of the patient's condition

Statement of principle 1.5

If the patient's perceived disability improves little or not at all in the 4 weeks following assessment of this perception, the clinician must reassess the obstacles preventing the return to usual activities and revise management.

Level of supporting evidence

Moderate

Patient perceived disability has been demonstrated in the literature to be related to the obstacles influencing the return to usual activities mentioned in Principle 1.4. Lack of or slow progression of this perception can indicate that obstacles preventing the return to usual activities are present and must be identified and managed.

Interpretation

The Quebec Back Pain Disability Scale (table 1.3.4) can be used at four-week intervals. The score obtained with this assessment should improve by at least 15 points over a period of four weeks (Davidson et al, 2002). Little or no improvement (less than 15 points over four weeks) is an indication that the clinician should look for obstacles preventing the return to usual activities. Moreover, where the progress of the patient's back pain and perceived disability are slow but regular, a referral to a rehabilitation clinic can be indicated where a program aimed at the return to usual activities will be undertaken.

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Therapeutic approach to the low back pain patient

Management principles of Unit 2

- 2.1 Information and false beliefs
- 2.2 Encouragement to remain active
- 2.3 Effective treatment
- 2.4 Treatment revision between 4 and 12 weeks

Levels of evidence

Recommendations are made according to four levels of scientific evidence based on the quality of supporting studies.

Strong:

Based on consistent findings in several high quality studies

Moderate:

Based on consistent findings in lesser quality studies, particularly with small numbers of subjects

Poor:

Based on the results of only one study or inconsistent findings in several studies

Lack of evidence:

Based on studies with no comparison group, on theoretical considerations or on expert consensus

Principle 2.1

Information and false beliefs

Statement of principle 2.1

Reassure the patient with back pain by (1) providing essential, coherent, accessible and valid information about his condition and (2) correcting erroneous beliefs.

Level of supporting evidence

Moderate

Interest in the importance of the type of information given to patients with low back pain at the first consultation and thereafter is relatively recent. The Cochrane Back Review Group is conducting a systematic review of the best evidence on this subject. Two corroborating studies on the subject have shown that essential, coherent and accessible information can have a positive impact on the patient's recovery (Burton et al, 1999, Little P et al, 2001). Essential information consists of a limited number of clear messages (three to five). Coherent information is the clinician's verbal information accompanied by a written document containing the same information. Accessible information is that which is adapted to the patient and the patient's health.

Interpretation

Information given to the patient with low back pain is important because it allows the patient to understand what is at stake therapeutically and become involved in his functional recovery. However, information can be a double-edged sword since contradictory or poor quality information can work against the patient's wellbeing and slow down the return to usual activities. Regarding the available information on low back pain, two studies, three years apart highlighted the poor quality of that information available in 90% of English language web sites (Li L et al, 2001, Butler L et al, 2003). Today, patients have access to tens of thousands of web sites on back pain alone increasing the importance of the clinician's role in providing information particularly in correcting false beliefs and erroneous perceptions.

Several tools have been developed to provide validated information to the patient with back pain. Burton's work resulted in the publication of "The Back Book" in 2002, which was adapted by the Quebec Federation of General Practitioners ("Tournez le dos à la lombalgie"). These two publications, in French and in English, are examples of works that have contributed to rendering the information coherent among clinicians and improving patient access to quality information, while respecting the spirit of clinical practice guidelines.

Among the key messages contained in the Back Book to convey to the patients, the following are noted:

- Reassure the patient about the generally positive prognosis of back pain
- Reassure the patient that serious spinal problems are rare and that the signs (red flags) for such problems are not present
- Reassure the patient regarding returning to or continuing usual activities, including work, even in the presence of symptoms
- Avoid labelling the patient by putting an exaggerated emphasis on a specific spinal problem and its impact

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Principle 2.2 Encouragement to remain active

Statement of Principle 2.2

The clinician should encourage and guide the patient to continue or to resume usual activities.

Level of supporting evidence

Strong

It is to Richard Deyo that is owed the publication, in 1986, of one of the first randomized clinical trials showing the superior advantage of encouraging activity to prescribing bed rest. To date, evidence supported by high quality studies corroborates these initial results (Hagen et al., 2002, Werneke, 2003). The evaluation of the level of evidence as “strong” is due to the convergent results of studies that, although superficially dissimilar, illustrate varying aspects of the principle of remaining active while never contradicting it. To remain as active as possible is the most widely respected clinical and scientific recommendation in the world today.

Interpretation

The patient advised to continue or to resume daily activities including work and to avoid bed rest as much as possible recovers more quickly than the patient who is advised to be guided by pain in resuming activity. Although throughout the world this recommendation is the most widely found in clinical practice guidelines, Staal et al have noted that, in general, practice guidelines lack an explanation of how the clinician might meet this therapeutic objective with the patient. Another criticism of this recommendation has been a lack of sensitivity to the individual context of the patient, increasing the difficulty of the clinician’s job.

Consistency among messages delivered to the patient by clinicians from one visit to the next might well be the most important parameter in implementing Principle 2.2. Encouragement to remain active is a recommendation that is subordinate to the information provided to the patient and to the correction of erroneous beliefs (Principle 2.1).

Specific tools for the evaluation and management of obstacles are available to guide the return to work (Stock et al, 2005).

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Principle 2.3 Effective treatments.

Statement of principle 2.3

*The clinician should give
priority to treatments
of proven efficacy.*

Level of supporting evidence

Level of evidence: variable according to the treatment

Numerous therapeutic interventions have been proposed for the treatment of low back pain. In recent years considerable research has been devoted to the rigorous evaluation of the most common therapeutic interventions. The syntheses of these Cochrane type studies or the most up to date meta-analyses were compiled to create tables 2.3.1 and 2.3.2 classifying therapeutic modalities according to their level of scientific evidence in the two initial stages of low back pain: acute (0-4 weeks) and subacute (4-12 weeks).

Interpretation

Each of the modalities is qualified as “recommendable”, “not recommendable” or “unknown efficacy”. Because the design of the tables requires some interpretation of the source documents, it is necessary to refer directly to them to understand the meaning and the impact of these recommendations. Clinical application methods can vary considerably among the studies and the meaning of the conclusions can differ according to clinical context.

In addition, there are many treatments for which no studies exist and no recommendation can be made. Further studies are necessary before it is possible to rule on their efficacy. The lack of scientific evidence does not in itself discredit a treatment

Table 2.3.1 Therapeutic interventions for acute LBP (0-4 weeks)

Grade of scientific evidence			
High	Moderate	Low	Absence
NSAIDs <ul style="list-style-type: none"> Efficacy to ↓ pain = acetaminophen for all NSAIDs <small>(van Tulder 2005¹; Jackson 2004²; Bogduk 2004³; Van Tulder 2000⁴)</small>	Vertebral manipulations <ul style="list-style-type: none"> Efficacy > placebo <small>(Van Tulder 2000⁴)</small> Efficacy > mobilisation for short term pain reduction <small>(Bronfort 200⁴⁵)</small> 	Steroid epidural infiltration for radicular pain <ul style="list-style-type: none"> Efficacy > placebo or bed rest <small>(Van Tulder 2000⁴)</small> 	Physical agents (ice, heat, diathermy, ultrasounds) <small>(Nadler 2004⁸; Van Tulder 2004⁹)</small>
Muscle relaxants <ul style="list-style-type: none"> Efficacy of non-benzodiazepines > benzodiazepines; both with potential harm <small>(Van Tulder 2000⁴; Van Tulder 2005¹⁰)</small>	<ul style="list-style-type: none"> Efficacy = conservative treatment <small>(Assendelft 2003⁶; Cherkin 2003⁷)</small> 	Analgesics <ul style="list-style-type: none"> Non-opioids as efficacious as NSAIDs for pain relief Opioids: weak evidence of superiority to non-opioids <small>(Van Tulder 2000⁴; Jackson 2004¹²; Bogduk 2004³)</small> 	Antidepressants <small>(Bogduk 2004³; Schnitzer 2004¹³; Van Tulder 2000⁴)</small>
Combination relaxants + NSAIDs or analgesics <ul style="list-style-type: none"> Efficacy > placebo <small>(Van Tulder 2005¹⁰)</small> 	Exercises for disc herniation <ul style="list-style-type: none"> Efficacy of extension > flexion <small>(Hayden 2005¹¹)</small> 	Lumbar support <ul style="list-style-type: none"> Weak efficacy compared to no treatment Efficacy unknown compared to conventional therapies No efficacy for prevention <small>(Van Tulder 2000⁴)</small> 	Facet infiltrations <small>(Van Tulder 2000⁴)</small>
Advice to remain active <ul style="list-style-type: none"> Efficacy > conventional medical treatment <small>(Hilde G. et al. 2005¹⁴; Van Tulder 2004¹⁵)</small> 	Exercises in flexion <small>(Hayden 2005¹¹)</small>	<ul style="list-style-type: none"> Weak efficacy compared to no treatment Efficacy unknown compared to conventional therapies No efficacy for prevention <small>(Van Tulder 2000⁴)</small> 	Steroid epidural infiltration for non-radicular pain <small>(Van Tulder 2000⁴)</small>
Bed rest <small>(Van Tulder 2000⁴; Hagen 2005¹⁸)</small>		Acupuncture <ul style="list-style-type: none"> Weak efficacy <small>(Furlan 2005¹⁶; Manheimer 2005¹⁷)</small> 	Back schools <small>(Heymans 2005¹⁹)</small>
Strengthening exercises <small>(Hayden 2005¹¹)</small>		McKenzie approach <small>(Clare 2004²⁰)</small>	Massage <small>(Furlan 2005²¹; Cherkin 2003⁷)</small>
Specific exercises <small>(Hayden 2005¹¹)</small>		Steroid drugs <small>(Van Tulder 2000⁴)</small>	
Mechanical tractions <small>(Philadelphia 2001²³; Nadler 2004²⁴; Harte 2003²⁵)</small>		TENS <ul style="list-style-type: none"> Weak efficacy compared to other treatments No efficacy in meta-analysis <small>(Nadler 2004²²; Van Tulder 2000⁴; Philadelphia 2001²³)</small> 	
Exercises in extension <small>(Hayden 2005¹¹)</small>			

Yes, can be recommended in the specified context
 NO, cannot be recommended in the specified context
 Insufficient information to recommend or not

NSAID: non-steroidal anti-inflammatory drugs
TENS: transcutaneous electrical nerve stimulation

Table 2.3.2 Therapeutic interventions for subacute LBP (4-12 weeks)

Grade of scientific evidence					
High	Moderate	Low	Absence		
Advice to remain active <ul style="list-style-type: none"> Graded activity + behavioral intervention = ↓ absence from work and ↓ risk of chronicity (Hilde 2005¹⁴; Hagen 2005¹⁸; Van Tulder 2000⁴) 	McKenzie approach (Clare 2004 ²⁰)	Acupuncture (Furlan 2005 ¹⁶)	Lumbar support (Jellema 2001 ²⁶ ; Van Tulder 2004 ²⁷)		
	Multidisciplinary program <ul style="list-style-type: none"> Efficacious if intensive, includes return to work component with visit of workplace. (Karjalainen 2005²⁸; Van Tulder 2004²⁹) 	Vertebral manipulations <ul style="list-style-type: none"> Efficacy > placebo (Van Tulder 2000⁴) Efficacy > mobilisation to reduce short term pain (Bronfort 2004⁵) As efficacious as other conservative treatments (Assendelft 2003⁶; Cherkin 2003⁷) 	Massage <ul style="list-style-type: none"> Efficacy > no treatment Better efficacy if combined to exercises and education (Furlan 2005²¹) 	TENS (Philadelphia 2001 ²³)	
Exercises <ul style="list-style-type: none"> No superiority of one type compared to another (Hayden 2005¹¹; Philadelphia 2001²³) 					Radiofrequency denervation (Niemisto 2003 ³⁰)
Steroid epidural infiltration (Van Tulder 2000 ⁴)					
Infiltration of trigger points (muscles or ligaments) (Nelemans 2001 ³³ ; Van Tulder 2000 ⁴)					
Behavioral therapy <ul style="list-style-type: none"> Efficacy on pain and functional limitations > traditional care (Van Tulder 2004³¹) 					
NSAIDs <ul style="list-style-type: none"> Efficacy to ↓ pain = acetaminophen for all NSAIDs (van Tulder 2005¹) 					
Analgesics <ul style="list-style-type: none"> Non-opioids as efficacious as NSAIDs for pain relief Opioids: weak evidence of superiority to non-opioids (Van Tulder 2000⁴; Jackson 2004³²; Bogduk 2004³) 					
Bed rest (Hagen 2005 ¹⁸)					
Mechanical tractions (Harte 2003 ²⁵ ; Philadelphia 2001 ²³)					

Yes, can be recommended in the specified context

NO, cannot be recommended in the specified context

Insufficient information to recommend or not

NSAID: non-steroidal anti-inflammatory drugs
TENS: transcutaneous electrical nerve stimulation

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Principle 2.4

Treatment revision between 4 and 12 weeks

Statement of principle 2.4

When individual or environmental obstacles to the return to usual activities are identified after the acute phase of low back pain, the clinician should reorient treatment towards minimizing those obstacles.

Level of supporting evidence

Moderate

As mentioned in Unit 1.3, the possibility of returning to usual activities diminishes significantly with the approach of persistent low back pain. In addition, the risk of persisting symptoms is greater. Evidence related to the treatment of sub-acute and persistent low back pain is concerned primarily with communication and the multidimensional nature of the obstacles preventing the return to usual activities. (Pransky et al. 2004). With regards to communication, the primary clinical concerns rests on the sharing of common information among the caregivers involved in treatment. Regarding the multidimensional nature of obstacles present in the patient with low back pain, Karjalainen et al. (2001) emphasized the importance of acting on both the individual (physical and psychological) and environmental (social and work-related) levels .

Interpretation

Care should be oriented towards the identification and management of individual and environmental obstacles preventing the return to usual activities (see Unit 1.4) rather than on decreasing symptom-based treatment. This change can be done by encouraging patient participation in his management of low back pain and by involving the stakeholders who can contribute to diminishing the obstacles. The evaluation and management of obstacles to return to usual activities in the case of persistent back pain (more than 12 weeks) are discussed in Unit 3.

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Management of back pain with persistent disability

Unit 3 management principles

- 3.1 Assessment of handicap situation
- 3.2 Management of handicap situation
- 3.3 Assessment and treatment of persistent pain

Levels of evidence

Recommendations are made according to four levels of scientific evidence based on the quality of supporting studies.

Strong:

Based on consistent findings in several high quality studies

Moderate:

Based on consistent findings in lesser quality studies, particularly with small numbers of subjects

Poor:

Based on the results of only one study or inconsistent findings in several studies

Lack of evidence:

Based on studies with no comparison group, on theoretical considerations or on expert consensus

Principle 3.1 Assessment of handicap situation

Statement of Principle 3.1

When the patient does not return to all or some usual activities after 12 weeks of back pain, the clinician should assess the patient's handicap situation by systematically searching out those limiting obstacles that can be acted upon.

Level of evidence

Strong

When the patient does not return to all or some activity after 12 weeks of back pain, the possibility of returning to usual activities decreases significantly and the risk of persisting symptoms increases. The literature indicates that the obstacles to returning to activity for the persistent low back pain sufferer are not only physical but are also and foremost biopsychosocial, including the patient's environment (Waddell, 2003). The clinician should identify the limiting obstacles and attempt, with the patient, to understand why and how these obstacles interact in limiting return to usual activities.

Interpretation

The multiplicity and entrenchment of individual and environmental obstacles results in a handicap that keeps the individual from returning to usual activities. Durand et al (2002) identified most of the obstacles that limit the return to usual activities, including work, in the presence of persistent low back pain. These obstacles are presented in table 3.1. They reiterate some of the obstacles discussed in Unit 1.4 but in the context of persistent back pain. Only those obstacles that could potentially be modified by the clinician are mentioned in the table (age, for example, cannot be modified). The clinician must systematically identify these obstacles in order to understand their impact on the patient's handicap and to account for them in the treatment plan.

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Table 3.1 Obstacles that can limit return to usual activities and examples of assessment tools

Individual obstacles	Examples of assessment tools
Persistent pain	See Unit 3.3
Patient's perceived disability	Quebec back pain disability scale Roland-Morris disability questionnaire Oswestry disability questionnaire
<p>Fears and beliefs</p> <ul style="list-style-type: none"> • Patient projection concerning return to activity • Negative perception of the impact of activity on the condition • Patient perception of serious injury • Erroneous patient perception of prognosis • Patient's perception that he/she is not receiving appropriate treatment • Perception of incomplete medical investigation • Catastrophizing • Depression 	<p>Fear-Avoidance Beliefs Questionnaire (FABQ)</p> <p>Fear-Avoidance Beliefs Questionnaire (FABQ) or Tampa Scale for Kinesiophobia</p> <p>Tampa Scale for Kinesiophobia</p> <p>Tampa Scale for Kinesiophobia</p> <p>Clinical consultation</p> <p>Clinical consultation</p> <p>Pain Catastrophizing Scale</p> <p>Beck Depression Inventory or Hospital Anxiety and Depression Scale (HADS) or Center for Epidemiological Studies-Depression (CES-D) or Iffeld Psychiatric Symptom Index (PSI) or Symptom Checklist 90 (SCL-90/D) Depression Scale</p>
Multiple diagnoses	Patient history
Perception of general health	SF-12
Concurrent stressful events	Clinical consultation
Poor social support system	Clinical consultation
Conflicts with insurer	Clinical consultation
Work-related obstacles	Examples of assessment tools
Patient's perception that capacities do not correspond to job requirements	Fear-Avoidance Beliefs Questionnaire (FABQ)
High job demands	Job description
Perception of job as monotonous	Clinical consultation
Extended absence from work	Patient history
Light duty unavailable	Clinical consultation

Principe 3.2 Management of handicap situation

Statement of Principe 3.2

To minimize the patient's handicap situation, the clinician should give priority to treatments of proven efficacy.

Level of supporting evidence

Varies according to treatment

Numerous interventions have been proposed for the management of obstacles to returning to usual activities in cases of persistent low back pain (more than 12 weeks). The most recent updates of Cochrane type syntheses or meta-analyses were compiled in table 3.2, which classifies therapeutic interventions according to their level of scientific evidence for the treatment of low back pain.

Interpretation

The efficacy of each treatment is graded as “recommendable”, “not recommendable” or “unknown efficacy”. A “recommendable” treatment can act directly or indirectly on obstacles to returning to usual activities. For example, behavioural therapy or generic exercises can both have an impact on patient fears and beliefs, the former directly and the latter indirectly. Hence, the clinician's objective is to choose the interventions that will best act to change the obstacles identified in Principe 3.1.

When the clinician feels that help is needed to facilitate the return to usual activities for a patient suffering from persistent low back pain, he can refer the patient to specialized resources available in his area. The primary care clinician remains a resource for the patient throughout the rehabilitation process and during subsequent low back pain episodes.

Table 3.2 Therapeutic interventions for persistent LBP (12 weeks +)

Grade of scientific evidence				
High	Moderate	Low	Absence	
<p>Multidisciplinary program</p> <ul style="list-style-type: none"> Efficacious if intensive, includes return to work component with visit of workplace. (Guzman 2002¹; Karjalainen 2005²) <p>Behavioral therapy</p> <ul style="list-style-type: none"> Efficacy > no treatment or waiting list if includes cognitive approach and relaxation (Ostelo 2005³; van Tulder 2004⁴) <p>Exercises</p> <ul style="list-style-type: none"> No superiority of one type compared to another Better if individualised (Hayden 2005¹⁴; Nadler 2004¹⁵; van Tulder 2004⁴) <p>Bed rest</p> <p>(Hagen 2005²⁰; Nadler 2004¹⁵; Pande 2004; van Tulder 2004⁴; Philadelphia 2001²¹)</p> <p>Mechanical tractions</p> <p>(Maher 2004⁴; Nadler 2004¹⁵; van Tulder 2004⁴)</p>	<p>Back school</p> <ul style="list-style-type: none"> Efficacy if short term and on workplace premises (Heymans 2005³; van Tulder 2004⁴) 	<p>Massage</p> <ul style="list-style-type: none"> Efficacy > no treatment Better efficacy if combined to exercises and education (Furlan 2005⁵; Maher 2004⁴; Cherkin 2003⁷; van Tulder 2004⁴) 	<p>Lumbar support</p> <p>(Maher 2004⁴; Jellema 2001⁸; van Tulder 2004⁴)</p>	
	<p>Injection therapy</p> <p>(Nelemans 2005¹⁰; van Tulder 2004⁴)</p>	<p>NSAIDs</p> <ul style="list-style-type: none"> Efficacy equal for all NSAIDs (Bogduk 2004¹¹; van Tulder 2005¹²; van Tulder 2004⁴) 	<p>Prolotherapy injection</p> <p>(Yelland 2004¹³)</p>	<p>Neuroreflexotherapy</p> <p>(Urrutia 2005¹⁹)</p>
	<p>TENS</p> <p>(Khadilkar 2005¹⁶; Maher 2004⁴; Nadler 2004¹⁵)</p>	<p>Vertebral manipulations</p> <p>(Assendelft 2003¹⁷; Bronfort 2004¹⁸; Maher 2004⁴)</p>		
		<p>McKenzie approach</p> <p>(Clare 2004²²)</p>		
		<p>Muscle relaxants</p> <ul style="list-style-type: none"> Advantage for non-benzodiazepines (Bogduk 2004¹¹; Schnitzer, 2004²³) 		
		<p>Antidepressants</p> <ul style="list-style-type: none"> Advantage for tricyclic and tetracyclic (Bogduk 2004¹¹; Schnitzer, 2004²³) 		
		<p>Acupuncture</p> <ul style="list-style-type: none"> Efficacy = other treatments (Furlan 2005²⁴; Manheimer 2005²⁵) 		
		<p>Analgesics</p> <ul style="list-style-type: none"> Efficacy of opioids to improve pain but not functional status (Bogduk 2004¹¹; Schnitzer, 2004²³) 		
		<p>Steroid epidural infiltration</p> <p>(Nelemans 2001¹⁰; van Tulder 2004⁴)</p>		
		<p>Infiltration of trigger points</p> <p>(Nelemans 2001¹⁰; van Tulder 2004⁴)</p>		
	<p>Radiofrequency denervation</p> <p>(Niemesto 2003²⁶; Slipman 2003²⁷)</p>			
	<p>Therapeutic ultrasounds</p> <p>(Maher, 2004; Philadelphia 2001²¹)</p>			
<p> Yes, can be recommended in the specified context NO, cannot be recommended in the specified context Insufficient information to recommend or not </p>				

NSAID: non-steroidal anti-inflammatory drugs
 TENS: transcutaneous electrical nerve stimulation

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Principle 3.3 Assessment and treatment of persistent pain

Statement of Principle 3.3

When persistent pain contributes to the handicap situation, it should be specifically assessed and treated.

Level of supporting evidence

Moderate

Pain can persist in spite of the absence of repeated trauma or ongoing injury. A purely biomedical model is insufficient to explain the complexity of persistent pain. Neurophysiologically, pain leaves a memory or cellular trace in the central and peripheral nervous system. The physiopathology of persistent pain implies a remodelling of the central nervous system, neuronal hyperactivity and a change in neuroplasticity. These changes perpetuate the perception of pain and increase the intensity of pain signals transmitted to the brain by lowering the stimulus threshold required for neuronal excitation. The two main categories of pain are nociceptive and neuropathic pain. The longer the pain lasts, the more neuropathic pain will grow, becoming dissociated from nociceptive stimuli. Pain becomes more diffuse and less well localized, going beyond the dermatomes and becoming non anatomic in its distribution.

Studies (McCracken et al., 2003) have shown that the acceptance of a certain degree of persistent pain was associated with lesser disability, depression and pain and improved functioning at work and at home. However, when pain becomes too dominant, it must be managed. Clinical practice guidelines for primary care clinicians have been developed for this purpose (Vanhalwyn et al. 2004).

Interpretation

Before undertaking treatment of persistent low back pain, the clinician must understand patient expectations and, together, set up realistic objectives. The patient must understand that the goal is not only to relieve pain, but above all to control its effects on daily life. To begin, an assessment of the components of the pain with simple tools will provide a global view of the pain (for example the CLICHES tool, Dion et al., 2002). Assessment results will also be useful in providing feedback to the patient and as an encouragement for a positive improvement.

Pain treatment must be personalized and based on a combination of pharmacological and non-pharmacological approaches. The goal of treatment is to relieve pain while improving functional capacity. A concerted approach between the various caregivers is essential for success (Ashbum et al., 1999). Here again, the clinician should as much as possible use treatments of proven effectiveness (table 3.2).

In practice, treatment of persistent pain aims at a 30-50% subjective reduction, but it must be noted that approximately 10% of patients suffering from persistent pain will not be relieved. A periodic assessment of the patient's progress using the tools presented in Unit 1 is therefore important.

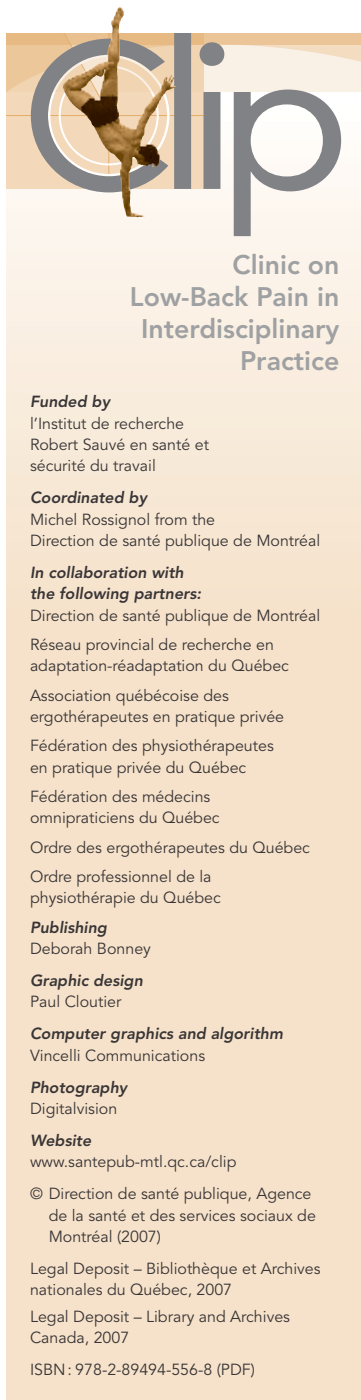
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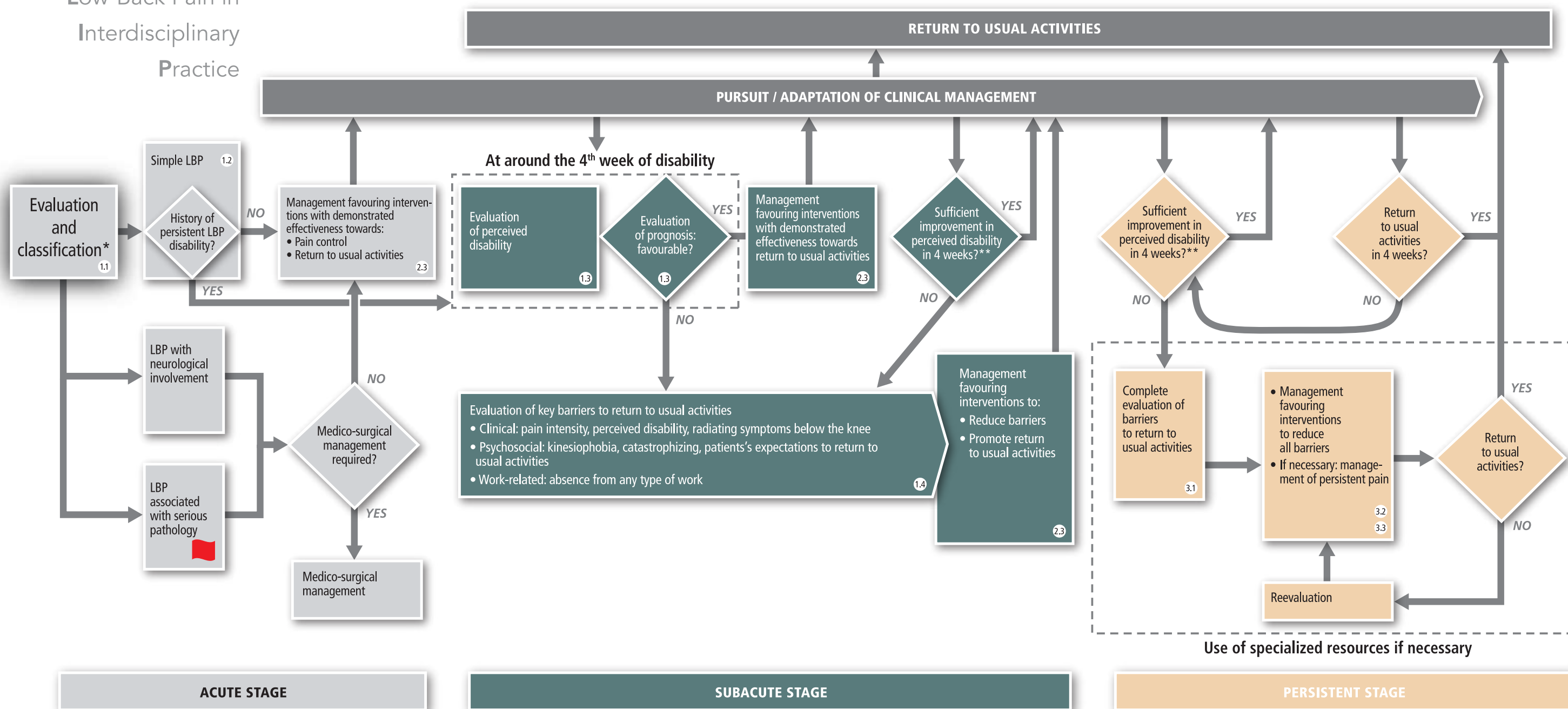
Practice Guideline

CLIP

Clinic on
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Interdisciplinary
Practice

To use throughout all stages:

- Ensure there are no red flags ■
- Encourage and guide resumption of usual activities, including work, and physical activities
- Key messages for the patient: ②① ②② : – Reassure the patient about the generally positive prognosis of back pain and the rarity of serious spinal problems
– Encourage to remain active
– Avoid labelling the patient by putting an exaggerated emphasis on a specific spinal problem and its impact



* Diagnostic triage can be repeated when needed according to progression of the patient. Diagnostic triage does not exclude the use of validated sub-categories to guide treatment choices and adjustments.

** ≥ 15 points on the Quebec Back Pain Disability Scale or ≥ 10 points on the Oswestry Disability Questionnaire.

ⓧ The numbers in capsules refer to the corresponding principles in the CLIP modules.

