

A detailed anatomical illustration of a human spine, showing the vertebrae and intervertebral discs. The illustration is rendered in a dark blue, stippled style and is positioned vertically on the left side of the page, partially overlapping a yellow vertical band.

# Guide to *Assessing Psychosocial Yellow Flags in Acute Low Back Pain*

Risk Factors for  
Long-Term Disability and Work Loss

---

**January 1997 edition**



Prevention. Care. Recovery.



NATIONAL ADVISORY COMMITTEE  
ON HEALTH AND DISABILITY  
HONG KONG MAHITIRO I TE HAUORA O TE TANGATA

## January 1997 edition

---

Prepared for

National Advisory Committee on Health and Disability  
Hunga kaititiro i te Hauora o Te Tangata  
Ministry of Health  
Manatu Hauora  
PO Box 5013, Wellington, New Zealand  
Ph 0-4-496 2000, Fax 0-4-496 2050

and

Accident Rehabilitation and Compensation  
Insurance Corporation  
PO Box 242, Wellington, New Zealand  
Ph 0-4-460 7700, Fax 0-4-460 7701

ISBN 0-478-10240-0





# Guide to *Assessing Psychosocial Yellow Flags in Acute Low Back Pain:*

## Risk Factors for Long-Term Disability and Work Loss

This guide is to be used in conjunction with the *New Zealand Acute Low Back Pain Guide*. It provides an overview of risk factors for long-term disability and work loss, and an outline of methods to assess these. Identification of those At Risk should lead to appropriate early management targeted towards the **prevention** of chronic pain and disability.

# Contents

<b>What this guide aims to do .....</b>	<b>1</b>
<b>What are Psychosocial Yellow Flags? .....</b>	<b>1</b>
<b>Why is there a need for Psychosocial Yellow Flags for back pain problems? .....</b>	<b>2</b>
<b>Definitions .....</b>	<b>3</b>
<b>Goals of assessing Psychosocial Yellow Flags .....</b>	<b>4</b>
<b>How to judge if a person is At Risk .....</b>	<b>5</b>
<b>How to assess Psychosocial Yellow Flags .....</b>	<b>6</b>
<b>Acute Low Back Pain Screening Questionnaire .....</b>	<b>8</b>
Table 1: Acute Low Back Pain Screening Questionnaire - to predict risk of long-term work loss (Linton & Halldén, 1996). .....	10
<b>Clinical assessment of Psychosocial Yellow Flags ....</b>	<b>11</b>
Table 2: Clinical assessment of Psychosocial Yellow Flags .....	11
<b>What can be done to help somebody who is At Risk? .....</b>	<b>14</b>
<b>What are the consequences of missing Psychosocial Yellow Flags? .....</b>	<b>16</b>
<b>What are the consequences of over-identifying Psychosocial Yellow Flags? .....</b>	<b>16</b>
<b>Appendix 1 .....</b>	<b>18</b>
<b>Appendix 2 .....</b>	<b>19</b>
<b>Appendix 3 .....</b>	<b>20</b>





## What this guide aims to do

This guide complements the *New Zealand Acute Low Back Pain Guide* and is intended for use in conjunction with it. This guide describes ‘Yellow Flags’; psychosocial factors that are likely to increase the risk of an individual with acute low back pain developing prolonged pain and disability causing work loss, and associated loss of quality of life. It aims to:

- provide a method of screening for psychosocial factors
- provide a systematic approach to assessing psychosocial factors
- suggest strategies for better management of those with acute low back pain who have ‘Yellow Flags’ indicating increased risks of chronicity

This guide is **not** intended to be a rigid prescription and will permit flexibility and choice, allowing the exercise of good clinical judgement according to the particular circumstances of the patient. The management suggestions outlined in this document are based on the best available evidence to date.

## What are Psychosocial Yellow Flags?

‘Yellow Flags’ are factors that increase the risk of developing, or perpetuating long-term disability and work loss associated with low back pain.

Psychosocial ‘Yellow Flags’ are similar to the ‘Red Flags’ in the *New Zealand Acute Low Back Pain Guide*. Psychosocial factors are explained in more detail in Appendix 1.

Yellow and Red Flags can be thought of in this way:

- Yellow Flags = psychosocial risk factors
- Red Flags = physical risk factors

Identification of risk factors should lead to appropriate intervention. Red Flags should lead to appropriate medical intervention; Yellow Flags to appropriate cognitive and behavioural management.

The significance of a particular factor is relative. Immediate notice should be taken if an important Red Flag is present, and consideration given to an appropriate response. The same is true for the Yellow Flags.

Assessing the presence of Yellow Flags should produce two key outcomes:

- a decision as to whether more detailed assessment is needed
- identification of any salient factors that can become the subject of specific intervention, thus saving time and helping to concentrate the use of resources

Red and Yellow Flags are not exclusive - an individual patient may require intervention in both areas concurrently.

## Why is there a need for Psychosocial Yellow Flags for back pain problems?

Low back pain problems, especially when they are long-term or chronic, are common in our society and produce extensive human suffering. New Zealand has experienced a steady rise in the number of people who leave the work force with back pain. It is of concern that there is an increased proportion who do not recover normal function and activity for longer and longer periods.

The research literature on risk factors for long-term work disability is inconsistent or lacking for many chronic painful conditions, except low back pain, which has received a great deal of attention and empirical research over the last 5 years. Most of the known risk factors are psychosocial, which implies the possibility of appropriate intervention, especially where specific individuals are recognised as being At Risk.

### Who is At Risk?

An individual may be considered At Risk if they have a clinical presentation that includes one or more very strong indicators of risk, or several less important factors that might be cumulative.

### Definitions of primary, secondary and tertiary prevention

It has been concluded that efforts at every stage can be made towards **prevention** of long-term disability associated with low back pain, including work loss.

#### **Primary prevention:**

elimination or minimisation of risks to health or well-being. It is an attempt to determine factors that cause disabling low back disability and then create programmes to prevent these situations from ever occurring.

#### **Secondary prevention:**

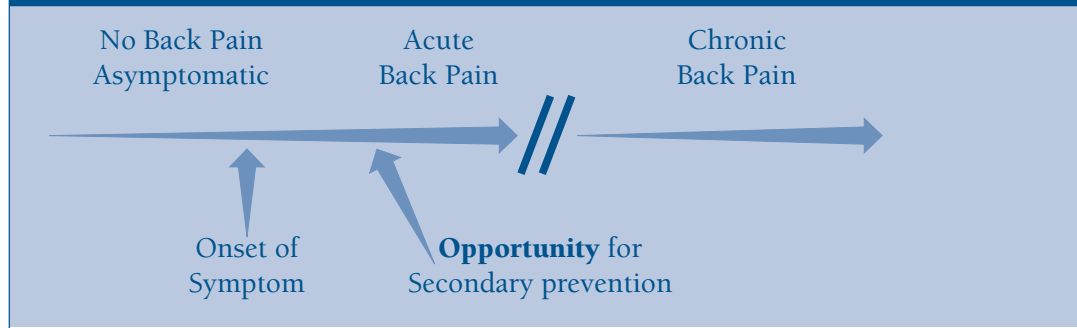
alleviation of the symptoms of ill health or injury, minimising residual disability and eliminating, or at least minimising, factors that may cause recurrence. It is an attempt to maximise recovery once the condition has occurred and then prevent its recurrence. Secondary prevention emphasises the prevention of excess pain behaviour, the sick role, inactivity syndromes, reinjury, recurrences, complications, psychosocial sequelae, long-term disability and work loss.

#### **Tertiary prevention:**

rehabilitation of those with disabilities to as full function as possible and modification of the workplace to accommodate any residual disability. It is applied after the patient has become disabled. The goal is to return to function and patient acceptance of residual impairment(s); this may in some instances require work site modification.



**Figure 1: Secondary prevention**



**The focus of this guide is on secondary prevention**

Secondary prevention aims to prevent:

- excess pain behaviour, sick role, inactivity syndromes
- reinjury, recurrences
- complications, psychosocial sequelae, long-term disability, work loss

## Definitions

Before proceeding to assess Yellow Flags, treatment providers need to carefully differentiate between the presentations of acute, recurrent and chronic back pain, since the risk factors for developing long-term problems may differ even though there is considerable overlap.

**Acute low back problems:**

activity intolerance due to lower back or back and leg symptoms lasting less than 3 months.

**Recurrent low back problems:**

episodes of acute low back problems lasting less than 3 months but recurring after a period of time without low back symptoms sufficient to restrict activity or function.

**Chronic low back problems:**

activity intolerance due to lower back or back and leg symptoms lasting more than 3 months.

## Goals of assessing Psychosocial Yellow Flags

The three main consequences of back problems are:

- pain
- disability, limitation in function including activities of daily living
- reduced productive activity, including work loss

### Pain

Attempts to prevent the development of chronic pain through physiological or pharmacological interventions in the acute phase have been relatively ineffective. Research to date can be summarised by stating that inadequate control of acute (nociceptive) pain **may** increase the risk of chronic pain.

### Disability

Preventing loss of function, reduced activity, distress and low mood is an important, yet distinct goal. These factors are critical to a person's quality of life and general well-being. It has been repeatedly demonstrated that these factors can be modified in patients with chronic back pain. It is therefore strongly suggested that treatment providers must prevent any tendency for significant withdrawal from activity being established in any acute episode.

### Work loss

The probability of successfully returning to work in the early stages of an acute episode depends on the quality of management, as described in this guide. If the episode goes on longer the probability of returning to work reduces. The likelihood of return to any work is even smaller if the person loses their employment, and has to re-enter the job market.

### Prevention

Long-term disability and work loss are associated with profound suffering and negative effects on patients, their families and society. Once established they are difficult to undo. Current evidence indicates that to be effective, preventive strategies must be initiated at a much **earlier** stage than was previously thought. Enabling people to keep active in order to maintain work skills and relationships is an important outcome.

Most of the known risk factors for long-term disability, inactivity and work loss are psychosocial. Therefore, the key goal is to identify Yellow Flags that increase the risk of these problems developing. Health professionals can subsequently **target** effective early management to prevent onset of these problems.

Please note that it is important to avoid pejorative labelling of patients with Yellow Flags (see Appendix 2) as this will have a negative impact on management. Their use is intended to encourage treatment providers to **prevent** the onset of long-term problems in At Risk patients by interventions appropriate to the underlying cause.



## How to judge if a person is At Risk

A person may be At Risk if:

- there is a cluster of a few very salient factors
- there is a group of several less important factors that combine cumulatively

There is good agreement that the following factors are important and consistently predict poor outcomes:

- presence of a belief that back pain is harmful or potentially severely disabling
- fear-avoidance behaviour (avoiding a movement or activity due to misplaced anticipation of pain) and reduced activity levels
- tendency to low mood and withdrawal from social interaction
- an expectation that passive treatments rather than active participation will help

Suggested questions (to be phrased in treatment provider's own words):

- Have you had time off work in the past with back pain?
- What do you understand is the cause of your back pain?
- What are you expecting will help you?
- How is your employer responding to your back pain? Your co-workers? Your family?
- What are you doing to cope with back pain?
- Do you think that you will return to work? When?

## How to assess Psychosocial Yellow Flags

A detailed discussion of methods to identify Yellow Flags is given in Appendix 3.

- If large numbers need to be screened quickly there is little choice but to use a questionnaire. Problems may arise with managing the potentially large number of At Risk people identified. It is necessary to minimise the number of false positives (those the screening test identifies who are not actually At Risk).
- If the goal is the most accurate identification of Yellow Flags prior to intervention, clinical assessment is preferred. Suitably skilled clinicians with adequate time must be available.
- The two-stage approach shown in Figure 2 is recommended if the numbers are large and skilled assessment staff are in short supply. The questionnaire can be used to screen for those needing further assessment. In this instance, the number of false negatives (those who have risk factors, but are missed by the screening test) must be minimised.
- To use the screening questionnaire, see Table 1.
- To conduct a clinical assessment for Acute Back Pain, see Table 2.

Clinical assessment of Yellow Flags involves judgements about the relative importance of factors for the individual. Table 2 lists factors under the headings of Attitudes and Beliefs about Back Pain, Behaviours, Compensation Issues, Diagnosis and Treatment, Emotions, Family and Work.

These headings have been used for convenience in an attempt to make the job easier. They are presented in alphabetical order since it is not possible to rank their importance. However, within each category the factors are listed with **the most important at the top.**

Please note, clinical assessment may be supplemented with the questionnaire method (ie the Acute Low Back Pain Screening Questionnaire in Table 1) if that has not already been done. In addition, treatment providers familiar with the administration and interpretation of other pain-specific psychometric measures and assessment tools (such as the Pain Drawing, the Multidimensional Pain Inventory, etc) may choose to employ them. Become familiar with the potential disadvantages of each method to minimise any potential adverse effects.

The list of factors provided here is not exhaustive and for a particular individual the order of importance may vary. **A word of caution:** some factors may appear to be mutually exclusive, but are not in fact. For example, partners can alternate from being socially punitive (ignoring the problem or expressing frustration about it) to being over-protective in a well intentioned way (and inadvertently encouraging extended rest and withdrawal from activity, or excessive treatment seeking). In other words, both factors may be pertinent.

**Figure 2: Assessing Psychosocial Yellow Flags**

**Initial presentation**

Initial presentation of **acute** low back pain  
- note Yellow Flags

Making expected progress (eg 2 to 4 weeks)?

**YES**

**NO**

**2-4 weeks**

Use screening questionnaire (Table 1)  
Proceed directly to further assessment if there are significant factors

At Risk

Not At Risk

Clinical assessment of psychosocial factors (Table 2)

Monitor progress  
• satisfactory restoration of activities?  
• returning to work?  
• satisfactory response to treatment?

Do you have the skills and resources required to develop and implement a management plan?

**YES**

**NO**

**NO**

**YES**

Proceed with modified management  
Target specific issues to **prevent** long-term distress, reduced activity and work loss

Refer to suitable clinician  
Specify date for progress report

**R E C O V E R Y**

# Acute Low Back Pain Screening Questionnaire

(Linton & Halldén, 1996)

Today's Date \_\_\_/\_\_\_/\_\_\_

Name \_\_\_\_\_ ACC Claim Number \_\_\_\_\_

Address \_\_\_\_\_ Telephone (\_\_\_\_) \_\_\_\_\_ (home)  
 \_\_\_\_\_ (\_\_\_\_) \_\_\_\_\_ (work)

Job Title (occupation) \_\_\_\_\_ Date stopped work for this episode \_\_\_/\_\_\_/\_\_\_

These questions and statements apply if you have aches or pains, such as back, shoulder or neck pain. Please read and answer each question carefully. Do not take too long to answer the questions. However, it is important that you answer every question. There is always a response for your particular situation.

1. What year were you born? 19 \_\_\_\_
2. Are you:  male  female
3. Were you born in New Zealand?  yes  no
4. Where do you have pain? Place a  for all the appropriate sites.
 

<input type="checkbox"/> neck	<input type="checkbox"/> shoulders	<input type="checkbox"/> upper back	<input type="checkbox"/> lower back	<input type="checkbox"/> leg	<b>2 X count</b>
-------------------------------	------------------------------------	-------------------------------------	-------------------------------------	------------------------------	----------------------
5. How many days of work have you missed because of pain during the past 18 months? Tick () one.
 

<input type="checkbox"/> 0 days [1]	<input type="checkbox"/> 1-2 days [2]	<input type="checkbox"/> 3-7 days [3]	<input type="checkbox"/> 8-14 days [4]	<input type="checkbox"/> 15-30 days [5]	
<input type="checkbox"/> 1 month [6]	<input type="checkbox"/> 2 months [7]	<input type="checkbox"/> 3-6 months [8]	<input type="checkbox"/> 6-12 months [9]	<input type="checkbox"/> over 1 year [10]	
6. How long have you had your current pain problem? Tick () one.
 

<input type="checkbox"/> 0-1 weeks [1]	<input type="checkbox"/> 1-2 weeks [2]	<input type="checkbox"/> 3-4 weeks [3]	<input type="checkbox"/> 4-5 weeks [4]	<input type="checkbox"/> 6-8 weeks [5]	
<input type="checkbox"/> 9-11 weeks [6]	<input type="checkbox"/> 3-6 months [7]	<input type="checkbox"/> 6-9 months [8]	<input type="checkbox"/> 9-12 months [9]	<input type="checkbox"/> over 1 year [10]	
7. Is your work heavy or monotonous? Circle the best alternative.
 

0	1	2	3	4	5	6	7	8	9	10	
<i>Not at all</i>											<i>Extremely</i>
8. How would you rate the pain that you have had during the past week? Circle one.
 

0	1	2	3	4	5	6	7	8	9	10	
<i>No pain</i>											<i>Pain as bad as it could be</i>
9. In the past three months, on average, how bad was your pain? Circle one.
 

0	1	2	3	4	5	6	7	8	9	10	
<i>No pain</i>											<i>Pain as bad as it could be</i>
10. How often would you say that you have experienced pain episodes, on average, during the past 3 months? Circle one.
 

0	1	2	3	4	5	6	7	8	9	10	
<i>Never</i>											<i>Always</i>
11. Based on all the things you do to cope, or deal with your pain, on an average day, how much are you able to decrease it? Circle one.
 

0	1	2	3	4	5	6	7	8	9	10	
<i>Can't decrease it at all</i>											<i>Can decrease it completely</i>
12. How tense or anxious have you felt in the past week? Circle one.
 

0	1	2	3	4	5	6	7	8	9	10	
<i>Absolutely calm and relaxed</i>											<i>As tense and anxious as I've ever felt</i>
13. How much have you been bothered by feeling depressed in the past week? Circle one.
 

0	1	2	3	4	5	6	7	8	9	10	
<i>Not at all</i>											<i>Extremely</i>

14. In your view, how large is the risk that your current pain may become persistent? Circle one.

0 1 2 3 4 5 6 7 8 9 10  
No risk Very large risk

15. In your estimation, what are the chances that you will be working in 6 months? Circle one.

0 1 2 3 4 5 6 7 8 9 10  
No chance Very large chance

10-x

16. If you take into consideration your work routines, management, salary, promotion possibilities and work mates, how satisfied are you with your job? Circle one.

0 1 2 3 4 5 6 7 8 9 10  
Not at all Completely satisfied

10-x

Here are some of the things which other people have told us about their back pain. For each statement please circle one number from 0 to 10 to say how much physical activities, such as bending, lifting, walking or driving would affect your back.

17. Physical activity makes my pain worse.

0 1 2 3 4 5 6 7 8 9 10  
Completely disagree Completely agree

18. An increase in pain is an indication that I should stop what I am doing until the pain decreases.

0 1 2 3 4 5 6 7 8 9 10  
Completely disagree Completely agree

19. I should not do my normal work with my present pain.

0 1 2 3 4 5 6 7 8 9 10  
Completely disagree Completely agree

Here is a list of 5 activities. Please circle the one number which best describes your current ability to participate in each of these activities.

20. I can do light work for an hour.

0 1 2 3 4 5 6 7 8 9 10  
Can't do it because of pain problem Can do it without pain being a problem

10-x

21. I can walk for an hour.

0 1 2 3 4 5 6 7 8 9 10  
Can't do it because of pain problem Can do it without pain being a problem

10-x

22. I can do ordinary household chores.

0 1 2 3 4 5 6 7 8 9 10  
Can't do it because of pain problem Can do it without pain being a problem

10-x

23. I can go shopping.

0 1 2 3 4 5 6 7 8 9 10  
Can't do it because of pain problem Can do it without pain being a problem

10-x

24. I can sleep at night.

0 1 2 3 4 5 6 7 8 9 10  
Can't do it because of pain problem Can do it without pain being a problem

10-x

Sum

## **Table 1: Acute Low Back Pain Screening Questionnaire - to predict risk of long-term work loss (Linton & Halldén, 1996).**

**A sample questionnaire is included in the back of this guide.**

You may photocopy this

### **Scoring Instructions - Acute Pain Screening Questionnaire.**

- For Question 4, count the number of pain sites and multiply by 2.
- For Questions 6, 7, 8, 9, 10, 12, 13, 14, 17, 18 and 19 the score is the number that has been ticked or circled.
- For Questions 11, 15, 16, 20, 21, 22, 23 and 24 the score is 10 minus the number that has been ticked or circled.
- Write the score in the shaded box beside each item - Questions 4 to 24.
- Add them up, and write the sum in the box provided - this is the total score.

Note: the scoring method is built into the questionnaire.

### **Interpretation of Scores - Acute Pain Screening Questionnaire.**

Questionnaire scores greater than 105 indicate that the patient is At Risk.

This score produces:

- 75% correct identification of those not needing modification to ongoing management
- 86% correct identification of those who will have between 1 and 30 days off work
- 83% correct identification of those who will have more than 30 days off work

### **The use of this questionnaire in New Zealand**

*A prospective study is under way to determine the validity of the cut-off score of 105 in New Zealand using a local sample. Information regarding any amendment to this scoring system will be provided as soon as it becomes available.*



## Clinical assessment of Psychosocial Yellow Flags

These headings (Attitudes and Beliefs about Back Pain, Behaviours, Compensation Issues, Diagnosis and Treatment, Emotions, Family and Work) have been used for convenience in an attempt to make the job easier. They are presented in alphabetical order since it is not possible to neatly rank their importance. However, within each category the factors are listed with the most important at the top of the list.

**Table 2: Clinical assessment of Psychosocial Yellow Flags**

### **A**ttitudes and Beliefs about Back Pain

- Belief that pain is harmful or disabling resulting in fear-avoidance behaviour, eg, the development of guarding and fear of movement
- Belief that all pain must be abolished before attempting to return to work or normal activity
- Expectation of increased pain with activity or work, lack of ability to predict capability
- Catastrophising, thinking the worst, misinterpreting bodily symptoms
- Belief that pain is uncontrollable
- Passive attitude to rehabilitation

### **B**ehaviours

- Use of extended rest, disproportionate 'downtime'
- Reduced activity level with significant withdrawal from activities of daily living
- Irregular participation or poor compliance with physical exercise, tendency for activities to be in a 'boom-bust' cycle
- Avoidance of normal activity and progressive substitution of lifestyle away from productive activity
- Report of extremely high intensity of pain, eg, above 10, on a 0 to 10 Visual Analogue Scale
- Excessive reliance on use of aids or appliances
- Sleep quality reduced since onset of back pain
- High intake of alcohol or other substances (possibly as self-medication), with an increase since onset of back pain
- Smoking

*continued over*

## Compensation Issues

- Lack of financial incentive to return to work
- Delay in accessing income support and treatment cost, disputes over eligibility
- History of claim(s) due to other injuries or pain problems
- History of extended time off work due to injury or other pain problem (eg more than 12 weeks)
- History of previous back pain, with a previous claim(s) and time off work
- Previous experience of ineffective case management (eg absence of interest, perception of being treated punitively)

## Diagnosis and Treatment

- Health professional sanctioning disability, not providing interventions that will improve function
- Experience of conflicting diagnoses or explanations for back pain, resulting in confusion
- Diagnostic language leading to catastrophising and fear (eg fear of ending up in a wheelchair)
- Dramatisation of back pain by health professional producing dependency on treatments, and continuation of passive treatment
- Number of times visited health professional in last year (excluding the present episode of back pain)
- Expectation of a 'techno-fix', eg, requests to treat as if body were a machine
- Lack of satisfaction with previous treatment for back pain
- Advice to withdraw from job

## Emotions

- Fear of increased pain with activity or work
- Depression (especially long-term low mood), loss of sense of enjoyment
- More irritable than usual
- Anxiety about and heightened awareness of body sensations (includes sympathetic nervous system arousal)
- Feeling under stress and unable to maintain sense of control
- Presence of social anxiety or disinterested in social activity
- Feeling useless and not needed

*continued over*



## Family

- Over-protective partner/spouse, emphasising fear of harm or encouraging catastrophising (usually well-intentioned)
- Solicitous behaviour from spouse (eg taking over tasks)
- Socially punitive responses from spouse (eg ignoring, expressing frustration)
- Extent to which family members support any attempt to return to work
- Lack of support person to talk to about problems

## Work

- History of manual work, notably from the following occupational groups:
  - fishing, forestry and farming workers;
  - construction, including carpenters and builders;
  - nurses;
  - truck drivers;
  - labourers
- Work history, including patterns of frequent job changes, experiencing stress at work, job dissatisfaction, poor relationships with peers or supervisors, lack of vocational direction
- Belief that work is harmful; that it will do damage or be dangerous
- Unsupportive or unhappy current work environment
- Low educational background, low socioeconomic status
- Job involves significant bio-mechanical demands, such as lifting, manual handling heavy items, extended sitting, extended standing, driving, vibration, maintenance of constrained or sustained postures, inflexible work schedule preventing appropriate breaks
- Job involves shift work or working 'unsociable hours'
- Minimal availability of selected duties and graduated return to work pathways, with unsatisfactory implementation of these
- Negative experience of workplace management of back pain (eg absence of a reporting system, discouragement to report, punitive response from supervisors and managers)
- Absence of interest from employer

Remember the key question to bear in mind while conducting these clinical assessments is **'What can be done to help this person experience less distress and disability?'**

## What can be done to help somebody who is At Risk?

These suggestions are not intended to be prescriptions, or encouragement to ignore individual needs. They are intended to assist in the prevention of long-term disability and work loss.

### Suggested steps to better early behavioural management of low back pain problems

1. Provide a **positive expectation** that the individual will return to work and normal activity. Organise for a regular expression of interest from the employer. If the problem persists beyond 2 to 4 weeks, provide a 'reality based' warning of what is going to be the likely outcome (eg loss of job, having to start from square one, the need to begin reactivation from a point of reduced fitness, etc).
2. Be directive in scheduling **regular reviews of progress**. When conducting these reviews shift the focus from the symptom (pain) to function (level of activity). Instead of asking 'how much do you hurt?', ask 'what have you been doing?'. Maintain an interest in improvements, no matter how small. If another health professional is involved in treatment or management, specify a date for a progress report at the time of referral. Delays will be disabling.
3. **Keep the individual active and at work** if at all possible, even for a small part of the day. This will help to maintain work habits and work relationships. Consider reasonable requests for selected duties and modifications to the work place. After 4 to 6 weeks, if there has been little improvement, review vocational options, job satisfaction, any barriers to return to work, including psychosocial distress. Once barriers to return to work have been identified, these need to be targeted and managed appropriately. Job dissatisfaction and distress cannot be treated with a physical modality.
4. **Acknowledge difficulties** with activities of daily living, but avoid making the assumption that these indicate all activity or any work must be avoided.
5. Help to **maintain positive cooperation** between the individual, an employer, the compensation system, and health professionals. Encourage collaboration wherever possible. Inadvertent support for a collusion between 'them' and 'us' can be damaging to progress.
6. **Make a concerted effort to communicate that having more time off work will reduce the likelihood of a successful return to work**. In fact, longer periods off work result in reduced probability of ever returning to work. At the 6 week point **consider suggesting vocational redirection, job changes**, the use of 'knight's move' approaches to return to work (same employer, different job).



7. Be alert for the presence of individual beliefs that he/she should stay off work until treatment has provided a 'total cure'; watch out for expectations of **simple 'techno-fixes'**.
8. Promote **self-management and self-responsibility**. Encourage the development of self-efficacy to return to work. Be aware that developing self-efficacy will depend on **incentives and feedback** from treatment providers and others. If recovery only requires development of a skill such as adopting a new posture, then it is not likely to be affected by incentives and feedback. However, if recovery requires the need to overcome an aversive stimulus such as fear of movement (kinesiophobia) then it will be readily affected by incentives and feedback.
9. Be prepared to ask for a second opinion, provided it does not result in a long and disabling delay. Use this option especially if it may help clarify that further diagnostic work up is unnecessary. **Be prepared to say 'I don't know'** rather than provide elaborate explanations based on speculation.
10. Avoid confusing the **report of symptoms** with the presence of emotional distress. Distressed people seek more help, and have been shown to be more likely to receive ongoing medical intervention. Exclusive focus on symptom control is not likely to be successful if emotional distress is not dealt with.
11. **Avoid suggesting** (even inadvertently) that the person from a regular job may be able to **work at home**, or in their own business because it will be under their own control. This message, in effect, is to allow pain to become the reinforcer for activity - producing a deactivation syndrome with all the negative consequences. Self employment nearly always involves more hard work.
12. Encourage people to recognise, from the earliest point, **that pain can be controlled and managed** so that a normal, active or working life can be maintained. Provide **encouragement for all 'well' behaviours** - including alternative ways of performing tasks, and focusing on transferable skills.
13. If barriers to return to work are identified and the problem is too complex to manage, referral to a multidisciplinary team as described in the *New Zealand Acute Low Back Pain Guide* is recommended.

information/advice +	
no fear of pain	fear of pain + incentive to overcome fear
<b>= successful return to work</b>	

## What are the consequences of missing Psychosocial Yellow Flags?

Under-identifying At Risk patients may result in inadvertently reinforcing factors that are disabling. Failure to note that specific patients strongly believe that movement will be harmful may result in them experiencing the negative effects of extended inactivity. These include withdrawal from social, vocational and recreational activities.

Cognitive and behavioural factors can produce important physiological consequences, the most common of which is muscle wasting.

Since the number of earlier treatments and length of the problem can themselves become risk factors, most people **should** be identified the second time they seek care. Consistently missing the presence of Yellow Flags can be harmful and usually contributes to the development of chronicity.

There may be significant adverse consequences if these factors are overlooked.

## What are the consequences of over-identifying Psychosocial Yellow Flags?

Over-identification has the potential to waste some resources. However, this is readily outweighed by the large benefit from helping to prevent even one person developing a long-term chronic back problem.

Some treatment providers may wonder if identifying psychosocial risk factors, and subsequently applying suitable cognitive and behavioural management can produce adverse effects. Certainly if the presence of psychosocial risk factors is misinterpreted to mean that the problem should be translated from a physical to a psychological one, there is a danger of the patient losing confidence in themselves and their treatment provider(s).

There are unlikely to be adverse consequences from the over-identification of Yellow Flags.

The presence of risk factors should alert the treatment provider to the possibility of long-term problems and the need to **prevent** their development. Specialised psychological referrals should only be required for those with psychopathology (such as depression, anxiety, substance abuse, etc), or for those who fail to respond to appropriate management.



## Your Notes

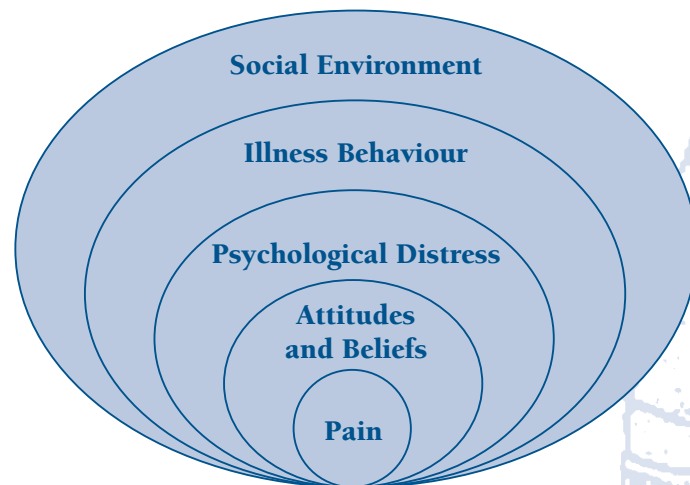
# Appendix 1

## What does 'Psychosocial' mean?

The term psychosocial refers to the interaction between the person and their social environment, and the influences on their behaviour.

### Note

- The social environment includes **family members, friends, people at work, employers, the compensation system and health professionals.**
- Any of these people have the **potential** to affect a person with back pain.
- These interactions **may** influence behaviour, levels of distress, attitudes and beliefs and subjective experiences of pain.
- Even well intentioned actions can **inadvertently** result in counterproductive outcomes.
- The biopsychosocial model of back pain and disability emphasises the interaction between **multiple** factors.



## Differentiating acute, recurrent, and chronic back pain

Before proceeding to assess Psychosocial Yellow Flags it is important to differentiate between acute, recurrent, and chronic presentations. **Evidence suggests that treating chronic back pain as if it were a new episode of acute back pain can result in perpetuation of disability.**

This is especially true if treatment providers:

- rely on a narrow medical model of pain and emphasise short-term palliative care, with no long-term management plan
- discourage self care and fail to instruct the patient in self management
- sanction disability and don't provide interventions that will improve function
- over-investigate and perpetuate belief in the 'broken part hypothesis'



## Appendix 2

### **Inconsistent findings and pain behaviour are not the same thing as malingering**

Pain behaviours are a normal part of the experience of pain and serve the important purpose of communicating to others - it is normal for people suffering pain to exhibit these behaviours.

The expression of pain behaviour is influenced by our upbringing, our culture, and the circumstances at the time. The behaviour observed in patients is usually a result of fear of being hurt and injured.

Pain behaviour, like any other behaviour, is subject to the effects of learning and reinforcement - the longer a pain problem goes on, the more opportunity there is for learning to occur from a wide range of influences. This is the main reason that some individuals with chronic back pain present with what appear to be unusual behaviours.

Learning often occurs by association. It is very significant that many people with back pain learn to associate irrelevant or less important factors with their subjective experience of pain. That is, an individual may associate a particular activity or movement with pain despite the lack of a real causal connection. This learning is unintentional, usually due to inadvertent reinforcement, and is often referred to as 'learned irrelevance'. For example, a person with back pain may inadvertently associate going for a walk with a natural variation in their subjective pain severity and subsequently feel fearful about this activity.

It may be thought of as the development of a type of 'superstitious' behaviour. Those people who have developed 'learned irrelevance' will present with behaviours that are inconsistent with other aspects of the clinical assessment. For this reason they may appear unusual to clinicians with behaviours that are not easily explained. This should not to be misinterpreted as a sign of psychological disorder.

To summarise, pain behaviour is a normal part of being human, and is subject to wide individual differences and the effects of learning.

In contrast, malingering involves the **intentional** production of false or grossly exaggerated symptoms, motivated by obvious external incentives. Malingering is not the product of unintentional learning or emotions, such as fear of pain.

Interpreting the presence of pain behaviours and inconsistencies as malingering has not been demonstrated to help the patient or the clinician. The inevitable consequence of making that interpretation is an adversarial 'them against us' situation. Inconsistent behaviours may exist because the person with back pain perceives that they have little or no control over managing the problem. Many risk factors are, or are perceived to be, beyond the control of the person with back pain.

The goal of identifying Yellow Flags is to find factors that can be influenced positively to facilitate recovery and prevent or reduce long-term disability and work loss. This includes identifying both the frequent unintentional barriers, and the less common intentional barriers to improvement.

## Appendix 3

### What methods can be used to identify Psychosocial Yellow Flags?

There are two major methods that can be used:

- structured questionnaire
- clinical assessment

A combination of both can also be used. The method chosen will depend on the clinical setting, and the treatment provider's personal confidence at assessing these issues.

The advantages and disadvantages of the various methods are listed in Table 3. Become familiar with these in order to be able to counteract any disadvantages for the method chosen.





**Table 3**

Advantages of questionnaires

- Quick to administer
- Useful for screening large numbers
- Little skill needed
- Interpretation is usually unequivocal
- Can be statistically based on evidence

Disadvantages of questionnaires

- Require time to score, need to check for missing information
- Unsuitable for those with reading problems
- May not be applicable to all members of a community, eg, new immigrants
- May only predict one goal, eg, work loss but not pain
- May be too sensitive to time of measurement
- Susceptible to confounding factors, such as social desirability, or 'impression management' such as the person telling you what they think you want to hear

Advantages of clinical assessments

- Clinician can adapt readily to characteristics of the individual
- Incorporates clinical experience
- Facilitates establishing potential goals for intervention
- Less susceptible to confounding factors, such as social desirability or 'impression management'
- Judgements about severity can be made

Disadvantages of clinical assessments

- Potentially time consuming
- May result in confused picture unless clinical skill level is adequate
- Possibility of observer bias or prejudice

Advantages of combinations of questionnaires with clinical assessments

- Improved accuracy
- Clinician can integrate quantitative information with clinical data
- Can use two stage process with questionnaire as first stage filter to target clinical assessments

Disadvantages of combinations of questionnaires with clinical assessments

- Require more resources, including the need for adequate organisation and training
- More time needed, potential for delays

## Acknowledgement

This *Guide to Assessing Psychosocial Yellow Flags in Acute Low Back Pain: Risk Factors for Long-Term Disability and Work Loss* was prepared by:

- Nicholas Kendall, Senior Clinical Psychologist, Christchurch School of Medicine, in collaboration with
- Steven Linton, Orebro Medical Centre Hospital, Sweden and
- Chris Main, Hope Hospital, Salford and University of Manchester, UK

Invaluable comments and suggestions have been made by too many people to list. Their assistance is gratefully acknowledged.

The Screening Questionnaire included with this document should be referred to as: Linton, S J & Halldén, K (1996). Risk factors and the natural course of acute and recurrent musculoskeletal pain: developing a screening instrument. *Proceedings of the 8th World Congress on Pain (in Press)*.

A comprehensive list of references reviewed during this project is being compiled and will be available on request.

## Suggested citation

This document is copyright but in the public domain and may be used and reprinted **so long as it is not modified in any way** without special permission. Any requests for modification should be addressed to the publisher. We suggest it is referred to as:

Kendall, N A S, Linton, S J & Main, C J (1997). *Guide to Assessing Psychosocial Yellow Flags in Acute Low Back Pain: Risk Factors for Long-Term Disability and Work Loss*. Accident Rehabilitation & Compensation Insurance Corporation of New Zealand and the National Health Committee. Wellington, NZ.

## Keywords:

assessment; disability; early intervention; guide; low back pain; management; pain; primary care; prevention; psychosocial; questionnaire; risk factors; screening; work.

<b>email</b>	nhc@MOHWN.synet.net.nz
<b>Phone</b>	ACC (Accident Rehabilitation and Compensation Insurance Corporation) 0-4-460 7700 National Health Committee 0-4-496 2000
<b>ISBN</b>	0 - 478 - 10240 - 0
<b>Internet</b>	<a href="http://www.nhc.govt.nz">http://www.nhc.govt.nz</a>





# Acute Low Back Pain Screening Questionnaire

(Linton & Halldén, 1996)

Today's Date \_\_\_ / \_\_\_ / \_\_\_

Name \_\_\_\_\_ ACC Claim Number \_\_\_\_\_

Address \_\_\_\_\_ Telephone (\_\_\_\_) \_\_\_\_\_ (home)  
\_\_\_\_\_ (\_\_\_\_) \_\_\_\_\_ (work)

Job Title (occupation) \_\_\_\_\_ Date stopped work for this episode \_\_\_ / \_\_\_ / \_\_\_

These questions and statements apply if you have aches or pains, such as back, shoulder or neck pain. Please read and answer each question carefully. Do not take too long to answer the questions. However, it is important that you answer every question. There is always a response for your particular situation.

1. What year were you born? 19 \_\_\_\_

2. Are you:  male  female

3. Were you born in New Zealand?  yes  no

4. Where do you have pain? Place a ✓ for all the appropriate sites.

neck  shoulders  upper back  lower back  leg

2 X  
count

5. How many days of work have you missed because of pain during the past 18 months? Tick (✓) one.

0 days [1]  1-2 days [2]  3-7 days [3]  8-14 days [4]  15-30 days [5]  
 1 month [6]  2 months [7]  3-6 months [8]  6-12 months [9]  over 1 year [10]

6. How long have you had your current pain problem? Tick (✓) one.

0-1 weeks [1]  1-2 weeks [2]  3-4 weeks [3]  4-5 weeks [4]  6-8 weeks [5]  
 9-11 weeks [6]  3-6 months [7]  6-9 months [8]  9-12 months [9]  over 1 year [10]

7. Is your work heavy or monotonous? Circle the best alternative.

0 1 2 3 4 5 6 7 8 9 10  
*Not at all* *Extremely*

8. How would you rate the pain that you have had during the past week? Circle one.

0 1 2 3 4 5 6 7 8 9 10  
*No pain* *Pain as bad as it could be*

9. In the past three months, on average, how bad was your pain? Circle one.

0 1 2 3 4 5 6 7 8 9 10  
*No pain* *Pain as bad as it could be*

10. How often would you say that you have experienced pain episodes, on average, during the past 3 months? Circle one.

0 1 2 3 4 5 6 7 8 9 10  
*Never* *Always*

11. Based on all the things you do to cope, or deal with your pain, on an average day, how much are you able to decrease it? Circle one.

0 1 2 3 4 5 6 7 8 9 10  
*Can't decrease it at all* *Can decrease it completely*

12. How tense or anxious have you felt in the past week? Circle one.

0 1 2 3 4 5 6 7 8 9 10  
*Absolutely calm and relaxed* *As tense and anxious as I've ever felt*

10-x

13. How much have you been bothered by feeling depressed in the past week? Circle one.

0 1 2 3 4 5 6 7 8 9 10  
*Not at all* *Extremely*

14. In your view, how large is the risk that your current pain may become persistent? Circle one.

0 1 2 3 4 5 6 7 8 9 10  
No risk Very large risk

15. In your estimation, what are the chances that you will be working in 6 months? Circle one.

0 1 2 3 4 5 6 7 8 9 10  
No chance Very large chance

10-x

16. If you take into consideration your work routines, management, salary, promotion possibilities and work mates, how satisfied are you with your job? Circle one.

0 1 2 3 4 5 6 7 8 9 10  
Not at all Completely satisfied

10-x

Here are some of the things which other people have told us about their back pain. For each statement please circle one number from 0 to 10 to say how much physical activities, such as bending, lifting, walking or driving would affect your back.

17. Physical activity makes my pain worse.

0 1 2 3 4 5 6 7 8 9 10  
Completely disagree Completely agree

18. An increase in pain is an indication that I should stop what I am doing until the pain decreases.

0 1 2 3 4 5 6 7 8 9 10  
Completely disagree Completely agree

19. I should not do my normal work with my present pain.

0 1 2 3 4 5 6 7 8 9 10  
Completely disagree Completely agree

Here is a list of 5 activities. Please circle the one number which best describes your current ability to participate in each of these activities.

20. I can do light work for an hour.

0 1 2 3 4 5 6 7 8 9 10  
Can't do it because of pain problem Can do it without pain being a problem

10-x

21. I can walk for an hour.

0 1 2 3 4 5 6 7 8 9 10  
Can't do it because of pain problem Can do it without pain being a problem

10-x

22. I can do ordinary household chores.

0 1 2 3 4 5 6 7 8 9 10  
Can't do it because of pain problem Can do it without pain being a problem

10-x

23. I can go shopping.

0 1 2 3 4 5 6 7 8 9 10  
Can't do it because of pain problem Can do it without pain being a problem

10-x

24. I can sleep at night.

0 1 2 3 4 5 6 7 8 9 10  
Can't do it because of pain problem Can do it without pain being a problem

10-x

Sum



## Quick Reference Guide

# to Assessing Psychosocial Yellow Flags in Acute Low Back Pain

### Differentiate acute, recurrent, and chronic low back pain

**Acute low back problems:** activity intolerance due to lower back or back and leg symptoms lasting less than three months.

**Chronic low back problems:** activity intolerance due to lower back or back and leg symptoms lasting more than three months.

**Recurrent low back problems:** episodes of acute low back problems lasting less than three months duration but recurring after a period of time without low back symptoms sufficient to restrict activity or function.

### Key goal

To identify risk factors that increase the probability of long-term disability and work loss with the associated suffering and negative effects on patients, their families, and society. This assessment can be used to target effective early management and prevent the onset of these problems.

### The acute pain screening questionnaire

Useful for quickly screening large numbers. Interpret the results in conjunction with the history and clinical presentation. Be aware of, and take into account, reading difficulties and different cultural backgrounds.

### Clinical assessment

There is good agreement that the following factors are important, and consistently predict poor outcomes:

- presence of a belief that back pain is harmful or potentially severely disabling
- fear-avoidance behaviour and reduced activity levels
- tendency to low mood and withdrawal from social interaction
- an expectation of passive treatment(s) rather than a belief that active participation will help

### Suggested questions (to be phrased in your own style)

- Have you had time off work in the past with back pain?
- What do you understand is the cause of your back pain?
- What are you expecting will help you?
- How is your employer responding to your back pain? Your co-workers? Your family?
- What are you doing to cope with back pain?
- Do you think that you will return to work? When?

This Quick Reference Guide to Assessing Psychosocial Yellow Flags in Acute Low Back Pain is to be used in conjunction with the full document. You are strongly advised to read that first.

# Deciding how to assess Psychosocial Yellow Flags

## Initial presentation

Initial presentation of **acute** low back pain  
- note Yellow Flags

Making expected progress (eg 2 to 4 weeks)?

**YES**

**NO**

## 2-4 weeks

Use screening questionnaire (Table 1)  
Proceed directly to further assessment if  
there are significant factors

At Risk

Not At Risk

Clinical assessment of  
psychosocial factors  
(Table 2)

Monitor progress

- satisfactory restoration of activities?
- returning to work?
- satisfactory response to treatment?

**NO**

**YES**

Do you have the skills and  
resources required to  
develop and implement a  
management plan?

**YES**

**NO**

Proceed with modified  
management  
Target specific issues to  
**prevent** long-term  
distress, reduced activity  
and work loss

Refer to suitable clinician  
Specify date for progress  
report

**R E C O V E R Y**



# Management of Acute Low Back Pain

## Initial presentation

History and examination  
Assess for Red Flags  
Note Yellow Flags

Any RED FLAGS?

**YES**

Consider referral to appropriate specialist and/or investigations

**NO**

Assurance and explanation  
Advice to continue usual activities, including work if appropriate  
Analgesics and/or manipulation if required  
Avoid bed rest  
Review in 7 days if required

Review as required

Consider referral to health professional with expertise in acute low back pain

## 4 weeks

Full reassessment:  
History and examination  
Screen for Red and Yellow Flags  
Investigations as appropriate  
Consider ongoing treatment requirements

Any RED FLAGS?

**YES**

Consider referral to appropriate specialist

Any YELLOW FLAGS?  
Unsatisfactory restoration of activities?  
Failure to return to work?  
Unsatisfactory response to treatment?

**YES**

Consider referral to multidisciplinary assessment and care if available

**NO**

Explain, reassure, encourage continuation of usual activities and return to work  
Consider continuation of effective treatments

## 6 weeks

Full reassessment

**NO**

Recovered?

**YES**

**R E C O V E R Y**