ACC
PREVENTION. CARE. RECOVERY.
Te Kaporeihana Āwhina Hunga Whara

New Zealand Acute Low Back Pain Guide

INCORPORATING THE

Guide to Assessing Psychosocial Yellow Flags in Acute Low Back Pain

JUNE 2003

ENDORSED AS A BEST PRACTICE GUIDELINE BY

NEW ZEALAND GUIDELINES GROUP

New Zealand Acute Low Back Pain Guide

‹ INCORPORATING THE ›

Guide to Assessing Psychosocial Yellow Flags in Acute Low Back Pain

This publication replaces the previous *New Zealand Acute Low Back Pain Guide* and incorporates the *Guide to Assessing Psychosocial Yellow Flags in Acute Low Back Pain*.[1]

The *New Zealand Acute Low Back Pain Guide* provides an evidence-based approach to the assessment and treatment of acute low back pain for the prevention of chronic pain and disability. It follows an extensive review of the international literature and wide consultation with professional groups in New Zealand.

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

These two guides should be used together.

---

[1] *The New Zealand Acute Low Back Pain Guide (1999 review)* and *Assessing Yellow Flags in Acute Low Back Pain: Risk Factors for Long-term Disability and Work Loss (1997)*.

Contents

ISBN 0 – 478 – 25193 – 9

Background and approach

This guide provides the latest information on best practice clinical management of acute low back pain. It is based on a systematic review of the best available scientific evidence for improved clinical outcomes, using the approach recommended by the Cochrane Collaboration.

The first New Zealand guide was developed in 1997 by a multi-disciplinary expert panel and was based on the extensive review undertaken by the Agency for Healthcare Policy and Research in the USA. Further evidence reviews by the expert panel took place in 1998, 2000 and 2001/2002. This edition incorporates those findings.

There are no references or evidence tables in this guide. These are available on the websites of ACC and the New Zealand Guidelines Group, or can be requested from either organisation.

KEY MESSAGES

- Acute low back pain is common. Episodes are nearly always short-lived and reassurance is very helpful.
- Investigations in the first 4-6 weeks do not provide clinical benefit unless there are Red Flags present. There are risks associated with unnecessary radiology (X-rays and CT scans).
- The evidence for activity has strengthened. This means staying or becoming physically active and resuming usual activities, including work.
- Analgesia and manipulation may provide short-term symptom control.
- Some clinical interventions may be harmful, especially extended bed rest and use of opiates or diazepam – although they are still advised by some clinicians.
- Advice on early return to work is helpful.

The natural history of acute low back pain

This guide deals with the management of acute low back pain and recurrent episodes – not chronic pain or serious disease and injury.[2]

Acute low back pain

Acute low back pain is common and episodes by definition last less than 3 months. In a few cases there is a serious cause, but generally the pain is non-specific and precise diagnosis is not possible or necessary. If the pain radiates down the leg, below the knee, there is a greater chance that symptoms are caused by a herniated disc.

After an acute episode there may be persistent or fluctuating pain for a few weeks or months. Even severe pain that significantly limits activity at first tends to improve, although there can be recurring episodes and occasional pain afterwards. Acute low back pain does not cause prolonged loss of function – unlike chronic back pain.

Chronic back pain

Chronic back pain is defined as pain lasting more than 3 months. It may cause severe disability. Chronic back pain may be associated with Yellow Flags – psychosocial barriers to recovery. Patients with symptoms lasting more than 8 weeks have a rapidly reducing rate of return to usual activity. They are likely to experience difficulties returning to work and suffer work loss.

Yellow Flags

Yellow Flags indicate psychosocial barriers to recovery that may increase the risk of long-term disability and work loss. Identifying any Yellow Flags may help when improvement is delayed. There is more about identifying Yellow Flags in Part 2.

---

[2] Serious back injury or disease may include fractures, tissue damage, medical co-morbidity (eg, a back problem makes osteoarthritis worse) and serious disc or nerve root problems.

Red and Yellow Flags – a quick overview

RED FLAGS

Red Flags help identify potentially serious conditions. They include:

- Features of Cauda Equina Syndrome (see page 8 for symptoms)
- Severe worsening pain, especially at night or when lying down
- Significant trauma
- Weight loss, history of cancer, fever
- Use of intravenous drugs or steroids
- Patient over 50 years old

YELLOW FLAGS

Yellow Flags indicate psychosocial barriers to recovery. They include:

- Belief that pain and activity are harmful
- 'Sickness behaviours' (like extended rest)
- Low or negative moods, social withdrawal
- Treatment that does not fit best practice
- Problems with claim and compensation
- History of back pain, time-off, other claims
- Problems at work, poor job satisfaction
- Heavy work, unsociable hours
- Overprotective family or lack of support

Careful clinical assessment

At the initial assessment the critical role for health providers is to screen for Red Flags. These may indicate serious disease (not always confined to the back) that can cause back pain. If Red Flags are present, referral for specialist management should be considered.

Patient assessment

The health provider must take a careful and thorough history to identify:

- The history of the acute episode
- Activities that may be associated with pain
- Any Red Flags – the risk factors for serious disease (see next page)
- How limiting the symptoms are
- If there have been similar episodes before
- Any factors that might limit recovery and an early return to usual activities, including paid work (this includes assessing possible Yellow Flags)
- The level of activity required to resume usual activities – this includes taking a history of the demands of the patient's work, recreation and daily living activities.

The clinical examination should identify any relevant abnormal neurological signs and assess the degree of functional limitation caused by the pain.

The history may indicate the need for a more extensive general clinical examination, particularly if Red Flags for serious or systemic disease (such as cancer) are suspected.

Radiating leg pain

Back pain with radiating leg pain should be managed in the same way recommended for acute low back pain. Manipulation may not be advisable if there are neurological signs – caution is required.

Investigations

Investigations in the first 4-6 weeks do not provide clinical benefit unless there are Red Flags present. Radiological investigations (X-rays and CT scans) carry the risk of potential harm from radiation-related effects and should be avoided if not required for diagnosis or management. Red Flag pathology may lie outside the lumbar region and so may not be detected with radiology.

Ongoing reviews

The history and assessment should be reviewed at appropriate intervals (usually weekly) until the symptoms have mostly resolved and the patient has returned to their usual activities.

THE AIM OF THE CLINICAL ASSESSMENT IS TO

- Exclude Red Flags
- Identify any neurological deficit requiring urgent specialist management
- Assess functional limitations caused by the pain
- Determine clinical management options

Exclude Red Flags

Red Flags and/or abnormal tests indicate the need to consider referral to an appropriate specialist or at least fuller investigation. Certain Red Flags, such as severe pain at night or weight loss, should lead to full investigation and/or referral being considered, even if tests are normal.

RED FLAGS FOR POTENTIALLY SERIOUS CONDITIONS

Features of Cauda Equina Syndrome include some or all of: urinary retention, faecal incontinence, widespread neurological symptoms and signs in the lower limb, including gait abnormality, saddle area numbness and a lax anal sphincter.

Cauda Equina Syndrome is a medical emergency and requires urgent hospital referral.

Other Red Flags include:

- Significant trauma
- Weight loss
- History of cancer
- Fever
- Intravenous drug use
- Steroid use
- Patient over 50 years
- Severe, unremitting night-time pain
- Pain that gets worse when lying down

Investigations and referrals

If Red Flags are present this is the recommended approach:

- Patients with Red Flags should be investigated appropriately and referred to a specialist if indicated by clinical findings and test results.
- Investigations in the first 4-6 weeks of an acute low back pain episode do not provide clinical benefit, unless there are Red Flags.
- All patients with symptoms or signs of Cauda Equina Syndrome should be referred urgently to hospital for orthopaedic or neurosurgical assessment.
- A full blood count and ESR should usually be performed only if there are Red Flags. Other tests may be indicated depending on the clinical situation.
- Radiological investigations (X-rays and CT scans) carry the risk of potential harm from radiation-related effects and should be avoided if not required for diagnosis or management.
- Remember Red Flag pathology may lie outside the lumbar region and may not be detected by radiology.
- MRI scans are not indicated for non-specific acute low back pain.
- Many people without symptoms show abnormalities on X-rays and scans.[3] The chances of finding coincidental disc prolapse increase with age. It is important to correlate MRI findings with age and clinical signs before advising surgery.

[3] In individuals who have never experienced back pain or sciatica, 65% over 50 will show abnormalities on plain X-rays, 33% will show evidence of disc abnormality on MRI, with 20% under 60 showing evidence of a herniated disc.

Recommended management of acute low back pain

INITIAL PRESENTATION

CLINICAL PRESENTATION

ANY RED FLAGS?

YES

INVESTIGATE AND CONSIDER REFERRAL TO A SPECIALIST

NO

1-4 WEEKS EXPECT IMPROVEMENT REVIEW WEEKLY

GIVE PATIENT THE GREEN LIGHT

- Advise to stay active and working
- Explain and reassure
- Agree on a plan
- Control symptoms
- Note potential Yellow Flags
- Manage and review

4-6 WEEK FOLLOW UP

SYMPTOMS IMPROVED?

YES

REINFORCE GREEN LIGHT ADVICE

NO

- Re-check for Red Flags
- Screen for Yellow Flags*

INVESTIGATIONS

REFER TO A SPECIALIST AT 4-8 WEEKS

*Refer Part 2: *Guide to Assessing Psychosocial Yellow Flags*

Review of management options

Acute low back pain is best managed by simple measures such as reassurance, support and explanation, promoting usual activity including work, and supportive treatments to relieve pain. This chart summarises the management options based on evidence about long-term improved clinical outcomes.

SUMMARY OF MANAGEMENT OPTIONS

EVIDENCE	MANAGEMENT OPTIONS	GRADE OF EVIDENCE
Improvement Evidence of improved clinical outcomes	› Advice to stay active (including work) › Analgesia using Paracetamol and non-steroidal anti-inflammatory drugs › Manipulation – in the first 4-6 weeks only › A multidisciplinary approach to management	A A A B
No improvement Evidence of no improvement in clinical outcomes	› TENS (transcutaneous electrical nerve stimulation) › Traction › Specific back exercises › Education pamphlets about low back symptoms › Massage › Acupuncture › Surgery (unless disc decompression is indicated)	A A A A A A A
Harmful Evidence of harm	› Use of narcotics or diazepam › Bed rest for more than 2 days › Bed rest, with or without traction › Manipulation under general anaesthesia › Plaster jacket	A A A A A
Insufficient evidence Insufficient evidence to comment	› Conditioning exercises for the trunk muscles › Aerobic conditioning › Epidural steroid injections › Shoe lifts or corsets › Biofeedback › Physical agents and passive modalities (includes ice, heat, short wave diathermy, and ultrasound)	

The evidence on which these recommendations are made was graded using the SIGN (Scottish Intercollegiate Guidelines Network) grading system. Details of the grading system are on page 21.

Give patients the Green Light

There is clear evidence that these strategies improve outcomes for people with acute low back pain:

- Advise patients to 'stay active' and continue their usual activities
- Provide them with an explanation and reassurance
- Control their pain with simple analgesics and/or manipulation
- Promote staying at work – or an early return to work, with modifications if needed
- Provide ongoing management and review.

Staying active and continuing activities

Patients should progressively increase their physical activity according to an agreed plan rather than being guided by their pain level. They may need to modify some activities and postures for a while. They may also need suitable advice and adequate pain relief.

Staying active and continuing usual activities, even though there may initially be pain and discomfort, usually results in a faster recovery from symptoms, less chronic disability and less time off work. Bed rest has been shown to be no more effective than no bed rest. Prolonged bed rest is harmful.

- ***Activities of daily living*** – encourage patients to do all the things they usually do and provide advice and support to help them overcome any limitations they experience. Reassure them activity will not harm their back, and give advice on activities they usually do. Tell them how important it is to their recovery to increase their activity levels as soon as they can. It is important to monitor their pain and ensure they have sufficient pain relief to be active.
- ***Sport*** – patients need to know that vigorous activity is unlikely to be harmful, but may cause some pain. In the early stages of recovery it may be best to avoid heavy contact sports (like rugby) and strenuous sports that place a heavy load on the back.

› ***Resuming work*** – work (paid or unpaid) is important to both mental and physical recovery. Early advice on a planned return to work is likely to lead to less time off and reduce the risk of long-term problems and chronic back pain. It is important to discuss work activities, especially those involving heavy lifting, bending or twisting, which may make it difficult to return to work. It may be necessary to modify some tasks for a while.

STAYING ACTIVE – KEY POINTS

› Increase activity according to a plan

› Modify activities if necessary and use pain relief – but stay active

› Avoid bed rest

› Continue usual daily activities and resume work as soon as possible

Pain does not equate to damage. Staying active and continuing usual activities, within tolerable pain limits, helps recovery.

Explanation and reassurance

Patients with severe pain may be fearful of aggravating their back pain or of developing chronic pain. Health providers need to provide advice in a reassuring, positive manner – and avoid using any labels that may add to these anxieties.

It is important patients are told they have a very good chance of their pain settling down – and that most people make an excellent recovery. They also need to know, once you have done a full history and examination and found nothing serious, that there is no need for further investigations. In particular, they need to be reassured that doing the activity that triggered the episode (often a common action like a bend or twist) will not cause further injury.

THINGS PATIENTS NEED TO HEAR

- The pain will settle – most people make an excellent recovery
- There is no sign of anything serious – and radiology is not needed
- Movement and activity will not cause harm – it is important to stay active

Symptom control

Effective interventions to control symptoms of acute low back pain include analgesics and manipulation.

- ***Analgesics*** – regular doses, rather than use 'as required' have been shown to provide effective pain control. Paracetamol and non-steroidal anti-inflammatory drugs have proven effective. An incremental approach to prescribing analgesics to ensure that pain is adequately controlled whatever the level will support a return to usual activities.
- ***Manipulation*** – manipulation of the spine by trained practitioners using appropriate techniques is safe and effective in the first 4-6 weeks. Caution is required about using manipulation if there are neurological signs.

It is important to combine symptom control with encouraging activity and return to work. Treating symptoms without appropriate emphasis on staying active may lead the patient to fear moving or using their back.

Surgery

Surgery is not indicated for non-specific acute low back pain.

The long-term results of surgery for back-related leg pain are no better than those of conservative management.

If there is no improvement at 6 weeks, some patients with back-related leg pain and a defined disc lesion may improve more rapidly with surgery. Decisions about operative treatment should be made on the basis of informed consent in discussion between patient and surgeon.

Safe return to work

Long-term unemployment can be a serious consequence of acute low back pain. Health providers have a very important role to play in helping patients stay employed.

You can help by building a plan – with advice to patients and employers on temporary changes to the rate, duration and nature of work – so that a safe and early return is possible.

Planned return to work

Planning a return to work reduces the risk of job loss. Help your patient by:

- Developing a plan for a progressive return to work as their capacity improves
- Encouraging self-confidence – and regular contact with work
- Communicating with the employer about ways to promote a safe return to work
- Supporting a return to full activity with analgesia where needed.

Changes to work activities

Provide your patient, and their employer, with advice on monitoring and managing work activities that cause pain. Activities that commonly cause problems include lifting, bending, and staying in the same posture for long periods. Helpful strategies for the return to work plan can include:

- Suggesting alternatives and rotations through different activities – this may help an early return to normal work
- Reducing the duration of work for the first few weeks – this may help reduce the risk of further pain
- Working a half normal shift (about 4 hours) – this may improve pain tolerance.

Changes to the workplace

If the physical demands of the patient's job are excessive, workplace modifications may be needed. You may be able to advise the employer on how to seek specialist occupational advice about this.

RETURN TO WORK – KEY POINTS

- Provide a plan for progressive return to work
- Encourage ongoing contact with work
- Support return to activity with pain relief, if needed
- Give advice on monitoring and managing activities that cause pain
- Provide advice on changes to the rate, duration and nature of work
- Identify barriers to recovery – and involve other providers if required

Ongoing management

Pro-active involvement in managing recovery can help prevent long-term problems. The recommended approach is to review the patient's progress by the end of the first week, unless all symptoms are resolved, then reassess pain and function weekly until the patient has resumed usual activities and is self-managing any symptoms.

Regular reviews

At each follow-up consultation:

- Give Green Light advice to stay or become active and resume usual activities
- Provide specific advice on activities that may cause problems
- Support return to activity with optimal pain control
- Identify and address any barriers to recovery such as:
  - Excessively heavy or prolonged work
  - Problems with treatment, rehabilitation or compensation
  - Psychosocial Yellow Flags.

It is important to promote patient autonomy and self-management, and to avoid over-medicalisation. It is useful to develop a plan with the patient to help them manage their own recovery, agreeing on broad objectives and milestones.

If recovery is slow

If patients have not regained usual activities at 4 weeks they should be formally reassessed for both Red and Yellow Flags – and again at 6 weeks if progress is still delayed.

Even if there are no Red Flags and neurological function is normal, you need to consider full blood count, ESR and plain X-rays of the lumbar spine.

Specialist referral should be considered at 4-8 weeks after the acute low back pain started, to help prevent long-term problems and chronic back pain.

ONGOING MANAGEMENT – KEY POINTS

- Review the patient's progress each week until they have returned to usual activities
- Give the Green Light to be active at each review
- Identify and address potential barriers to recovery at each review
- Agree on a plan – and encourage autonomy and self-management
- If progress is delayed, reassess Red and Yellow Flags at 4 and 6 weeks
- Consider specialist referral at 4-8 weeks to prevent ongoing problems

Acknowledgements

This guide was developed by an expert panel, convened by ACC, in wide consultation with New Zealand professional groups. We acknowledge their valuable support and input, along with that of the international experts who helped develop the Yellow Flags guide.

Expert panel

Juliet Ashton	Consumers' Representative, nominated by New Zealand Guidelines Group
Michael Butler	Pain Specialist, and New Zealand Guidelines Group Representative
Margaret Bridge	ACC Project Manager
Robin Griffiths	Faculty and Society of Occupational Medicine (Chair 2001–2003)
James Hawtin	Chiropractor
Nicholas Kendall	Clinical Psychologist (Chair 2000–2001)
Christopher McGrath	Osteopath
Harry McNaughton	Rehabilitation Medicine Specialist
Susan Mercer	Physiotherapist
David Nicholls	Rheumatologist
Ross Nicholson	Orthopaedic Surgeon
David Scott	General Practitioner
James Watt	Musculoskeletal Medicine Specialist

International team

Nicholas Kendall	Formerly Senior Clinical Psychologist, Christchurch School of Medicine, in collaboration with
Steve Linton	Department of Occupational and Environmental Medicine, Orebro Medical Centre, Sweden and
Chris Main	Department of Behavioural Medicine, Hope Hospital, Salford; and University of Manchester, UK

Contributing professional groups

New Zealand Society of Physiotherapists

School of Physiotherapy, University of Otago

School of Anatomy, University of Otago

New Zealand Manipulative Therapists' Association

New Zealand Private Physiotherapists' Association

New Zealand General Practitioners' Association

Royal New Zealand College of General Practitioners

New Zealand Chiropractors' Association

Australasian Faculty of Rehabilitation Medicine

New Zealand Pain Society

New Zealand Register of Acupuncturists

New Zealand Register of Osteopaths

New Zealand Association of Musculoskeletal Medicine

New Zealand Orthopaedic Association

Statements of evidence

The evidence on which the recommendations are made was graded using the SIGN (Scottish Intercollegiate Guidelines Network) grading system. This system has a 2-tier approach where individual studies are critically appraised and classified by a level of evidence. Grades are then allocated according to the body of evidence represented by the studies. SIGN has developed a grading system that is recommended by the New Zealand Guidelines Group. More information on this grading system can be found at www.sign.ac.uk

Key to SIGN grading system

(A) Based on a meta-analysis, systematic review or Randomised Control Trial (RCT) with a very low risk of bias; or a body of evidence (meta-analysis, systematic review or RTC) with a low risk of bias, directly applicable to the target population and demonstrating overall consistency of results.

(B) Based on a body of evidence that includes observational studies with a very low risk of bias directly applicable to the target population and demonstrating overall consistency of results; or on extrapolated evidence from meta-analyses, systematic reviews or RCTs.

(C) Based on a body of evidence which includes observational studies with a low risk of bias directly applicable to the target population and demonstrating overall consistency of results; or extrapolated evidence from studies from grade B.

(D) Based on non-analytic studies or expert opinion; or extrapolated evidence from studies from grade C.

Grades were not allocated where studies did not fit these criteria or where studies were used to provide background information.

Guide to Assessing Psychosocial Yellow Flags in Acute Low Back Pain

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

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 suffering. New Zealand has experienced a steady rise in the number of people who leave the workforce 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.

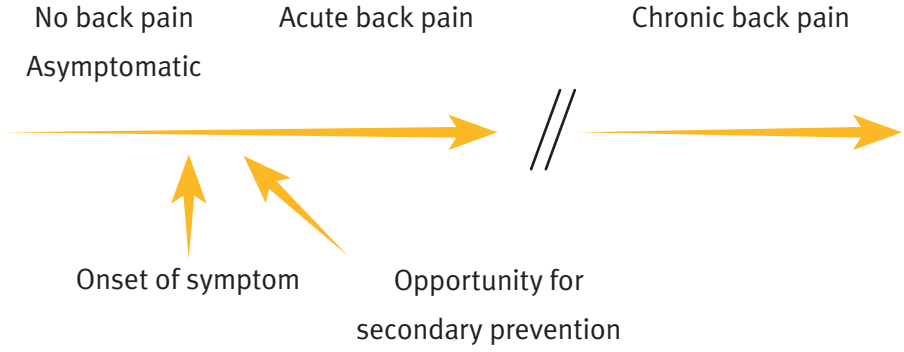
Secondary prevention

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, re-injury, 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
- Re-injury, 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 low 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 2-stage approach shown on page 35 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 pages 36-38 (Table 1).
- To conduct a clinical assessment for acute back pain, see pages 39-42 (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 on pages 36-38) 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.

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 FOLLOW UP

Using 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)

NO

Monitor progress

- Satisfactory restoration of activities?
- Returning to work?
- Satisfactory response to treatment?

YES

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

NO

Refer to suitable clinician

Specify date for progress report

YES

Proceed with modified management

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

RECOVERY

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

2X COUNT

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

◯ neck ◯ shoulders ◯ upper back ◯ lower back ◯ leg

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 3 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.

10X

0 1 2 3 4 5 6 7 8 9 10

< Can't decrease it 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 >*

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. **10X**

0 1 2 3 4 5 6 7 8 9 10

< No chance *Very large chance >*

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. **10X**

0 1 2 3 4 5 6 7 8 9 10

< Not at all satisfied *Completely satisfied >*

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

17. Physical activity makes my pain worse. **Circle** one.

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. **Circle** one.

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. **Circle** one.

0 1 2 3 4 5 6 7 8 9 10

< Completely disagree *Completely agree >*

Here is a list of five 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. **Circle** one. **10X**

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 >*

21. I can walk for an hour. **Circle** one. **10X**

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 >*

22. I can do ordinary household chores. **Circle** one. **10X**

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 >*

23. I can go shopping. **Circle** one. **10X**

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 >*

24. I can sleep at night. **Circle** one. **10X**

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 >*

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

ATTITUDES 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

BEHAVIOURS

- 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

CONTINUED OVER PAGE

TABLE 2: CONTINUED...

- Report of extremely high intensity of pain, eg, above 10, on a 0-10 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

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)

CONTINUED OVER PAGE

TABLE 2: CONTINUED...

- 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 disinterest in social activity
- Feeling useless and not needed

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

CONTINUED OVER PAGE

TABLE 2: CONTINUED...

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 2-4 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 workplace. After 4-6 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 or 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 and advice **+**	
No fear of pain	Fear of pain **+** Incentive to overcome fear
= Successful return to work	

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.

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 do not provide interventions that will improve function
- Over-investigate and perpetuate belief in the 'broken part hypothesis'.

Appendix 2

Inconsistent findings and pain behaviour or 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 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 on the next page. 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

Acknowledgements

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	Formerly Senior Clinical Psychologist, Christchurch School of Medicine, in collaboration with
Steven Linton	Department of Occupational and Environmental Medicine, Orebro Medical Centre, Sweden and
Chris Main	Department of Behavioural Medicine, 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 available on request.

Suggested citation

Keywords

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

For further information

If you would like more information please contact Accident Compensation Corporation or the New Zealand Guidelines Group.

Accident Compensation Corporation
PO Box 242, Wellington, New Zealand
Phone 0800 THINKSAFE (0800 844 657)
www.acc.co.nz

New Zealand Guidelines Group
PO Box 10665, Wellington, New Zealand
Phone +64 4 471 4180
Fax +64 4 471 4185
www.nzgg.org.nz

NZ Acute Low Back Pain Guide Review

THE DEVELOPMENT OF THE NZ ACUTE LOW BACK PAIN GUIDE

Clinical guidelines can be described as systematically developed, evidence based statements. They are designed to help clinicians and patients make informed decisions about the appropriate treatment for specific problems. Guideline development involves a systematic review of the evidence, an analysis of healthcare needs and discussions with the professions involved.

The New Zealand Acute Low Back Pain Guide aims to:

1. Provide recommendations on managing low back pain to clinicians involved in first-contact care.
2. Promote a multidisciplinary approach to back pain management through the development and review process and through local implementation.

It is not a rigid, prescriptive document. Its advice is flexible, so that treatment providers can make clinical judgements according to individual patient circumstances. The Guide's main goal is to **promote** better management of acute low back pain to **reduce** chronicity.

BASED ON EXTENSIVE INTERNATIONAL EXPERIENCE

The development in New Zealand of clinical guidelines for problems such as low back pain is part of an international trend towards evidence based healthcare – led by the New Zealand Guidelines Group. Developed to international standards, the methodology and the Guide to Assessing Psychosocial Yellow Flags have already received international acclaim.

Since the 1987 work of the Quebec Task Force on Spinal Disorders (see Table 1), evidence based guidelines for acute low back pain have been produced in the United States, the United Kingdom and New Zealand.

In 1994 the United States' Agency for Health Care Policy and Research (AHCPR) outlined four major reasons for developing guidelines for acute low back pain:

1. The high prevalence of reported back pain.
2. The high cost of low back pain.
3. Increasing evidence that patients with low back pain receive healthcare that is either inappropriate or less than optimal.
4. The increased availability of information, enabling assessment and treatment methods to be systematically evaluated.

THE METHODOLOGY OF THE NZ LOW BACK PAIN GUIDE

The methodology used to develop the first edition of the New Zealand Guide reflects that of the British and American documents:

1. It was identified that acute low back problems in New Zealand justified the development of guidelines.
2. New Zealand's National Health Committee and ACC agreed that the British and American documents were relevant to the New Zealand context.
3. The AHCPR guideline was distributed to treatment providers for feedback in order to determine the need for a local version.
4. Seminars established that the guidelines needed to focus on preventing chronicity and address psychosocial assessment and management.
5. An Expert Panel was established, comprising representatives of relevant professional associations including the New Zealand Society of Physiotherapists, the New Zealand Manipulative Physiotherapists' Association, the New Zealand Private Physiotherapists' Association, the New Zealand General Practitioners' Association, the New Zealand Chiropractors' Association, the Australasian Faculty of Rehabilitation Medicine, the New Zealand Register of Osteopaths and the Orthopaedic Association. Members also included representatives from rheumatology, clinical psychology and pain management, ACC, and the National Health Committee.
6. The Panel assessed the evidence available, which was based on large literature reviews completed by the American and British Expert Panels.
7. A draft document was circulated for consultation.
8. A public hearing on the draft took place in Wellington on 17 July 1996.
9. The draft was revised to include information from a search of recent literature.
10. The guidelines were published in January 1997.

The Expert Panel advised on an implementation strategy and has also undertaken to regularly review and update the document.

However, international research indicates that evidence based guidelines alone will not encourage treatment providers to adopt best clinical practice. The implementation strategy therefore involves:

- Educational forums that include local treatment providers and at least one member of the Expert Panel.
- Educational strategies for ACC medical advisors and case managers.
- Surveys of treatment providers.
- Regular reminders to treatment providers about the guidelines.

The Panel noted there is opportunity for health professionals to broaden their skills in the management of acute and recurrent low back pain. There is also a need for further research on many related issues.

TABLE 1. A BRIEF HISTORY OF BACK PAIN TASK FORCES AND GUIDELINES

1987 › The Quebec Task Force on Spinal Disorders (QTFSD), Canada.

- Emphasised the magnitude of the problem.
- Identified a lack of consistent classification or diagnoses.
- Psychosocial issues were considered secondary reactions, not relevant to early management.

1993 › WorkCover, South Australia.

- Made an attempt to simplify classification with a new proposal that the classification of "back strain" should only be allowed for a maximum of eight weeks.
- Provided a description of usual clinical practice. Did not attempt to provide critical reasoning or analysis.
- Appended a psychosocial assessment, with an untested scale to indicate the risk of work loss.

1994 › Agency for Health Care Policy and Research (AHCPR), USA.

- Performed an extensive literature review using an "Expert Panel" methodology.
- Reviewed the scientific evidence based on operational criteria. Made recommendations on the basis of this evidence.
- Psychosocial issues were acknowledged and emphasised, but not well articulated.

1994 › Clinical Standards Advisory Group (CSAG), UK.

- Made strong statements about the magnitude of the problem and the economic costs.
- Made recommendations based on the AHCPR literature review.
- Acknowledged psychosocial issues and recommended the adoption of a biopsychosocial model.
- Recommended a comprehensive (biopsychosocial) assessment at six weeks.

1995 › Pain in the Workplace Task Force (PIW), International Association for the Study of Pain (IASP).

- Emphasised a new category called "non-specific LBP".
- Made controversial recommendations for purchasers and compensation systems, including stopping payment for treatment and transferring to unemployment status at seven weeks.

1995 › Quebec Task Force on Whiplash Associated Disorders (QTWAD), Canada.

- Emphasised classification followed by management plans.
- Recommended a mandatory comprehensive assessment at either six or 12 weeks depending on the severity classification.
- This mandatory multidisciplinary assessment was to include musculoskeletal and psychosocial expertise.

1996 › Accident Rehabilitation, Compensation and Insurance Corporation (ACC) and National Health Committee (NHC), NZ.

- The AHCPR guidelines were distributed at the "Spine in Action" Conference, January 1996.
- Post-conference seminars emphasised the prevention of chronicity.
- Feedback resulted in the formation of a task force to develop a New Zealand version of the guides that addressed psychosocial factors.

1996 › Royal College of General Practitioners (RCGP), UK.

- Produced a revised edition of the CSAG guidelines.
- Made strong recommendations that patients should be encouraged to return to usual activities.
- Recognised that at the highest level of evidence, psychosocial factors are important in chronic low back pain and disability.
- Recognised that psychosocial factors are more important at the early stages than previously considered.

1997 › Accident Rehabilitation, Compensation and Insurance Corporation (ACC) and National Health Committee (NHC), NZ.

- Published the New Zealand Acute Low Back Pain Guide.
- Published the Guide to Assessing Psychosocial Yellow Flags.

1999 › Royal College of General Practitioners (RCGP), UK.

- Produced an updated version of the UK guide that included two new principal recommendations:
  1. The optimum timing for using manipulation is unclear.
  2. Adopted the New Zealand-developed concept of Psychosocial Yellow Flags (Kendall, Linton & Main, 1997).

1999 › Updated version of the New Zealand Acute Low Back Pain Guide (NHC and ACC).

- *New Zealand Acute Low Back Pain Guide* review, April 1999.
- Published update of the 1997 Guide.

Updated version of the New Zealand Acute Low Back Pain Guide (New Zealand Guidelines Group and ACC).

- *New Zealand Acute Low Back Pain Guide* review, 2002.
- The publication was updated and incorporated the *Guide to Assessing Psychosocial Yellow Flags in Acute Low Back Pain.*

ACC has committed to regular reviews of the New Zealand Acute Low Back Pain Guide.

This review process began in late 2001 using methods based on principles promoted by the Cochrane Collaboration and the New Zealand Guidelines Group.

A search was conducted for articles published since 1999, using major electronic databases and the keyword "back pain". These databases were Medline, Cochrane Database, Embase, Cinahl, DARE, Best Evidence, Physiotherapy Index and PsycInfo. The search was limited to the English language and available abstracts.

The results of this review were collated and divided into key areas for presentation to the Expert Panel. Abstracts of **all** articles published during the review period were considered. In addition to those concerned solely with acute low back pain, many applied to recurrent, sub-acute or chronic low back pain.

Table 2 › Epidemiology of Acute Low Back Pain (ALBP)

Rationale	This search identified literature on the epidemiology, natural history, course and/or recovery rates for ALBP.
Search Strategy	= {back pain OR lumbar OR low back} AND {incidence OR prevalence OR recurrence OR epidemiol$}
Selection Criteria for Studies	Prospective, focus on acute or recurrent LBP, 50 subjects minimum and at least one year follow-up.
Diagnosis/Assessment – Reliability	
Rationale	This search identified literature on the assessment, diagnosis, and/or classification of ALBP.
Search Strategy	= {back pain OR lumbar OR low back} AND {diagnosis OR assessment OR classification OR examination} AND {reliability OR sensitivity OR specificity}
Selection Criteria for Studies	10 subjects minimum and reliability analysis.
Diagnosis/Assessment – Prognostic Value	
Rationale	This search identified literature on the utility and/or prognostic value of assessment, diagnosis and/or classifications for ALBP.
Search Strategy	= {back pain OR lumbar OR low back} AND {diagnosis OR assessment OR classification OR examination} AND {prognos$ OR predict$ OR sensitivity OR specificity}
Selection Criteria for Studies	Prospective, focus on acute or recurrent LBP, 30 subjects minimum and at least one year follow-up.
Treatment Rationale	This search identified literature on the effectiveness of treatment and clinical management for ALBP.
Search Strategy	= Maximally sensitive search string for clinical trials. (randomized controlled trial.pt./controlled clinical trial.pt./randomized controlled trials.sh./random allocation.sh./double-blind method.sh./single-blind method.sh./(animal not human).sh./clinical trial.pt./exp Clinical Trials/(clin$ adj25 trial$).ab,ti
Selection Criteria for Studies	Prospective, clinical trial, focus on acute or recurrent LBP, 10 subjects minimum.
Advice on Returning to Work	
Rationale	This search identified literature on advice on return to work (employment), modifying work tasks and medical work certification.
Search Strategy	= {back pain OR lumbar OR low back} AND {diagnosis OR assessment OR classification OR examination} AND {prognos$ OR predict$ OR sensitivity OR specificity}
Selection Criteria for Studies	Prospective, clinical trial, focus on acute or recurrent LBP, 10 subjects minimum.

Panel members received copies of all articles identified as relevant to acute or recurrent low back pain. These were reviewed and summarised, and professional organisations and Panel members were invited to submit relevant literature. Any material submitted was then reviewed.

The Expert Panel considered each of the studies and produced a draft document, which has been revised to produce this final version. The Expert Panel found no evidence that international research does not apply in New Zealand.

ISBN 0-478-25193-9 • ACC 1038