



**WorkCoverSA**

# Managing acute-subacute low back pain

Clinical practice guideline

This guideline was developed in collaboration with  
WorkCoverSA's Low Back Pain Technical Working Group in 2009.

Dr Michael Bollen	Chair
Dr Michael Greig	Chiropractor
Pat Graske	Consumer
Dr Oliver Frank	General Practitioner
Dr Peter Jezukaitis	Occupational & Environmental Physician
Judy Ross	Occupational Therapist
Peter Roberts	Specialist Physiotherapist
Richard Oborn	Psychologist
Eleni Labadas	WorkCoverSA
Lyn Tatarelli	WorkCoverSA

This guideline was researched by:

Hong Ju	Research Officer
Stynke Docter	Research Officer
Skye Newton	Research Officer
Linda Mundy	Senior Research Officer
Tracy Merlin	Manager
Janet Hiller	Director

Adelaide Health Technology Assessment (AHTA)  
Discipline Public Health  
School of Population Health and Clinical Practice  
University of Adelaide



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# 1

## Foreword

Low back pain is a leading cause of disability throughout the world. One in 10 Australian adults reported experiencing high-disability low back pain during the previous six months in a 2001 survey.<sup>1</sup>

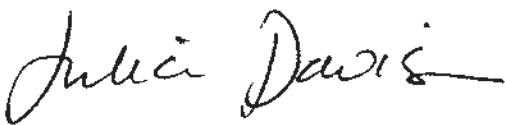
In South Australia, half of all workers compensation claims made in a one-year period are classified as sprains and strains or soft tissue injuries, of which two-thirds involve the low back. Workers with low back injuries generally have poorer recovery outcomes and return to work rates in comparison with other injury conditions.

This is not good news for South Australian workers. The emotional and financial effects of not working can be devastating, resulting in family relationship breakdowns, poor health, social isolation and depression. It's also costly for employers, insurers and the State.

It makes sense that we focus on helping injured workers with low back pain. To this end WorkCoverSA has commissioned this clinical practice guideline for all health professionals who manage low back pain. This guideline provides evidence on diagnosis, treatment, prognosis and prevention of acute-subacute soft tissue injuries to the low back. The guideline may also be used to inform workers, employers and case managers involved in acute-subacute low back pain in the workplace.

Health professionals must take into account the individual needs of each injured worker. Equally health professionals should critically appraise each individual with a low back injury using an evidence-based approach to assessment and management.

I acknowledge Adelaide Health Technology Assessment and the Low Back Technical Working Group members for their contribution to the development of this guideline.



**Julia Davison**  
**CEO**  
**WorkCoverSA**



## WorkCoverSA: getting injured workers back to work

WorkCoverSA is funded by employers to manage the South Australian Workers Rehabilitation and Compensation Scheme (the Scheme), which provides protection to workers and employers in the event of a workplace injury.

Our aim is to return injured workers to the workplace as quickly and as safely as possible. Hence our vision: **Best possible recovery, faster return to work.**

Research has shown that getting back to work can be a crucial part of a worker's rehabilitation. It also reduces the financial and emotional impact on workers and their families.

Helping improve South Australia's return to work rate is everyone's responsibility, and we all have a role to play.

## Workers compensation claims in South Australia

Approximately 22,000 claims are lodged with WorkCoverSA each year. In general, most people who are injured at work progress through treatment and return to work with minimal intervention. In fact, approximately 95% of people who are injured at work make a full recovery within three months.

Sprains and strains of the low back are consistently the number one injury type in the South Australian Scheme. Of the thousands of claims lodged each year, about 50% are classified as sprains and strains (or soft-tissue injuries). Approximately two-thirds of these sprains and strains involve the low back. The recovery outcomes for low back injuries are poor in comparison to other injury conditions with only 50% making a full recovery within three months. At 12 months, approximately 35% of these workers are not back at work.



## Purpose of this guideline

This guideline is intended to provide health professionals with updated evidence and guidance on the diagnosis, prognosis, treatment and prevention of acute-subacute soft tissue injuries to the low back, with a particular focus on patients who are work injured in the South Australian workers compensation setting.

This guideline does not cover the management of radicular pain and radiculopathy from nerve root involvement, Cauda Equina Syndrome, malignancy, infection, fracture and rheumatological disorders, and back pain of non-musculoskeletal origin.

For the purposes of this guideline, recurrence of low back pain is defined as a new episode after a symptom-free period.

## How this guideline was developed

A systematic review of all published guidelines for the management of acute and subacute soft tissue injuries of the low back was conducted by Adelaide Health Technology Assessment in July 2008. The aim of the review was to identify the best quality and most applicable clinical practice guideline for the South Australian workers compensation environment. The evidence-based guideline developed in 2003 by the Australian Acute Musculoskeletal Pain Guidelines Group on behalf of the National Health and Medical Research Council (NHMRC) has been used as the backbone for the development of this guideline.

An updated literature search was conducted and broadened to include factors considered to be relevant to the South Australian workers compensation environment. Studies published since September 2002 were identified through searching bibliographic databases, consulting content experts in the relevant fields, and hand-searching the reference lists of included studies for any other potentially relevant articles. Where gaps in the evidence existed, recommendations from the 2003 NHMRC guideline and the Canadian Imaging Guideline were used.

This guideline was developed with the assistance of a multi-disciplinary working group, the Low Back Technical Working Group. A detailed methodology is given in Appendix A. The key recommendations made by the working group for each section are described in Appendix B. The final draft guideline was peer reviewed by Associate Professor Michael K Nicholas (PHD) from the Pain Management Institute at the University of Sydney Australia.

*Note: Good practice points referred to in this guideline are consensus-based points agreed to by the Low Back Technical Working Group.*

# 3

## Key points: AIM

### AIM

#### Assess

#### Inform

#### Manage and monitor

**A**llow sufficient time during a consultation to discuss and identify beliefs, expectations and fears that workers might have about their condition and its management.

**A**im to early identify and address factors that may influence management. These include the occurrence of trauma and other red flags; psychosocial factors including yellow flags.

**A**void imaging (plain X-ray, MRI or CT) in the early management of workers with low back pain unless justified by a clinical suspicion of a serious underlying condition (a red flag).

**A**ssess the worker's ability to return to safe and suitable work.

#### Assess

#### Inform

#### Manage and monitor

**I**nform the worker that pain does not mean the injury is getting worse – explain the difference between hurt and harm.

**I**nstruct the worker to gradually resume normal activity despite some pain. Bed rest should be discouraged.

**I**nform the worker that in the majority of cases the most accurate diagnosis is 'non-specific low back pain'.

**I**nform the worker that most low back pain regardless of diagnosis is treated in the same way.





Assess

Inform

Manage and monitor

**M**anage an early return to work by discussing suitable work duty options with the worker and the workplace.

**M**anage each worker using an approach that includes awareness of the individual worker's psychosocial issues, advice, education and exercise.

**M**onitor and assess the progress of the worker using regular reviews and measures of symptoms and function.

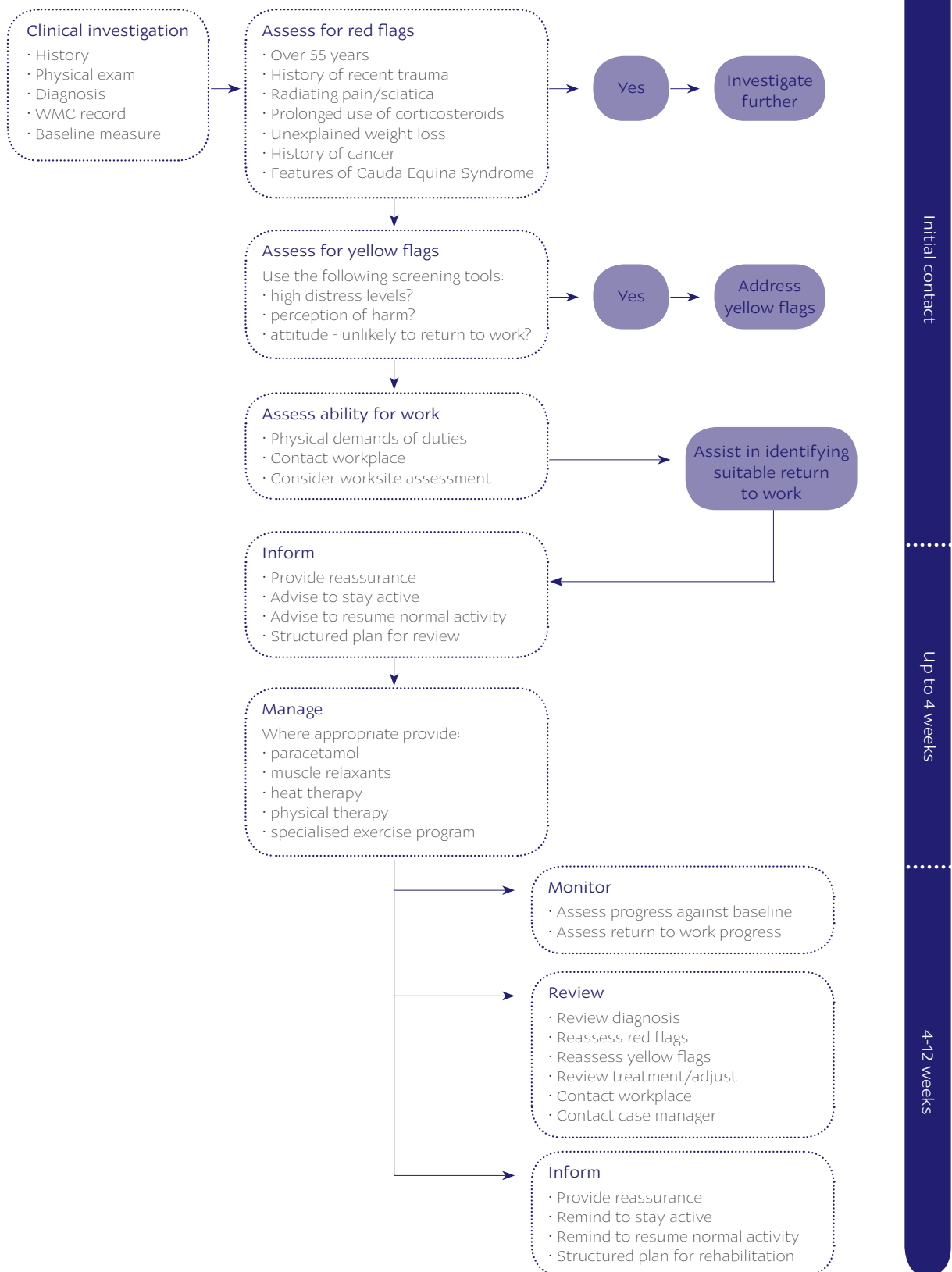
**M**ake it a priority to activate a structured workplace intervention (eg, graded activity, worksite assessment, contact with the employer) for workers who have not returned to work after four weeks.

**M**ake a referral to a workplace rehabilitation provider via the worker's case manager if recovery is not as expected.



# 4

## Management algorithm



# 5

## Natural history of low back pain



Low back pain is pain located in the lumbar and/or sacral regions of the spine, covering the region between imaginary transverse lines through the tip of the last thoracic spinous process and through the posterior sacrococcygeal joints.<sup>2</sup>

Low back pain can be classified as:

- acute – present for 4 weeks or less
- subacute – present 5-12 weeks after injury
- persistent (chronic) – present  $\geq$  12 weeks after injury.

Episodes of acute and subacute low back pain are common. In most cases a specific diagnosis is unable to be made. Usually, symptoms are attributed to soft tissue structures of the low back. Many factors may contribute to the development of low back pain.

Almost everyone will experience an episode of low back pain at least once in their lifetime. Most will recover or have reduced disability or reduced pain intensity within three months of symptom onset. After three months the recovery rate slows. Early identification of risk factors for persistent low back pain is important. Persistent and recurrent low back pain is not uncommon.

# 6

## Assess (clinical assessment and investigation)

It is important for health professionals to allow sufficient time to conduct a thorough clinical history and physical examination. This should include screening for red and yellow flags.

### During the assessment

- Take a history.
- Supplement history-taking by identifying risk indicators for persistent low back pain, which may delay a return to work. These include:
  - older age
  - smoking
  - a previous low back pain episode
  - poor general health and well-being prior to the acute episode
  - poor fitness and lack of sporting activity
  - an absence of pain-free days.
- Conduct a physical examination which may include:
  - checking for the presence of radiating pain or sciatica
  - a directed neurological examination where there are lower limb symptoms.
- Workers with non-traumatic acute low back pain and sciatica, or with uncomplicated, non-specific subacute low back pain do not initially require diagnostic imaging.
- Diagnostic imaging may assist in determining the diagnosis in the investigation of workers with low back pain after lumbar blunt trauma or acute injuries (falls, motor-vehicle/motorcycle, pedestrian or cyclist accidents etc).
- If there is an absence of expected improvement or worsening of the condition of the worker at reassessment, diagnostic imaging could be considered to exclude serious conditions, although additional radiological views are not routinely indicated.

#### Good practice point

- 'Non-specific low back pain' is an acceptable diagnosis.
- Describe the workers' abilities rather than limitations.
- Measure the level of pain intensity using an outcome measure tool.

## Assess for red flags

Red flags are clinical features observed in the history-taking and physical examination that could indicate a serious spinal pathology that requires further investigation.

The following indicators are useful when screening for red flags<sup>3</sup>:

- recent history of trauma
- pain at rest
- pain at multiple sites
- unexplained weight loss
- risk factors for infection
- prolonged use of corticosteroids
- symptoms and signs of infections (eg, fever)
- no improvement in low back pain after a month
- previous history of cancer
- features of Cauda Equina Syndrome
- worker over 50 years old.

If you suspect a serious condition, consider investigations which may include imaging (ie, X-ray, MRI or CT scan).

## Assess for yellow flags

Yellow flags are risk factors for persisting disability following injury. These factors include psychosocial factors such as personal, family and social factors, workplace-based and financial factors. These risk factors are often able to be changed and thus reduce the risk of long-term disability.

The presence of yellow flags should lead to a clinical decision as to whether a more detailed assessment is required. A range of tools may be used to assess indicators for risk (see Appendix C for examples).

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### Step 1: Assess for risk early

Yellow flags should be identified as early as possible (for example, within the first four to six weeks of injury).

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### Step 2: Consider all the circumstances of the worker

Clinical assessment should include questions directed to recovery expectations, work environment factors, workplace supports, the home situation and concerns about activity and injury risks.

Some simple questions to ask a worker include:

- Are you concerned with your work situation?
- Do you think your employer will be able to accommodate alternative duties at work?

#### Good practice point

Using the Örebro questionnaire during the initial assessment to screen for risk of longer term disability is helpful (refer Appendix C).

- If absent from work – how long do you expect you will be off work?
- How have things been at home since your injury?
- How much is your level of pain affecting your usual activities?

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### Step 3: Allow enough time during your consultation

Asking these questions may provide an indication of potential risk factors. Allow more time at your next consultation to explore these areas in more detail and consider the use of a screening tool such as the Örebro questionnaire to assist you in appropriately identifying these risks.

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### Step 4: Make the appropriate referrals

Identification of risk factors or yellow flags should lead to appropriate management. Referral to an appropriately qualified health professional for one of the following services may be considered to help manage individual risk factors:

- Pain management
- Stress management
- Bio-medical education
- Independent living skills training

Referral to a psychologist for psychological input may also be helpful.

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### Step 5: Contact with the workplace

If workplace-based risks are identified, it may be appropriate to contact the worker's employer and collect information about the workplace. Always ensure you have the worker's consent prior to contacting their workplace.

Organising a case conference with the worker, employer, case manager and treating health professional to discuss any issues may be helpful. Alternatively, contacting the case manager and recommending the engagement of a workplace rehabilitation provider to assist in the coordination of appropriate and safe return to work is another option.

#### Good practice point

Be aware of factors which may influence prognosis:

- Unexplained insidious onset or a traumatic event.
- Issues at home (domestic situation).
- Any prior history of trauma.
- Unrealistic expectations of passive treatment.

# 7

## Inform (provision of advice and reassurance)



Advise the worker to maintain as regular a daily routine as possible, to continue with domestic duties and participate in social and recreational activities as far as restrictions allow.

- Provide the worker with reassurance about their individual concerns.
- Explain in as much detail as necessary the diagnosis and prognosis.
- Support your advice with written material (refer Appendix D for a copy of the *Caring for your low back pain* worker fact sheet).
- Encourage the worker to stay active and to gradually resume normal activity.
- Discourage prolonged bed rest as this is associated with a delayed recovery.
- Reassure the worker that low back pain usually resolves within a few weeks.
- Advise the worker about workplace paced and graded activity.

It is critical to promote self-management and self-responsibility in the early stages of injury to facilitate independence. To help identify any supports the worker may need in the performance of usual activities at home, a referral to an appropriately qualified health professional for an activities of daily living assessment may be helpful. This service may also assist in providing the worker with education on the correct bio-mechanical performance of tasks and task simplification.

### Good practice point

- Establish and maintain good rapport.
- Be realistic and positive.
- Strive to reduce uncertainty about recovery.

# 8

## Manage and monitor

### Good practice point

A case conference can help to facilitate an integrated approach to care.

The aim of management and regular monitoring is to keep the worker at work or return them to work where possible. This will improve the health, financial and social outcomes of the worker. A management plan should be developed together with the worker in conjunction with treating health professionals, the case manager and employer.

### Treatment

Most cases of low back pain resolve in a few weeks. Most often the treatment of low back pain only requires simple measures, advice and reassurance. A combination of treatment approaches may be required to manage workers with low back pain, including:

- physical therapy such as manipulation or a specific exercise program, with or without the application of superficial heat therapy
- the prescription of medication if necessary with the first choice being paracetamol
- advice, education, exercise and psychosocial intervention based on initial assessment findings
- a structured workplace intervention such as graded activity or a worksite assessment for workers who have not returned to work after four weeks.

Treatment should be targeted at increasing a worker's ability to perform their usual activities. Discussion and agreement regarding the functional goals of the worker – including how long, how often these goals are undertaken – should take place.

### Good practice point

- Paracetamol is recommended as a first option.
- Efficacy of treatment should be monitored using outcome measures.
- Self-management skills should be fostered.

### Good practice point

A worksite assessment by an appropriately qualified health professional can be helpful if obvious return to work solutions are not available.

## Assessing work ability and facilitating return to work

Obtaining information about the worker's role and work demands will assist the treating medical practitioner to provide an opinion regarding whether the worker is fit to return to pre-injury workplace duties, modified or other duties and to make recommendations about restrictions that need to be observed. This can be achieved by asking the worker about their job and exploring the requirements of their role, giving consideration to the following:

- physical demands such as mobility, postural requirements, manual handling
- frequency and duration that tasks are performed
- hours of work, including over-time, shift work, provision of rest breaks.

It may be appropriate to contact the employer to obtain more information about the workplace, job requirements or the availability of other duties. Remember to obtain the worker's consent prior to doing so.

The types of suitable duties that can be discussed with the worker or employer can be categorised into three areas:

- pre-injury duties (reduced hours of the pre-injury duties that the worker has the capability to perform)
- modified duties (components or some of the pre-injury duties that have been included or removed to match the workers' capability)
- alternative duties (duties that are different from the pre-injury duties but allow the worker to remain at work or return to work).

To be successful, suitable duties should be matched to the worker's capabilities. Suitable duties should only continue for a limited time. These duties should be productive, assist the worker to increase their physical capabilities, and be within the worker's psychological and physical capabilities.

Effective communication and collaboration with the worker and their employer is essential to achieve a successful return to work. Health professionals have the capacity to positively influence the way in which an employer responds to the worker. An employer is more likely to respond to suggestions regarding possible job or ergonomic changes when this information is personally conveyed by a health professional.

Effective communication can be facilitated by arranging a meeting (ie, case conference) with associated stakeholders, in particular the worker, treating health professionals, the employer, the case manager. Ask the case manager and workplace rehabilitation provider to assist you to coordinate this meeting.

### Good practice point

You can facilitate return to work by focusing on what the worker can do rather than what they can't. This information is helpful for the worker and their employer.

### Good practice point

A worker does not have to be fully recovered or free from pain before returning to safe and suitable duties.



- Be flexible about how the meeting may occur – consider a teleconference or a case conference (at the treating medical practitioner’s rooms or the workplace).
- It may be appropriate to schedule the meeting out of hours.
- Agree on a lead for the meeting, in some cases it may be the treating health professional, in other cases it may be the employer or case manager.
- Suggest a follow up meeting to discuss progress against the agreed actions.

### Good practice point

Assessment of return to work options can occur by:

- speaking to the worker
- contacting the employer
- performing a worksite assessment, job analysis or graduated return to work program.

## Monitoring progress

A worker’s progress should be monitored regularly to ensure expected recovery is occurring. Regular monitoring helps to identify factors which may be influencing prognosis. When monitoring a worker’s progress an evaluation of the following areas should occur:

- the clinical picture
- risk factors including red and yellow flags
- return to work status
- personal self-management
- stability of family arrangements
- work restrictions and ability to work
- effectiveness of treatment.

Be aware of evidence-based risk factors that may influence prognosis. Some of these evidence-based factors are:

- symptoms of high pain intensity, disability, back-related lower limb pain
- a previous episode of low back pain
- age – with older workers being more vulnerable
- a history of smoking
- chronic pain unrelated to low back pain
- high levels of distress
- a lack of pain-free days
- belief that on-going activity will lead to further harm
- expectations and perceived indicators of when it will be possible to return to work
- the presence of specific workplace factors (physically demanding work, longer hours, lack of supervisor support).



### Good practice point

Return to work goals and timelines should be regularly reviewed with the aim of recognising the increasing capability of the worker.

There are a number of monitoring methods which can be adopted to assess a worker's progress with recovery. Feedback from the worker, the workplace or other health professionals can be the most valuable information to assist in assessing progress. Other monitoring methods include:

- clinical assessment
- return to work progress
- use of outcome measures.

## Beyond the subacute stage of injury

There will be a percentage of workers who will continue beyond the 12 week point without having made a full recovery. It is important to remember that improvement at this stage is still likely to occur, however the management of chronic or persistent pain is different from acute and subacute low back pain.

### Good practice point

Instigating a case conference with associated stakeholders is appropriate at this point if the worker has not made a full recovery or if pain persists.



## Appendix A: Approach to guideline development

A systematic literature review of all published guidelines for the management of acute and subacute soft tissue injuries to the low back was conducted by Adelaide Health Technology Assessment on behalf of TracSA in July 2008. The aim of this systematic review was to identify the best quality and most applicable clinical practice guidelines for the South Australian workers compensation setting.

The evidence-based guidelines developed in 2003 by the Australian Acute Musculoskeletal Pain Guidelines Group on behalf of the NHMRC were identified as the best quality guidelines whilst being applicable to an Australian health care setting. These 2003 guidelines were used as the backbone for the development of the current guidelines. An updated literature search was conducted and broadened to include evidence from the intervening time period and to include factors considered to be relevant to the South Australian workers compensation setting. Taking into account the literature search performed for the NHMRC guideline, studies published since September 2002 were identified through searching bibliographic databases, consulting content experts in the relevant fields, and hand-searching the reference lists of included studies for any other potentially relevant articles. In addition, where gaps in the evidence existed, recommendations from the 2003 NHMRC guidelines or the Canadian Imaging Guidelines (CIG) were used.

Studies for the different clinical questions were included in this systematic review if they satisfied criteria based on the PICO structure of the questions – Population, Intervention (treatment), Comparator (against which an intervention’s effectiveness is measured), and Outcomes of interest.

NHMRC grades of recommendation were used to indicate the strength of the recommendation and to assist users of the clinical practice guideline in making clinical judgements. Grade A and B recommendations were generally based on a body of evidence that can be trusted to guide clinical practice, whereas Grade C and D recommendations must be applied cautiously to individual clinical and organisational circumstances and be followed with care. For prognosis, recommendations were made only if excellent or good quality studies were available.

Grade of recommendation	Description
A	Body of evidence can be trusted to guide practice
B	Body of evidence can be trusted to guide practice in most situations
C	Body of evidence provides some support for recommendation(s) but care should be taken in its application
D	Body of evidence is weak and recommendation must be applied with caution

Where there was no new evidence available in areas where recommendations were to be made, the evidence from the previous NHMRC guideline or CIG were used. The previous levels of evidence were translated into the new grades for these recommendations. The CIG body of evidence was judged to be similar to that of NHMRC, therefore the recommendations adopted from CIG were translated directly to equivalent NHMRC grade of recommendations (eg, CIG Grade B to NHMRC Grade B). When no evidence was available from NHMRC, CIG or the updated evidence base a 'Good Practice Point' was developed to provide common sense guidance for clinical practice.

The application of a grade to a recommendation is based on a rating of the body of evidence, considering five components:

- Evidence base, which includes the number of studies sorted by their methodological quality and relevance to patients
- Consistency of the study results
- The potential clinical impact of the proposed recommendation (including the balance of benefits and risks, the relevance of the evidence to the clinical question, the size of the patient population and resource issues)
- The generalisability of the body of evidence to the target population for the guideline
- The applicability of the body of evidence to the Australian healthcare context.

The complete methodology of this approach, including the clinical questions asked, search terms used for each clinical question, sources of information searched, study selection criteria and methods of validity and quality assessment of included studies may be accessed in the complete technical report – *The management of acute/subacute soft tissue injuries to the low back: evidence update and recommendations for clinical practice*, available on the WorkCoverSA website at [www.workcover.com](http://www.workcover.com) and the AHTA website at [www.adelaide.edu.au/ahta/](http://www.adelaide.edu.au/ahta/)

# 10

## Appendix B: Summary of key findings

The following tables summarise the key recommendations for each section of these guidelines based on evidence that can be trusted to guide clinical practice (Grade A and B). Recommendations made on evidence that should be treated with caution (C and D) are not included in these tables but can be accessed in the full guideline document.

### Natural history

The systematic review identified a number of factors associated with the natural history of low back pain. Some of these factors may result in a delayed return to work.

Natural history	Grade
In the first month after low back pain onset, at least two-thirds of workers with acute/subacute low back pain have recovered or have reduced disability or pain intensity. Within three months this percentage increases up to approximately 90-95%. After three months the recovery rate slows and stabilises. Early identification of patient risk factors for persistent low back pain is important.	B
In the first year after an episode of acute-subacute low back pain, approximately half of the population will self-report recurrent low back pain and a third of the whole population will seek medical care for their low back pain.	B
Workers with characteristics including male gender, younger age, low level of fear-avoidance behaviour, participation in sport prior to injury, or those who have an early return to work, are more likely to experience a rapid recovery from an episode of acute-subacute low back pain.	B

### Clinical assessment and investigation

The systematic review identified a number of factors which should be assessed during clinical assessment including recommendations **not** to routinely image patients unless red flag factors are evident.

Clinical assessment and investigation	Grade
In the majority (approximately 95%) of cases of acute low back pain, no specific diagnosis can be made or needs to be made. The remaining cases (approximately 5%) have serious conditions/causes of acute low back pain.	B
Common radiological findings in patients with low back pain (eg, osteoarthritis, lumbar spondylosis, spinal canal stenosis) also occur in asymptomatic people; hence, such conditions may not be the cause of the pain.	B
Among the range of active movement assessment techniques used, the provocative active sidebend assessment, either alone or as part of a flexion-extension-rotation assessment, is the most reliable test to replicate pain symptoms.	C
The slump test can be used during the physical examination to diagnose or exclude lumbar disc herniations with nerve root compression in those workers with a severe clinical presentation of acute-subacute low back pain.	C
Workers presenting with acute uncomplicated low back pain (< 4 weeks duration) do not initially require x-rays or specific investigations.	B, CIG

<b>Clinical assessment and investigation <i>continued</i></b>	<b>Grade</b>
Workers presenting with a non-traumatic acute low back pain (< 4 weeks duration) and sciatica, or with uncomplicated subacute low back pain (4-12 weeks duration) and no previous treatment trial, do not initially require x-rays.	B, CIG
At reassessment, if there is an absence of expected improvement or worsening of the condition of the worker, an x-ray could be considered to exclude serious conditions, although additional radiological views are not routinely indicated.	B
In the investigation of patients with low back pain after lumbar blunt trauma or acute injuries (falls, motor-vehicle accidents, motorcycle, pedestrian, cyclists, etc) x-rays may assist in determining the diagnosis.	B, CIG

## Management strategies

The aim of management is to improve the health, financial and social outcomes of the workers with acute or subacute low back pain and to prevent long-term worker disability and loss of the worker to the workplace. Although a wide range of treatment/management options for acute-subacute low back pain are available to the clinician and patient, few have been shown to have any therapeutic value and some are associated with harms. Treatment options may be used in isolation but ideally in combination and may include psychosocial and educational interventions, pharmacological therapies, physical therapy, specific exercise programs and/or work-related, multidisciplinary interventions.

**All recommendations for management strategies should be read in conjunction with each other and not in isolation.**

<b>Management strategies – Pharmacological therapies</b>	<b>Grade</b>
<b>Improvement: Evidence of improved clinical outcomes</b>	
Muscle relaxants are more effective than placebo or no treatment for workers with acute low back pain, particularly for muscle spasm. However due to adverse effects muscle relaxants are not recommended routinely. The patient should be advised about possible side effects.	B
NSAIDs can reduce acute-subacute low back pain for workers, compared with no treatment or placebo, although the extent of pain relief is unclear. Diclofenac, when added to paracetamol, provides no additional benefit in terms of pain relief, function and time to recovery than paracetamol alone.	B
NSAIDs have a similar effect on acute low back pain compared to opioid analgesics or combined paracetamol-opioid analgesics.	B, NHMRC
<b>Insufficient evidence: Insufficient evidence to comment on effectiveness</b>	
There is insufficient evidence that NSAIDs are more effective when compared to muscle relaxants or anti-anxiety agents in acute low back pain.	B, NHMRC
There is insufficient evidence for the effectiveness of simple analgesics (paracetamol) versus NSAIDs for the treatment of acute-subacute low back pain in workers. However, given the serious adverse effects of NSAIDs include gastrointestinal bleeding perforation, it is recommended that paracetamol, as the first pharmaceutical option, is the conservative approach.	A, NHMRC
<b>No improvement: Evidence of no improvement in clinical outcomes</b>	
NSAIDs are less effective in reducing pain than application of superficial heat in the first three to four days of acute low back pain.	B, NHMRC
Simple analgesics (paracetamol) are not recommended over the application of superficial heat for workers with acute-subacute low back pain.	B

<b>Management strategies – Pharmacological therapies <i>continued</i></b>	
<b>Harmful: Evidence of harm</b>	
Drowsiness, dizziness and dependency are common adverse effects of muscle relaxants.	A, NHMRC
Serious adverse effects of NSAIDs included gastrointestinal complications (eg, bleeding, perforation).	A, NHMRC
In general, compound analgesics have a substantially increased risk of side-effects compared with paracetamol alone.	A, NHMRC
Adverse effects of injection are rare but serious.	A, NHMRC
<b>Management strategies – Heat</b>	
<b>Grade</b>	
<b>Improvement: Evidence of improved clinical outcomes</b>	
Application of superficial heat can provide temporary pain relief in acute-subacute low back pain patients with at least moderate pain intensity.	B
<b>Management strategies – Physical therapy</b>	
<b>Grade</b>	
<b>Improvement: Evidence of improved clinical outcomes</b>	
Manipulative therapy, in addition to interferential therapy, and the <i>Back Book</i> , may have benefits for the quality of life of workers with acute-subacute low back pain.	B
Combined application of superficial heat and McKenzie exercise in the first seven days is recommended over an educational booklet ( <i>Acute Low Back Problems in Adults, Patient Guide</i> ) for workers with acute-subacute low back pain.	B
<b>Insufficient evidence: Insufficient evidence to comment on effectiveness</b>	
There is insufficient evidence that spinal manipulation is more or less effective than other conservative treatments for workers with acute-subacute low back pain.	B
There is insufficient evidence to recommend that specific exercise programs (eg, graded activity, strengthening, stretching, aerobics, extension and flexion exercise) are superior to other conservative treatments or usual care.	A
There is insufficient evidence to suggest that either manipulation or interferential therapy or the combination of both therapies should be used preferentially to prevent re-injury in workers with a previous history of low back pain.	B
<b>Harmful: Evidence of harm</b>	
Adverse effects of spinal manipulation are rare but potentially serious.	B, NHMRC
Adverse effects from traction have been reported, including reduced muscle tone, bone demineralisation, thrombophlebitis.	A, NHMRC
<b>Management strategies – Psychosocial interventions</b>	
<b>Grade</b>	
<b>Improvement: Evidence of improved clinical outcomes</b>	
Early access to models of individualised care that include psychosocial assessment, advice, education, rehabilitation exercise, and passive treatment is recommended for workers with acute-subacute low back pain.	B
<b>Insufficient evidence: Insufficient evidence to comment on effectiveness</b>	
There is insufficient evidence that back school is more effective in reducing pain compared to active and passive therapies and to placebo in acute low back pain.	A, NHMRC
<b>Management strategies – Work-related intervention</b>	
<b>Grade</b>	
<b>Improvement: Evidence of improved clinical outcomes</b>	
Early multi-disciplinary interventions with a work-related component (eg, graded activity, worksite attendance, workplace supervisor) may be beneficial for acute-subacute low back pain workers off work for greater than four weeks.	B

Management strategies – Recommending activity	Grade
<b>Improvement: Evidence of improved outcomes</b>	
Advice to stay active provides a small beneficial effect on pain, rate of recovery and function compared to bed rest and compared to a specific exercise regime in mixed populations with low back pain.	B, NHMRC
Advice to stay active reduces sick leave compared to bed rest in mixed populations with low back pain.	B, NHMRC
<b>Insufficient evidence: Insufficient evidence to comment on effectiveness</b>	
There is insufficient evidence that bed rest is more effective compared to advice to stay active, back exercises, spinal manipulation, NSAIDs or no treatment in mixed populations with low back pain.	B, NHMRC
There is conflicting evidence that bed rest increases disability and rate of recovery compared to staying active in mixed populations with low back pain.	A, NHMRC
<b>Harmful: Evidence of harm</b>	
Prolonged bed rest (more than two days) increases the amount of sick leave compared to early resumption of normal activity in acute low back pain.	B
There is evidence that prolonged bed rest is harmful.	A, NHMRC

## Review

The systematic review identified a number of risk factors associated with workers and the effect these factors had on common outcomes including a delayed return to work. These factors are summarised in the two tables below. It is important to identify patients with yellow flag factors, and to address the underlying issues or causes of these factors, whilst at the same time not 'labelling' the patient as this can perpetuate or worsen the patient's health outcomes. In addition, it is important to enact appropriate cognitive and behavioural management strategies early in the treatment process to facilitate a positive outcome for the worker.

Review	Grade
Workers with acute-subacute low back pain who are active in a sport prior to and after the injury are less likely to perceive it as a disability at six months.	B
Workers with a high pain intensity at baseline or at the first consultation have a moderate increase in risk for persistent low back pain and higher odds for recurrent low back pain.	A
Workers with a high disability level at baseline or at first consultation have a moderate increase in risk for persistent low back pain or a delayed return to work.	A
Workers with high levels of psychological distress, whether related to the low back pain or not, have higher odds of developing persistent low back pain and disability in the long term.	A
Starting or maintaining exercise and stretching at the onset of low back injury is a moderate predictor for a likely return to work by six months.	B
Workers with a high income have higher odds of a return to full duty compared to workers on low income.	B
Workers who display protective behaviour during an examination are at higher risk of a delayed return to work than those who do not display protective behaviour.	B
High scores on the Acute Low Back Pain Screening Questionnaire (ALBPSQ) indicate higher odds of non-recovery at 3 to 12 months.	B
Workers with high levels of fear avoidance beliefs are more likely to delay a return to work or consider themselves as having a disability at six months than those with low fear avoidance beliefs.	B
Workers with high levels of catastrophising have a substantial increase in risk for a delayed return to work and persistent low back pain at three months.	B



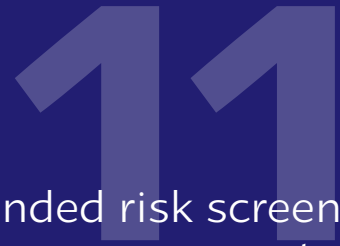
<b>Review continued</b>	<b>Grade</b>
Workers with functioning affected by pain have a moderate increase in odds for a delayed return to work than those with functioning that is not affected by low back pain.	B
Workers with a passive coping strategy have a moderately increased risk of persistent low back pain at three months.	B
Patients with a negative general health perception have a slight decrease in risk for recovery at three months.	B
Workers reporting low back pain and who have a negative perception of general physical functioning are at high risk of recurrent low back pain.	B
Workers with an expectation of extended sick leave have an increased risk of absence from work.	B
Workers with high levels of job stress and acute-subacute low back pain are less likely to return to work by six months.	B
Workers with acute-subacute low back pain who have high physical demand in their daily duties are more likely to have a higher number of days off work than those with lower physical working demands.	B
Workers on sick leave due to low back pain and lacking supervisor support are more likely to have recurrent medical visits.	B
Workers with low back pain who work longer hours per week are more likely to have recurring medical visits for their pain.	B
Return to work at three months is less likely in those with low back pain in a workers compensation setting.	B

	Delayed return to work	Likely return to work	Non-recovery at 3 to 12 months	Perceived disability at 6 months	Persistent low back pain at 3 months	Recurrent low back pain	High number of days off work	Recurrent medical visits	Long-term disability
Displaying protective behaviour	✓✓✓								
Starting or maintaining exercise and stretching		✓✓							
High scores on Acute Low Back Pain Screening Questionnaire			✓✓✓						
High levels of fear avoidance	✓✓			✓✓✓					
High levels of catastrophising	✓✓✓		✓✓✓						
Functioning affected by pain	✓✓								
Passive coping strategy					✓✓				
Negative perception general health			✓						
Negative perception physical function						✓✓✓			
Expectation of extended sick leave	✓✓✓								
Low income	✓✓✓								
Active in sport prior to and after injury		✓✓✓							
High levels of job stress	✓✓✓								
Physically demanding job							✓✓✓		
On sick leave with no supervisor support								✓✓	
Working long hours per week								✓✓	
Workers in a workers compensation setting	✓✓								
High level of disability at baseline	✓✓								
High levels of psychological distress					✓✓✓				✓✓✓
High pain intensity at baseline					✓✓✓	✓✓✓			

✓= slight risk

✓✓= moderate risk

✓✓✓= high risk



## Appendix C: Recommended risk screening and outcome measure tools

Screening tools and outcome measures are helpful in the management and monitoring of a worker. A risk screening tool can help identify workers at risk of long term disability, development of persistent pain and failure to return to work. An outcome measure is a test or scale that has been shown to measure a patient characteristic of interest (ie ie, pain, functioning. Outcome measures are used to evaluate change from one point in time (usually before treatment) to another (usually after treatment).

Outcome measures and risk screening tools are increasingly being used by health professionals to facilitate injury recovery, as they:

- are proven best-evidence medicine
- assist timeliness of recovery
- assist with interdisciplinary communication.

The following are some examples of tools which may be helpful. These, among others can be downloaded from [www.workcover.com](http://www.workcover.com).

- Örebro Musculoskeletal Pain Screening Questionnaire (OMPQ)
- The Kessler Psychological Distress Scale (K10)
- Visual Analogue Scale
- Distress and Risk Assessment Method (DRAM)
- Lovibond's Depression Anxiety Stress Scale (DASS)
- Oswestry Low Back Disability Questionnaire
- Roland Morris Low Back Pain Disability Questionnaire (RMQ)
- The Quebec Back Pain Disability Scale.

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## Appendix D: Caring for your low back pain factsheet

Acute low back pain is pain felt in the lower back that lasts for a short time (less than three months). Nearly 80% of Australians will experience back pain at some stage in their lives. Fortunately, most people who suffer from back pain will get better within a few weeks.

### Tips for helping yourself

- Using your back as normally as possible will help you get better. So, even though you may be in some pain, try to stay active.
- The best person to manage your pain is you. If you take steps to help yourself, you'll get better more quickly.
- Try to get back to your usual daily activities and work as soon as possible unless advised otherwise.
- Keep reminding yourself that you will get better. Set yourself daily goals such as doing the housework, going out and exercising.
- Increase the things you do until you are able to do all of your usual everyday activities and tasks. It's best to increase your activities steadily and in stages. You'll have good days and not so good days – that's normal.
- Regular activity such as walking or swimming will get your joints and muscles moving. Exercise is helpful because it makes your back move – this will assist your recovery in the first six weeks.
- Spread your activities throughout the day and throughout the week.
- Alternate easier activities with activities that are more physically demanding.
- Bed-rest delays recovery and is not recommended.

Most back pain gets better, so don't focus on your pain.



Remember, you don't have to be completely pain free to do things at home and return to work.

### Tips for helping yourself at work

- Research shows that the sooner you resume all of your usual activities, including work (either paid or unpaid) the sooner you'll get better, and the less likely it is that your injury will become a long term problem.
- Talk with your employer and health provider about ways that you can return to work safely.
- Depending on your situation, your health provider may recommend that you do different tasks from usual at work while you get better.
- Vary your tasks to allow for regular changes in body position and movement.
- Depending on your circumstances an occupational therapist, physiotherapist, rehabilitation provider or other health provider may assist you to modify your work tasks for a safe return to work.
- Speak to your supervisor if you have any concerns about your work.
- If you are not yet back at work, keep in touch with your workmates and your workplace. Stay involved in your workplace social activities.

## Be active!

People who stay active recover faster. Aim to resume your normal activities as soon as you can.

## How to manage pain

- For soft tissue injuries you can expect your pain to settle down over a short period of time (days to weeks) as healing occurs.
- Pain-relieving measures may help you cope with your symptoms while you are getting better. Your doctor or pharmacist can advise you on the pain relief that will be best for you.
- If you are having trouble completing your daily activities, don't be scared to take a short course of pain-relieving medication, such as paracetamol.
- Your pain may make it difficult to carry out your usual activities, and you may even want to rest completely. However, it is important to resume as many of your normal activities as you can. Staying active helps to prevent long-term problems.
- Rest breaks (not bed-rest), rotating activities and modifying activity within pain levels are often more effective than medication.
- It's normal to worry about the cause of your pain if it is not settling quickly. Talking to your health provider about your concerns can be helpful.
- In most cases of back pain, further investigations such as x-rays or blood tests are not needed. They do not help with your pain or assist your recovery.

You will usually find there is no serious cause for back pain and that there are simple ways to relieve your symptoms.



## How to manage your symptoms

- Sit in an upright chair with low back support rather than a low, soft lounge chair.
- Adjust the back of your car-seat to be almost upright.
- Shop several times a week rather than just once to lighten the load.
- If your car boot is high, place your shopping in the back seat.
- Avoid twisting when getting in and out of the car.
- When vacuuming, sweeping or mopping, use short strokes and move your feet rather than bending and twisting.
- When making the bed, kneel down to tuck in the sheets. If you can, position the bed away from the wall to make bed-making easier.
- Kneel on one knee to reach things at low levels.
- Push things rather than pulling them, and keep your elbows close to your body.
- Sit, stand, walk. Change your position regularly.
- Wear comfortable shoes with low heels.
- Ensure your work surface is at a comfortable height.
- Sleep on a firm mattress.
- If you sleep on your back, try placing a pillow under your knees. If you sleep on your side, you can put a pillow between your knees instead.
- Do things that help you relax, such as walking or listening to music.

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## Appendix E: Useful contacts

### **WorkCoverSA**

Enquiries: 13 18 55  
100 Waymouth Street Adelaide SA 5000  
Fax: (08) 8233 2211  
Email: [info@workcover.com](mailto:info@workcover.com)  
Website: [www.workcover.com](http://www.workcover.com)

### **WorkCoverSA's claims agent**

All WorkCover claims (that are not self-insured) are managed by Employers Mutual.

Enquiries: 1300 365 105  
26 Flinders Street, Adelaide SA 5000  
GPO Box 2575 Adelaide SA 5001  
Fax: (08) 8127 1200

### **Self-insured employers**

For matters relating to self-insured claims, please contact the employers directly.  
For more information on self-insured employers visit [www.sisa.net.au](http://www.sisa.net.au).

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## Appendix F: Glossary

### **Acute low back pain**

Low back pain present for up to four weeks.

### **Activities of daily living**

Assessment by a physiotherapist or occupational therapist, usually conducted in a worker's home environment, of the worker's level of functioning in relation to personal care and recreational and social activities.

### **Additional radiological views**

Additional x-ray views or images that relate to the location of the trauma or injury (eg, pelvic or sacral trauma: lateral lumbar view to better visualise the lateral sacrum and angulated anteroposterior or posteroanterior sacrum view [15°- 45° tube angulation]).

### **Application of superficial heat**

Application of hot packs to provide topical local heat to soft tissue.

### **Bio-mechanical education**

The education of bio-mechanics. Bio-mechanics is the development, extension and application of mechanics as it relates to biology and medicine.

### **Case conference**

A case conference is a face-to-face meeting which takes place with key stakeholders involved in a workers compensation claim, in most cases including the worker, case manager, employer and treating medical practitioner (as a minimum).

### **Catastrophising**

Catastrophising is a thought and emotional process characterised by an excessive focus on pain sensations (rumination, "I can't stop thinking about how much it hurts") with an exaggeration of threat (magnification, "something serious might happen") and the self-perception of not being able to cope with the pain situation (helplessness, "there is nothing I can do to reduce the pain"). This exaggeration of the negative consequences and expectation of the worst possible outcome unnecessarily increases anxiety and can lead to maladaptive behaviour.

*American Psychological Association's Concise Dictionary*

### **Chronic low back pain**

Low back pain present for more than 12 weeks after an injury.

### **Distress and Risk Assessment Method**

The Distress and Risk Assessment Method (DRAM) is a simple psychological assessment method for pain problems. The DRAM is designed as no more than a first-stage screening procedure, whether as a confirmation of clinical impression, or to alert the clinician that a more comprehensive psychological or psychophysiological assessment is indicated.

### **Employer**

A registered or self-insured employer as referred to in the South Australian Workers Compensation Scheme. 'An employer' can be represented by the workplace manager, workplace supervisor, rehabilitation and return to work coordinator or human resource representative.

### **Fear avoidance beliefs**

The belief that pain is harmful, resulting in fear of movement or re-injury and thus pain-avoidance behaviour, such as guarding.

### **Graded activity**

Graduation from a minimum number of hours and limited duties to normal hours and normal duties.

### **Graduated return to work program**

A program of work duties and work practice guidelines for a worker designed by an occupational therapist or physiotherapist to increase the worker's tolerance for the physical demands of work.

The purpose of the program is to assist the worker to maintain his or her employment while undertaking rehabilitation. The program will involve actual and productive work duties identified by the therapist as being within the worker's capacity and work practice guidelines relevant to the nature of the worker's injury and performance of the particular duties.

### **Health professional**

A medical expert as defined by the *Workers Rehabilitation and Compensation Act 1986* (amended) which includes a general practitioner, specialist practitioner, chiropractor, dentist, occupational therapist, optician, osteopath, physiotherapist, podiatrist, psychologist, psychiatrist or speech pathologist.

### **Independent living skills training**

Independent living skills training includes a combination of assessment of current function with respect to relevant activities of daily living, provision of therapeutic aids and equipment, education in correct biomechanics and graded activity programs for the purposes of promoting independence, improving cognitive functioning, increasing physical capacity and preventing aggravation of injury.

### **Interferential therapy**

A form of electrical stimulation of the muscles which is produced by interfering two slightly out of phase, medium frequency currents to produce a low frequency current (0-250 Hz).

### **Job analysis**

A workplace assessment by an occupational therapist or physiotherapist, which includes:

- (a) an analysis of the critical physical demands of occupational tasks
- (b) determining the worker's capacity to undertake the tasks, giving consideration to available medical guidelines and the therapist's knowledge of the worker's diagnosis, pathology and prognosis
- (c) making recommendations for modification to work methods or the workplace which may assist rehabilitation or return to work.

### **Kessler Psychological Distress Scale**

The Kessler Psychological Distress Scale (K10) is a simple measure of psychological distress. The K10 scale involves 10 questions about emotional states each with a five-level response scale. The measure can be used as a brief screen to identify levels of distress. The tool can be given to patients to complete, or alternatively the questions can be read to the patient by the health professional.

### **Lovibond's Depression Anxiety Stress Scale**

Lovibond's Depression Anxiety Stress Scale (DASS) is a 42-item self report instrument designed to measure the three related negative emotional states of depression, anxiety and tension/stress.

### **McKenzie exercise**

A series of directional preference-based exercises which are customised for each patient at the initial evaluation according to McKenzie concepts. More common exercises include low back extension (prone press-up and standing extension), flexion (supine knee to chest and seated flexion), or a combination of both movements.

### **Medical practitioner**

A general practitioner or specialist practitioner authorised to complete a *WorkCover Medical Certificate*.



### **Non-specific low back pain**

The preferred diagnostic term for pain occurring primarily in the low back, where the clinician has excluded serious underlying conditions (such as cancer, infection, or cauda equina syndrome), spinal stenosis or radiculopathy, or another specific spinal cause (such as vertebral compression fracture or ankylosing spondylitis).

### **Örebro Musculoskeletal Pain Questionnaire**

The Örebro Musculoskeletal Pain Questionnaire is a screening tool which assesses the risk that a worker will develop long-term disability or fail to return to work following a musculoskeletal injury. It consists of 21 questions which address psychosocial factors, including beliefs and expectations that may influence recovery and return to work (yellow flags).

### **Oswestry Disability Index**

The Oswestry Disability Index is a questionnaire used to measure a patient's permanent functional disability. It is designed to give information as to how a patient's back pain affects their ability to manage in everyday life.

### **Passive coping**

Passive coping involves depending on others for help with your daily tasks and saying to oneself: "I wish my doctor would prescribe better pain medication for me" or "I can't do anything to lessen this pain".

### **Persistent low back pain**

Low back pain with duration more than 12 weeks after injury.

### **Protective behaviour**

Behaviour that prevents or alleviates pain, including voluntary or involuntary stiffness, hesitation, limping, bracing and flinching.

### **Quebec Back Pain Disability Scale**

The Quebec Back Pain Disability Scale is a 20-item self-administered instrument designed to assess the level of functional disability in individuals with back pain. The scale is a reliable and valid measure and can be used for monitoring the progress of individual patients participating in treatment or rehabilitation programs.

### **Radiculopathy**

Dysfunction of a nerve root often caused by compression and associated with pain, sensory impairment, weakness, or diminished deep tendon reflexes in a nerve root distribution.

### **Recovery**

Restoration of a person with a compensable injury to their optimal post-injury function at the earliest possible time, given their pre-injury health status.

### **Red flags**

Clinical features observed in the history-taking and physical examination (eg, age over 50 years, unexplained weight loss, previous history of cancer, no improvement in low back pain after a month, recent history of trauma and prolonged use of corticosteroid) that could indicate a serious spinal pathology and require further investigation.

### **Roland Morris Low Back Pain Disability Questionnaire**

The Roland-Morris Questionnaire (RMQ) is a self-administered disability measure in which greater levels of disability are reflected by higher numbers on a 24-point scale. The RMQ has been shown to yield reliable measurements, which are valid for inferring the level of disability, and to be sensitive to change over time for groups of patients with low back pain.

### **Self-insured employer**

Self-insured employers are responsible for managing the rehabilitation and return to work of their injured employees and the claims costs and financial liabilities that result from the compensable injuries of their workforce.

A self-insured employer must commit financial and management resources to ensure ongoing compliance with legislation and demonstrate their adherence to the code of conduct set out by WorkCover.

### **Specific exercise programs**

A supervised or home-based exercise series with specific movements, ranging from programs aimed at general physical fitness to programs aimed at muscle strengthening, flexibility, stretching, or different combinations of these elements.

### **Spinal manipulation**

A manual therapy technique in which a thrust is applied with a minimum force as a low-amplitude, high-velocity thrust. These are applied to a spinal joint near or at the end of the limit of its existing range of movement, in order to normalise physiological range of motion.

### **Subacute low back pain**

Low back pain present more than five weeks after injury, but no longer than 12 weeks.

### **Yellow flags**

Indicators of psychosocial, workplace and other factors that increase the risk of developing persistent low back pain.

### **Visual Analogue Scale (VAS)**

The pain visual analogue scale consists of a 10cm line with two end-points representing 'no pain' and 'pain as bad as it could possibly be'. Patients are asked to rate their pain by placing a mark on the line corresponding to their current level of pain. The distance along the line from the 'no pain' marker is then measured with a ruler giving a pain score out of 10.

### **Workplace rehabilitation provider**

Suitably qualified providers contracted with WorkCover to provide vocational rehabilitation services to injured workers and their employers. A workplace rehabilitation provider is usually appointed by the case manager or self-insured employer, but can also be instigated by a worker.

### **Worksite assessment**

Attendance by an occupational therapist or physiotherapist at a worker's workplace in order to obtain an overview of the workplace and determine the availability of suitable duties.

# 15

## Appendix G: References

1. B. F. Walker, R. Muller & W. D. Grant. (2004). 'Low back pain in Australian adults. health provider utilization and care seeking'. *J Manipulative Physiol Ther* 27 (5), 327-335.
2. N. Bogduk & B. McGuirk. In: *Medical management of acute and chronic low back pain: an evidence-based approach*, Elsevier Ltd, Oxford 2002.
3. Australian Acute Musculoskeletal Pain Guidelines Group, *Evidence based management of acute musculoskeletal pain* (CP 94), <http://nhmrc.gov.au/publications/synopses/cp94syn.htm>, Accessed 23 May 2008.
4. M. Roland & J. Fairbank. (2000). 'The Roland-Morris Disability Questionnaire and the Oswestry Disability Questionnaire'. *Spine* 25 (24), 3115-3124.
5. X. Luo, M. Lynn George et al. (2003). 'Reliability, validity, and responsiveness of the short form 12-item survey (SF-12) in patients with back pain'. *Spine* 28 (15), 1739-1745.
6. J. Ware, Jr., M. Kosinski & S. D. Keller. (1996). 'A 12-Item Short-Form Health Survey: construction of scales and preliminary tests of reliability and validity'. *Med Care* 34 (3), 220-233.
7. K. Cheung, M. Oemar et al, *EQ-5D User Guide*, <http://www.euroqol.org>, Accessed 1st July, 2009.
8. B. Schweikert, H. Hahmann & R. Leidl. (2006). 'Validation of the EuroQol questionnaire in cardiac rehabilitation'. *Heart* 92 (1), 62-67.
9. M. L. Ferreira, P. H. Ferreira et al. (2007). 'Comparison of general exercise, motor control exercise and spinal manipulative therapy for chronic low back pain: A randomized trial'. *Pain* 131 (1-2), 31-37.
10. R. W. Ostelo & H. C. de Vet. (2005). 'Clinically important outcomes in low back pain'. *Best Pract Res Clin Rheumatol* 19 (4), 593-607.
11. E. C. Huskisson. (1974). 'Measurement of pain'. *Lancet* 2 (7889), 1127-1131.
12. Health and Rehabilitation Unit, *Outcome measurement and screening tools*, WorkCoverSA, Adelaide, 2008.
13. S. J. Linton & K. Boersma. (2003). 'Early identification of patients at risk of developing a persistent back problem: the predictive validity of the Orebro Musculoskeletal Pain Questionnaire'. *Clin J Pain* 19 (2), 80-86.
14. R. C. Kessler, P. R. Barker et al. (2003). 'Screening for serious mental illness in the general population'. *Arch Gen Psychiatry* 60 (2), 184-189.
15. Kosny A, Franche RL, Pole J, Krause N, Cote P, Mustard C. Early healthcare provider communication with patients and their workplace following a lost-time claim for an occupational musculoskeletal injury. *J Occup Rehabil* 2006 Mar;16(1):27-39.
16. Franche RL, Severin CN, Hogg-Johnson S, Cote P, Vidmar M, Lee H. The impact of early workplace-based return-to-work strategies on work absence duration: a 6-month longitudinal study following an occupational musculoskeletal injury. *J Occup Environ Med* 2007 Sep;49(9):960-74.
17. Krause N, Dasinger LK, Neuhauser F. Modified Work and Return to Work: A Review of the Literature. *Journal of Occupational Rehabilitation* 1998;8(2):113-39.
18. WorkCoverSA. A guide to assessing and managing red and yellow flags for workers compensation patients, 2007
19. WorkCoverSA. [www.workcover.com](http://www.workcover.com)

**WorkCoverSA**

**Enquiries: 13 18 55**

100 Waymouth Street, Adelaide

South Australia 5000

Fax: (08) 8233 2990

[info@workcover.com](mailto:info@workcover.com)

[www.workcover.com](http://www.workcover.com)

**Free information support services:**

TTY (deaf or have hearing/speech impairments): (08) 8233 2574

Languages other than English: call the Interpreting and Translating Centre  
- (08) 8226 1990. Ask for an Interpreter to call WorkCoverSA on 13 18 55.

Braille, audio, or e-text: call 13 18 55 and ask for required format.

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