



## THEME

Workplace injury



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# Back injuries

## Getting injured workers back to work

### BACKGROUND

Back problems are the seventh most common reason for seeking care in general practice in Australia. Despite medical advances, chronic disability from back pain is a major contributor to the burden of disease in society today.

### OBJECTIVE

This article provides an overview of evidence based management for workers presenting with acute low back pain, with the aim of minimising the risk of chronic disability.

### DISCUSSION

Approximately 95% of cases of acute low back pain are nonspecific. Serious spinal conditions are rare and can be identified by triaging for 'red flags'. A modern biopsychosocial approach does not require a specific patho-anatomic diagnosis for effective management. It is essential to reassure patients to stay active and to resume normal activities quickly – including return to work. Screening for environmental and psychosocial 'yellow flags' can identify patients at risk of poorer outcomes so that additional early intervention can commence.

**Low back pain is a common condition about which there is an abundance of published research and evidence based management advice. When low back pain is work related, there is an extra layer of complexity because of third party involvement and the potential for secondary gain – whether real or perceived.**

In the majority of cases – 85–95% of presentations – pain is nonspecific in origin and may follow physical work. The term 'nonspecific low back pain' encompasses common terms such as back strain, facet joint dysfunction, soft tissue injury and mechanical low back pain.<sup>1,2</sup> Clinical evidence indicates that the majority of patients recover from most of their symptoms within 3 months but milder symptoms often persist. Symptomatic recurrences are not uncommon.<sup>3</sup>

There is a subgroup of patients whose progress is characterised by ongoing pain, requests for ever increasing tests and treatments, disproportionate disability, failure to return to work and eventually chronic pain.

There is good evidence that simple interventions based on evidence based guidelines at the primary care level can significantly reduce the risk of an acute presentation transitioning to chronic low back pain, with

lower treatment costs and greater reduction in pain.<sup>4</sup>

Current guidelines incorporate a modern biopsychosocial approach that differs significantly from the traditional approach to back pain management (*Table 1*).

### Management

The primary goals of managing work related acute low back pain include restoration of function and prevention of chronic disability and its associated human and economic costs. Once the worker develops chronic disability the prognosis is poor.<sup>5</sup> There is good clinical evidence that psychosocial factors are better predictors of return to work and functional outcomes than organic factors such as findings on imaging.<sup>5–9</sup>

The basic principles of management include: exclude serious pathology; provide symptomatic pain relief; encourage light activity and self management; educate the patient and manage expectations; and arrange return to work. Management guidelines are further outlined in *Table 2*.

### Exclude serious pathology

#### History and examination

A thorough history and examination is essential. When time is limited, the initial history should focus on the

**Table 1. Comparison of traditional and modern biopsychosocial information and advice**

<b>Traditional biomedical education</b>	<b>Modern biopsychosocial information and advice</b>
Focus on pain	Focus management on disability and pain
Impart knowledge	Change beliefs and behaviour
Provide medical information about anatomy, pathology, diagnosis, indications and methods of treatment`	Provide information about epidemiology, natural history, prognosis How people react and cope with back pain
Instruction on ergonomics, lifting and back specific exercises	Focus on staying active, continuing ordinary activities as normally as possible and activities of daily living
Facilitate patient cooperation with treatment Patient remains the passive recipient of professional treatment	Enable individual to share or take over responsibility for his or her own continued management

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mechanism of injury and the identification of 'red flags'. It is important to pay particular attention to the exact mechanism of injury to ascertain the level of violence involved, as high forces increase the probability of significant pathology. This information also assists the workers' compensation insurer to expedite the determination of liability.

The presence of 'red flags' indicates the need for urgent investigation that may include plain X-rays or a magnetic resonance imaging (MRI) scan to exclude serious pathology (*Table 3*). Serious pathology can include: fractures, spinal cord and nerve root compression, discitis, osteomyelitis, bony secondaries, and systemic rheumatological conditions.

### Role of imaging

Imaging is only indicated on initial presentation if red flags are present. In the absence of serious pathology, imaging findings generally have little correlation with outcome.<sup>9</sup> Spinal imaging should also be considered if the back pain does not improve after 4–6 weeks, to exclude serious conditions. Appropriate communication of radiological findings is critical.

### Pain relief

Options for effective pain relief include:

- analgesic medication including paracetamol, anti-inflammatories and compound analgesics, and
- possibly manipulation by doctors with postgraduate training in musculoskeletal medicine, physiotherapists or chiropractors (contraindicated if there are neurological signs). The evidence however, is equivocal as to the efficacy of spinal manipulation in providing pain relief compared to placebo. There is also insufficient evidence to determine whether

manipulation is more or less effective than other conservative treatments.<sup>3,10</sup>

### Encourage light activity and self management

Advice to stay active and to live as normally as possible is the most important intervention in the management of acute nonspecific low back pain. It unequivocally improves the rate of recovery and reduces work absence when compared to bed rest.<sup>3,5,10,11</sup>

The importance of this intervention should not be underestimated. A randomised controlled trial published in the *British Medical Journal* in 2004 comparing physiotherapy and advice for low back pain indicated that routine physiotherapy seemed to be no more effective than one session of assessment and advice on remaining active.<sup>12</sup>

Previously accepted advice to rest and 'let pain be your guide' for return to usual activity has been shown to delay recovery.<sup>5</sup>

### Exercise programs

For acute low back pain, exercise therapy has been shown to be as effective as either no treatment or other conservative treatments.<sup>8</sup> In subacute low back pain there is evidence that a graded activity program reduced absences and improved outcomes. There is no clinical evidence that one form of exercise is better than others.

### Educate and manage expectations

Effective communication is required to prevent the development of fear avoidance beliefs and passive coping behaviours that can prolong disability and recovery. Patients often have general fears about pain, activity, return to work and permanent disability. *Table 4* lists commonly encountered harmful and incorrect beliefs.

**Table 2. Management guidelines**

	Physical	Psychological	Function
<b>Initial visit</b>	<ul style="list-style-type: none"> <li>• Exclude red flags</li> <li>• Relieve pain: simple measures, analgesics, manual therapy</li> </ul>	<ul style="list-style-type: none"> <li>• Reassure</li> <li>• Educate</li> <li>• Schedule long appointment for follow up if concerns, anxiety or moderate to severe pain</li> </ul>	<ul style="list-style-type: none"> <li>• Encourage normal home activity</li> <li>• Advise worker and employer of physical restrictions</li> <li>• Encourage return to work</li> <li>• Avoid/minimise bed rest</li> </ul>
<b>If no return to work or lack of progress</b>			
Second visit (2–7 days)	<ul style="list-style-type: none"> <li>• Review red flags</li> <li>• Relieve pain</li> </ul>	<ul style="list-style-type: none"> <li>• Elicit and address obvious concerns (yellow flags)</li> <li>• Reassure</li> <li>• Educate</li> </ul>	<ul style="list-style-type: none"> <li>• Prescribe light activity and/or exercise program</li> <li>• Liaise with employer to identify suitable duties for a return to work program</li> <li>• Consider referral to vocational rehabilitation</li> </ul>
<b>If no return to work or lack of progress</b>			
4–6 weeks postinjury	<ul style="list-style-type: none"> <li>• Exclude red flag conditions by investigation (eg. imaging)</li> <li>• Consider referral to occupational physician</li> </ul>	<ul style="list-style-type: none"> <li>• Elicit and address yellow flags</li> </ul>	<ul style="list-style-type: none"> <li>• Structured and supervised exercise program</li> <li>• Referral for vocational rehabilitation</li> <li>• Consider case conference with employer, insurer</li> </ul>
<b>If no return to work or lack of progress</b>			
8–12 weeks postinjury	<ul style="list-style-type: none"> <li>• Referral to occupational physician</li> <li>• Referral to pain management clinic</li> </ul>	<ul style="list-style-type: none"> <li>• Consider referral to a clinical psychologist for cognitive behavioural therapy if excessive pain, disability and distress</li> </ul>	<ul style="list-style-type: none"> <li>• Work hardening/functional restoration</li> </ul>

**Table 3. 'Red flags' for the potentially serious conditions**

- History of major trauma/significant violence
- History of cancer
- Constitutional symptoms (eg. fever, septicaemia)
- Risk of spinal infection (eg. diabetes, immunosuppression, systemic steroids)
- Neurological deficit (eg. saddle anaesthesia, bladder dysfunction and progressive neurological deficit in lower limbs)

Adapted from: Fordyce WE, editor. Back pain in the workplace. Management of disability in nonspecific conditions. Seattle: IASP Press, 1995

It is crucial to educate the patient about the benign and self limiting nature of the condition and to counter incorrect beliefs. Explain why early return to work is beneficial, and that normal activity is unlikely to cause further harm.

In Victoria, a public campaign was undertaken to provide sharply focused, unambiguous advice directed toward staying active and exercising, and not resting for prolonged periods, including remaining at work after

back injury. This simple message resulted in a significant decline in the number of claims for back pain, rates of days compensated, and medical payments for claims for back pain over the duration of the campaign.<sup>14</sup>

### Communicating imaging results

Findings on X-ray, computerised tomography (CT) and MRI scans correlate poorly with symptoms and patient presentation, except in serious cases. Herniated nucleus pulposus, disc bulge, degeneration and fissure are commonly present in asymptomatic individuals, increasing in frequency with age. One study found that patients with MRI detected disc herniation on initial presentation had significantly better function at follow up compared to those that did not.<sup>9</sup> As such, unless clinically correlated with the mechanism of injury and physical examination, these findings are frequently not relevant to the patient's presentation.<sup>3</sup>

Incidental imaging findings and 'throw away' remarks by medical or allied health professionals can be misconstrued to mean presence of serious pathology,

**Table 4. Occupational myths about back pain**

<b>Myths</b>	<b>What the evidence says</b>
Your back pain is due to wear and tear	X-ray changes are largely a normal age related finding
Wear and tear is caused by heavy work	Physical demands of work and occupational loading are not a major cause of degeneration
Your back pain is caused by your work	Back pain may be work related but most back pain is not caused by work
You must have some time off work	Most people with back pain do not (need to) take sick leave
You should stay off work until you are free from pain	It is not necessary to remain off work until completely symptom free
Your job is too heavy – you should change to a lighter job	Most people can and do return to their previous job. That is always the easiest option
Giving up that work would be good for your back	In practice, that may mean unnecessary early retirement

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resulting in unnecessary patient distress.<sup>3</sup> If no relevant pathology is present, results should be expressed in a positive manner, for example: 'I've got good news. There is no serious disease on your MRI. There are only some common changes consistent with your age group.'

### Arrange return to work

Research in the United States has shown that physicians' recommendations about limiting activity and work after musculoskeletal injury are often influenced by patients' requests.<sup>15</sup> It is likely that the situation is no different in Australia.

Arranging an early return to work can sometimes be time consuming, however it is an essential component of the successful management of work related acute low back pain. Successful return to work requires the cooperation and commitment of the injured worker and employer.

The treating doctor's role is to communicate to all parties the medical restrictions, likely prognosis and graded return to work plan, based upon the expected natural progress of the condition (rather than reported pain levels). The employer's role is to support the injured employee and to implement the return to work plan by incorporating suitable duties within the recommended medical restrictions. The doctor should monitor the patient's progress and the return to work process on a regular basis.

The medical certificate is the primary form of communication and should allow all parties to be absolutely clear what is and what is not permitted in terms of physical restrictions, alternative duties and the hours of work. Writing 'light duties' conveys almost no useful information and should be avoided. It is often easiest to comment on specific physical restrictions if

**Table 5. Restrictions limiting load on the lower back**

- Lift/carry up to 8 kg – only between waist and chest height, close to the body
- No twisting, stooping
- No repetitive bending
- No forceful pushing and pulling
- No awkward postures (eg. work in cramped spaces)
- Vary posture on a regular basis

the doctor is unfamiliar with the workplace (*Table 5*). Speaking to the employer over the telephone is often very helpful in gauging issues at the workplace.

Larger employers often have in-house resources to arrange return to work programs. For smaller employers, it may be necessary to appoint a rehabilitation provider to identify suitable alternative duties and to coordinate the return to work process.

### Complications

Persistent low back pain and disability may still occur despite optimal initial management. The worker is at high risk of chronic disability if still not back at work 4–6 weeks postinjury. At this point, arrange a lengthy review. Reconsider red flag conditions and, if excluded, screening for 'yellow flags' should occur to identify psychosocial contributors to ongoing symptomatology and disability<sup>16</sup> (*Table 6*). You may consider referral to a specialist (such as an occupational physician) who has experience in the management of not only the biological but also the psychosocial aspects of work related low back pain.

### Conclusion

The incidence of chronic disability arising from work related acute low back pain can be significantly reduced by simple interventions at the primary care level. The

**Table 6. Psychosocial 'yellow flag' examples**

Attitudes and beliefs	'I just want my back fixed before I go back to work'. 'My father always told me that once you've done your back, it'll never be the same again
Behaviours	'It's much better when I just lie down. The last time I went to the shops my pain went up to 15 out of 10'
Compensation	'They still haven't accepted my claim, so my lawyer wants you to get me an MRI scan'
Diagnosis and treatment	'He said that if I don't keep having manipulation to get the disc in, I could end up in a wheelchair'. 'I've seen a few people now, but no-one knows what's wrong with my back'
Emotions	'I'm really stressed out by all of this...'
Family	'My wife has had to go off work... she even has to help me put my shirt on'
Work	'My boss doesn't want me back until I'm 100%, because he just thinks I'm bludging'. 'I've done lots of different labouring jobs, but this is the worst boss I've ever had

critical period for intervention is within the first 12 weeks of injury. Intervention involves effective reassurance, promoting activity and managing timely return to work.

### Resources

- National Health and Medical Research Council. Evidence based management of acute musculoskeletal pain. Available at [www.nhmrc.gov.au/publications/\\_files/cp95.pdf](http://www.nhmrc.gov.au/publications/_files/cp95.pdf)
- Accident Compensation Corporation. New Zealand acute low back pain guide incorporating the Guide to assessing psychosocial yellow flags in acute low back pain. Available at [www.acc.co.nz/wcm001/groups/external\\_ip/documents/internet/wcm002131.pdf](http://www.acc.co.nz/wcm001/groups/external_ip/documents/internet/wcm002131.pdf)
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