Managing low back pain in primary care

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Summary

The majority of adults with low back pain can be effectively managed in primary care. Routine imaging and bed rest are best avoided. Instead patients should initially be provided with advice and simple analgesics and encouraged to remain as physically active as possible. If this initial approach provides insufficient pain relief, stronger analgesics and referral for physical therapies may be considered. Interdisciplinary rehabilitation is an option for those with persistent low back pain that does not respond to initial measures.

Key words: analgesics, diagnostic tests, radiculopathy, surgery.

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Introduction

Low back pain is a common and costly condition in Australia. Approximately 25% of Australians suffer from low back pain and about half of those seek care.[1] In Australia the direct costs of treatment are approximately $1 billion with a further $8 billion in indirect costs.[2] Recent Australian surveys of people self-managing their back pain[3] and those managed in primary care[4] have revealed that usual care is often not evidence-based and so it is unlikely to provide the best outcomes. A possible explanation for the evidence-practice gap is that in the past 20 years there has been a substantial increase in research into back pain. Several countries, such as the UK[5] and USA,[6] have produced clinical practice guidelines for the management of low back pain in primary care. There are also Australian guidelines.[7,8]

Diagnostic triage

All guidelines recommend diagnostic triage when assessing an adult with low back pain (see Fig. 1). Having first excluded back pain which is not from the back (for example, retroperitoneal structures or hip) the clinician needs to consider the possibility of serious pathology (such as cancer, infection or fracture) as the cause of the patient's back pain. Suspicion is raised by the presence of red flags[6] such as unexplained weight loss, fever or recent infection (Table 1). Recent evidence suggests that the presence of a single red flag is common.[9] A cluster of red flags may be a better indicator of serious pathology. Serious disease is uncommon in patients with acute back pain presenting to primary care, and accounts for approximately 1% of cases.[9]

Patients with suspected serious pathology should be investigated with tests relevant to the possible cause.[7] They may need specialist referral to establish a definitive diagnosis.

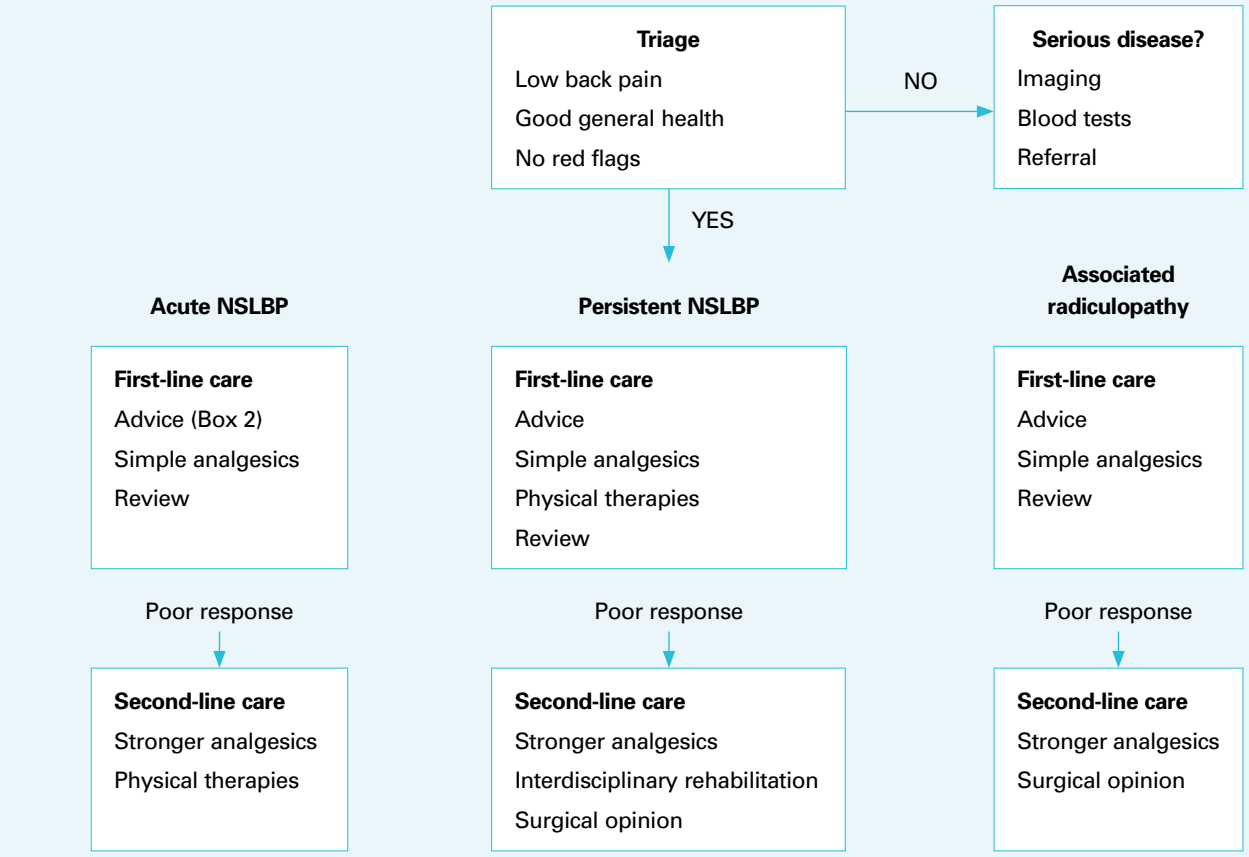
Table 1

Warning signs of serious causes of back pain

Condition	Red flag
Cancer	History of cancer with new onset of low back pain
	Unexplained weight loss
	Failure to improve after one month
	Age >50 years
	Night pain
Vertebral infection	Fever
	Intravenous drug use
	Recent infection
	Immunocompromised state
	Rest pain
Cauda equina syndrome	Urinary retention
	Faecal incontinence
	Saddle anaesthesia
	Lower limb weakness or numbness
Vertebral fracture	History of osteoporosis
	Use of corticosteroids
	Older age
	History of fall or other trauma
Ankylosing spondylitis	Morning stiffness
	Improvement with exercise
	Alternating buttock pain
	Awakening due to back pain during the second part of the night
	Younger age

Fig. 1

Care pathway for low back pain



NSLBP non-specific low back pain

Approximately 5% of cases seen in primary care have an associated radiculopathy. This is diagnosed by the presence of reduced power, reflexes and sensation in the distribution of the involved spinal nerve.

The remaining 94% of patients presenting in primary care are classed as having 'non-specific low back pain'. This term simply means that the patho-anatomical source of the pain has not been specified. A patho-anatomical diagnosis is not pursued because there are no tests available to the general practitioner that could establish a diagnosis, and in any case a patho-anatomical diagnosis would not change management.

Do not routinely order imaging or pathology

Patients with non-specific low back pain of less than six weeks duration should not routinely be sent for imaging or pathology tests. However, in Australian primary care about one quarter of patients with acute back pain are sent for imaging and 5% are sent for pathology.[4] This practice is hard to justify as the findings on imaging, electromyography, nerve conduction studies and pathology tests are not correlated with symptoms of back pain. These investigations do not help establish a diagnosis or help with selection of therapy in patients with non-specific low back pain. The Professional Services Review is concerned about the referral of patients with low back pain for CT scanning when there is no clinical indication.[10]

International clinical practice guidelines[11] uniformly recommend that investigations should be reserved for patients with suspected serious pathology or those with radiculopathy who are being considered for surgery. A systematic review of trials revealed that routine imaging does not improve clinical outcomes, compared to imaging only when indicated,[12] and therefore it is not recommended.

Managing acute non-specific low back pain

The majority of patients with a short duration of symptoms will recover.[7]

First-line care

When managing acute non-specific low back pain it is best to start simple (see Box 1), reserving more complex treatments for those who do not respond. Patients should be given advice (see Box 2)[13] and education about self-care, and encouraged to take the full

Box 1

Management of acute non-specific low back pain (up to six weeks duration)

First-line care

- Advice
- Simple analgesic e.g. paracetamol 1 g four times a day
- Review in 1–2 weeks

Second-line care

- Increased analgesia e.g. non-steroidal anti-inflammatory drugs, paracetamol with therapeutic doses of codeine (taking account of individual risk of adverse effects and patient preferences)
- Spinal manipulative therapy
- Hot packs, heat wraps

Do not order imaging. Avoid bed rest.

Box 2

Advice for acute non-specific low back pain [13]

- *Reassure* that there is no evidence of serious damage or disease
- *Avoid* labelling as injury, disc trouble, degeneration or wear and tear
- *Reassure* about good natural history, providing you stay active, but with accurate information about recurrent symptoms and how to deal with them
- *Advise* the use of simple safe treatments to control symptoms
- *Encourage* staying active, continuing daily activities as normally as possible, and staying at work. This gives the most rapid and complete recovery and less risk of recurrent problems.
- *Avoid* saying 'let pain be your guide'
- *Encourage* taking responsibility for their own continued management

adult dose of paracetamol regularly (1 g four times a day). While non-steroidal anti-inflammatory drugs (NSAIDs) also have a role in this setting, they are not preferred as first line due to the risk of adverse effects. Patients should remain active and be scheduled for review in 1–2 weeks. If this simple approach is delivered well, patients can recover remarkably quickly. An Australian study conducted in primary care showed that 50% of patients who received this approach were pain-free within two weeks.[14]

Unfortunately most people with acute back pain do not get this care. A survey of Australians self-managing their low back pain revealed that the majority were not taking adequate doses of the over-the-counter medicines they were using. For example, 82% of those taking paracetamol were under-dosing.[3] Another Australian survey of patients managed in primary care revealed that only 21% received advice and only 18% received paracetamol. Instead, the analgesics provided were typically NSAIDs (37%) and opioids (20%).[4]

Review after one week

If the patient has followed the simple management approach there should be a marked improvement in their back pain when they are reviewed after a week. If not, first check that they have been taking the medicines correctly and check that a serious disease has not been missed. If patients do not get adequate relief with first-line care then stronger analgesics and physical therapies should be considered.

Second-line care

If paracetamol provides insufficient pain relief the next option would be to consider an NSAID or a combination analgesic, such as paracetamol with a therapeutic dose of codeine.[6] If these provide insufficient relief then a stronger opioid could be tried.[6] Stepping up the analgesic ladder certainly increases the chance of adverse effects but interestingly in the case of back pain there is little direct evidence of greater effectiveness or improved outcome.[6]

Some patients may prefer non-pharmaceutical options. There is some evidence to support the use of hot packs or wraps which can be bought from a pharmacy and are a relatively cheap option that the patient can use to self-manage their pain. There is conflicting evidence for the efficacy of spinal manipulative therapy.[7]

Managing persistent non-specific back pain

Back pain is considered to be persistent if it lasts longer than six weeks. Investigations may be indicated at this stage (Table 1).

Drug therapy

The self-care and pharmacotherapy options are similar for acute and persistent back pain. Patients with persistent back pain should be encouraged to be physically active and to carry on with normal activities as much as possible. The role of analgesics is to manage pain so that people can stay physically active. They should only be used in the short term, during recurrences or periods of symptom exacerbation, as there is limited information on their long-term effectiveness and safety.[5]

Physical therapies

A wide range of physical therapies are offered for persistent back pain. However, only structured exercise programs, acupuncture and spinal manipulative therapy have evidence of effectiveness.[5,6] Massage and yoga were endorsed as effective in the US guideline,[6] but this was based on a very small

number of trials and other guidelines have not endorsed these treatments as effective.[5,15] Each of these physical therapies is delivered as a course of treatment, a typical program being approximately 12 treatments over 6–12 weeks.

Exercise

Exercise should probably be the first choice of treatment because it complements the principle that people with persistent back pain should be physically active and involved in their management. In contrast, treatments such as acupuncture, massage and spinal manipulative therapy are passive and the patient plays no role in therapy. Another argument in favour of exercise is that it is likely to provide health benefits beyond managing back pain, for example, in terms of cardiovascular and bone health.

Simply advising patients to exercise is unlikely to be effective. Exercise programs are more likely to be effective if they are supervised, individually designed, high dose and include strengthening and stretching components.[16] There are many different forms of exercise and there is no reason to expect that one approach would be superior to another. It is best to ask the patient which form they would prefer. The best exercise for a patient is the one they continue with.

Interdisciplinary rehabilitation

Interdisciplinary rehabilitation involves a team of healthcare professionals from different clinical backgrounds working collaboratively with the patient to improve the patient's ability to manage their pain, become more physically active and improve their social and vocational participation. In many cases the patient's family, rehabilitation provider or employer is involved in the rehabilitation. These programs are quite expensive but are a good option for the more seriously disabled, distressed or medication-reliant patient and for those with long-term pain that has not responded to simple approaches.

Effective programs are intensive. For example, programs may be offered 9 am–5 pm Monday to Friday for an initial phase of three weeks, followed by a four-week structured home or work phase concluding with a final half-day review at two and six months.

Preventing back pain

Advising patients on how to prevent back pain is difficult because there has been surprisingly little research in this area. Considering the available risk studies and trials of prevention strategies, a sensible list might be:

- be physically active
- maintain a healthy weight
- enjoy life and work
- use your back wisely.

A limitation of the list is that only exercise has been shown to prevent back pain in randomised controlled trials.[17] The other factors are justified by observational studies of risk factors for back pain. It is worth emphasising that using the back is important for back health. Probably, it is only excessive or repeated loading that predisposes to back pain. Cochrane reviews have found that lumbar supports,[18] insoles[19] and training and lifting equipment[20] are ineffective, so there seems little point recommending these to patients.

The role of surgery

Surgery has a limited role in the management of low back pain. Discectomy has been shown to be effective in patients with radiculopathy due to a herniated lumbar disc, and decompressive surgery is suitable for patients with spinal stenosis.[21] As both conditions may improve on their own, a trial of conservative management should be offered first. Patients should be advised that discectomy for radiculopathy provides more rapid relief of pain, however the long-term outcomes are similar to those for conservative care.[22]

For patients with degenerative disc disease with presumed discogenic back pain, the surgical options include fusion and artificial disc replacement. Both the UK[5] and US[21] guidelines noted that fusion is no more effective than interdisciplinary rehabilitation. The UK guideline suggests that referral for surgery be reserved for those who do not respond to interdisciplinary rehabilitation.[5] The US guideline reported that presently there are insufficient long-term data to judge the benefits and harms of artificial disc replacement, and did not recommend the treatment.[21]

Conclusion

Low back pain is common in adults and contributes significantly to morbidity. The clinical assessment should include a triage approach to identify the small number of patients with serious disease. Management should begin with advice and simple analgesics. More complex treatments are reserved for those who do not respond.

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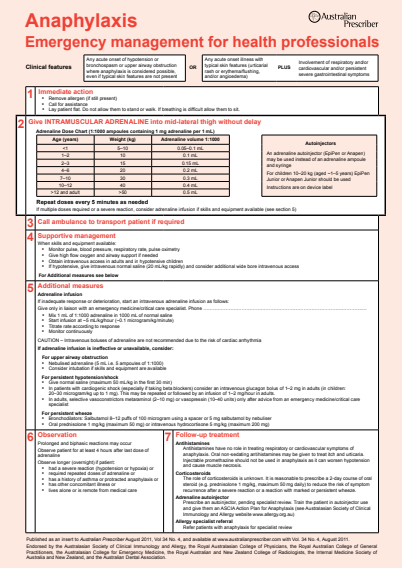
Self-test questions

The following statements are either true or false (answers on page 159)

1. The recommended first-line care for acute low back pain is advice, simple analgesics and review after one week.
2. Acute low back pain that has not resolved within one week requires referral for MRI or CT scan to establish the cause of the pain.

Anaphylaxis wallchart



For copies of the laminated A3 sized wallchart 'Anaphylaxis: emergency management for health professionals', contact the *Australian Prescriber* office on 02 6202 3100 or info@australianprescriber.com