

Model of care for the management of low back pain

Summary

FEBRUARY 2024

This summary model of care is a guide for primary care practitioners caring for people with low back pain.

This summary model of care is a primary care-based model. While multiple practitioners could be involved in the care of patients with low back pain, the primary care team members are considered to include:

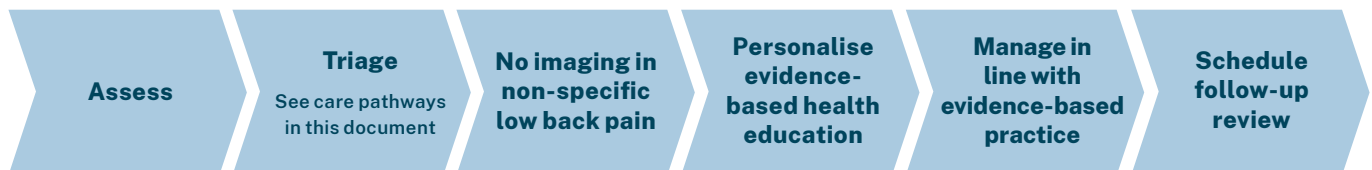
- the patient and their family member, carer, friend or consumer advocate¹
- the treating general practitioner and practice nurse
- treating allied health practitioners.

The summary model provides different care pathways for people with low back pain based on a triage approach. A physical examination and medical history is to be conducted when [a person presents to primary care with low back pain](#).

The result of this assessment determines which care pathway is suitable for each patient.

- [Pathway A – non-specific low back pain](#)
- [Pathway B – acute low back pain with progressive neurological loss](#)
- [Pathway C – acute low back pain with leg pain](#), or
- Referral to multidisciplinary pain management program

The model of care is underpinned by basic standards of care in six areas: assessment, triage, no imaging in non-specific low back pain, personalised evidence-based health education, management in line with evidence-based practice, scheduled follow-up review.



Context

The summary model is based on the NSW Agency for Clinical Innovation (ACI) [Management of People with Acute Low Back Pain: Model of Care](#).²

The State Insurance Regulatory Authority (SIRA) convened its Back Injury Clinical Advisory Group, the ACI and its expert groups, to review the model. The revision includes current evidence and promotes consistency in care of all people experiencing back pain and avoidance of low value care, whether their back pain is compensable or not.

Currency

In 2028 the ACI will review resources, including this document, for the management of people with acute low back pain.

Method

Evidence-informed

This summary model of care was formally reviewed in 2019-2022 by an expert clinical reference group. Consensus was reached on all advice provided in this guide and is consistent with the Australian Commission on Safety and Quality in Health Care standard.³

Collaborative

The expert advisory group was composed of representatives from the following organisations.

- Australian Medical Association
- Australian Orthopaedic Association
- Faculty of Pain Medicine, Australian and New Zealand College of Anaesthetists
- Institute for Musculoskeletal Health, Sydney School of Public Health, Faculty of Medicine and Health, The University of Sydney
- UNSW Sydney
- Neurosurgical Society of Australasia
- Pain Management Research Institute, Faculty of Medicine and Health, The University of Sydney
- Royal Australasian College of Surgeons, NSW Branch
- Royal Australian College of General Practitioners
- Surgery Advisory Panel, WorkSafe Victoria
- Transport Accident Commission

Key principles



Principle 1: Assessment – history and examination^{4,5}

A systematic and formal history and examination including the consideration of **red flags** is required at the outset to determine the pathway of care for each individual patient.



Principle 2: Risk stratification⁶

Prognostic risk stratification tools, such as the [STarT Back](#) and [Örebro](#) questionnaires, stratify patients according to risk level, guiding the amount and type of treatment that they require.



Principle 3: Only image those with suspected serious pathology^{5,7,8}

Imaging is only indicated when a thorough patient history and physical examination indicates that there may be a medically serious cause for the lower back pain.



Principle 4: Patient education⁹

From the first assessment, each person will receive one-on-one education supporting self-management. This will include advice to keep moving and try to do normal activities as much as they can.



Principle 5: Cognitive behavioural approach²

The principles of cognitive behavioural therapy are used to ensure the patient is supported to understand the relationship between beliefs and behaviours, and to develop a goal-orientated plan of care.



Principle 6: Active physical therapy encouraged^{10,11}

Physical therapies will primarily be a ‘hands off’ approach. The emphasis is on self-management assisting the patient to understand their condition and a staged resumption of normal activities. Consultation with team members may include an allied health practitioner or practice nurse.



Principle 7: Begin with simple analgesic medicines¹²

Where pain medicines are required, it is best to begin with simple analgesics using time-contingent dosing. Over the counter or prescription medications can be used in the short term to help patients keep moving while they are recovering.



Principle 8: Judicious use of complex medicines^{12,13}

The goal of complex pain medicines is to enable physical activity, not to eliminate pain. In the presence of severe acute pain, some complex pain medications may be used in immediate-release formulations on a limited trial basis for a defined duration (in-line with current [Therapeutic Guidelines](#)) as part of an overall pain management strategy. Anticonvulsants, benzodiazepines and antidepressants should be avoided.³



Principle 9: Pre-determined times for review¹³

Review each individual's progress at 2, 6 and 12 weeks, if required. If there has been insufficient progress, then change the treatment plan as outlined in this summary model of care.



Principle 10: Timely referral and access to specialist services¹⁴

If the patient has no improvement or worsening symptoms consider review by musculoskeletal specialist at 6 weeks. If no improvement or worsening after 12 weeks consider referral to multidisciplinary pain management program.

Person-centred care

Person-centred care, shared decision-making and understanding their experiences and individual circumstances are critical when applying this model.¹ Person-centred care and shared decision-making are associated with more appropriate care, a better match with the person's needs and preferences, a reduction in misdiagnosis, and greater patient satisfaction and independence.

Key messages to the patient

- Explain that back pain is a symptom and that in most situations, does not indicate serious disease or impending long-term disability.¹⁵
- Provide advice to keep moving and try and do normal activities as much as possible, including staying at work. Some pain may persist, but resuming activities despite pain will improve speed of recovery.
- Use [Managing low back pain: information for patients](#), to prompt discussion about key messages and use it to help the patient develop a plan.

Language

Use language that promotes recovery

- ✓ Apply the biopsychosocial approach. Use phrases such as:
 - ‘Having back pain does not mean your back is damaged’
 - ‘Most back pain is linked to minor strains that can be very painful’.²

- ✓ Encourage normal activity and movement. Use phrases such as:
 - ‘Your back gets stronger with movement’
 - ‘Motion is lotion’
 - ‘Movements may be painful at first – like an ankle sprain - but they will get better as you get more active’.
- ✓ Encourage self-management and empowerment. Use phrases such as:
 - ‘Let’s work out a plan to help you to help yourself’
 - ‘Getting back to work or staying at work, even part time at first, will help you recover’.

Avoid

- × Language that promotes beliefs about structural damage for example: disc bulge, slipped discs, damaged, wear and tear.
- × Suggestions that pain indicates damage by not using phrases such as ‘Let pain guide you’, ‘Stop if you feel any pain’.

Patient education

There are many good resources for further information. Some of these include:

- [ACI Pain Management Network](#)
- Pain-Ed
 - [10 facts every person should know about back pain: presented by patients](#)
 - [Pain-Ed website](#)
- Western Australia Department of Health [Low Back Pain](#)
- Australian Commission on Safety and Quality in Healthcare website [Low Back pain information for consumers](#)

Risk stratification

This summary model of care recommends risk screening both at the first consultation (or as early as possible) and again after six weeks.

Risk screening will assist to identify patients at risk of delayed recovery and tailor their care and support recommended through the summary model pathways. The practitioner is to use either the Örebro Musculoskeletal Pain Screening Questionnaire Short Form or the STaRT Back Tool to stratify individuals into one of three appropriate targeted treatment pathways.^{16,17}

Örebro Musculoskeletal Pain Screening Questionnaire Short Form¹⁶

The [Örebro Musculoskeletal Pain Screening Questionnaire \(Short\) \(ÖMPSQ-SF\)](#) is a short version of the Örebro Musculoskeletal Pain Screening Questionnaire. The ÖMPSQ-SF score is used to predict the potential risk of delayed recovery or longer-term disability and failed return to pre-injury activity and work levels.

The items are scored 0-10, where 0 refers to absence of impairment and 10 refers to severe impairment. For questions 3, 4 and 8 the score is 10 minus (or 10-) the score indicated. The scoring method has been built into the questionnaire and scoring boxes are provided to the right of each item. Total the scores as indicated to gain the final value out of 100, with a score of ≥ 50 indicating higher estimated risk for future work disability.¹⁶

The interpretation of the results is:

Low risk	High risk
≤ 49	≥ 50

STaRT Back Screening Tool¹⁷

The stratified care approach to low back pain (Keele [STaRT Back screening tool](#)) consists of nine items, each with a value of 0 or 1 point. The score is calculated by summing the points from each question, with a minimum score of 0 points and a maximum score of 9 points. Patients who have scores of 3 or less points have a low risk for future disabling low back pain and associated activity limitations. Patients who have scores of 4 points or greater have an elevated risk for the same adverse outcomes.

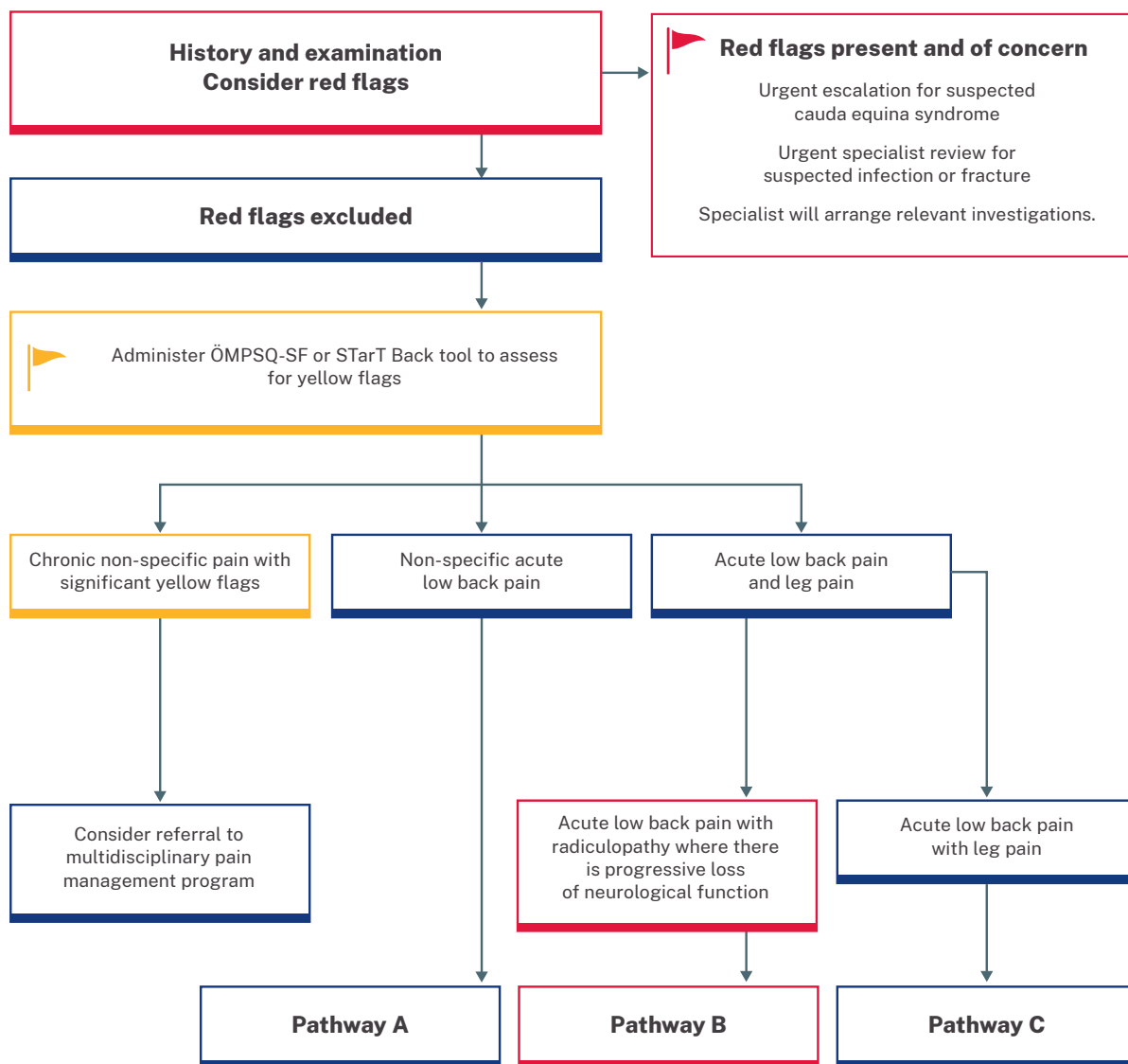
To differentiate between medium and high-risk patient populations, a psychosocial distress sub-score is calculated, which involves summing the point values of the last five items. In the setting of a score of 4 points or greater, patients with a distress sub-score of 0-3 points are classified as medium risk and patients with a distress sub-score of 4 points or greater are classified as high risk for future disabling low back pain.

The interpretation of the results is:

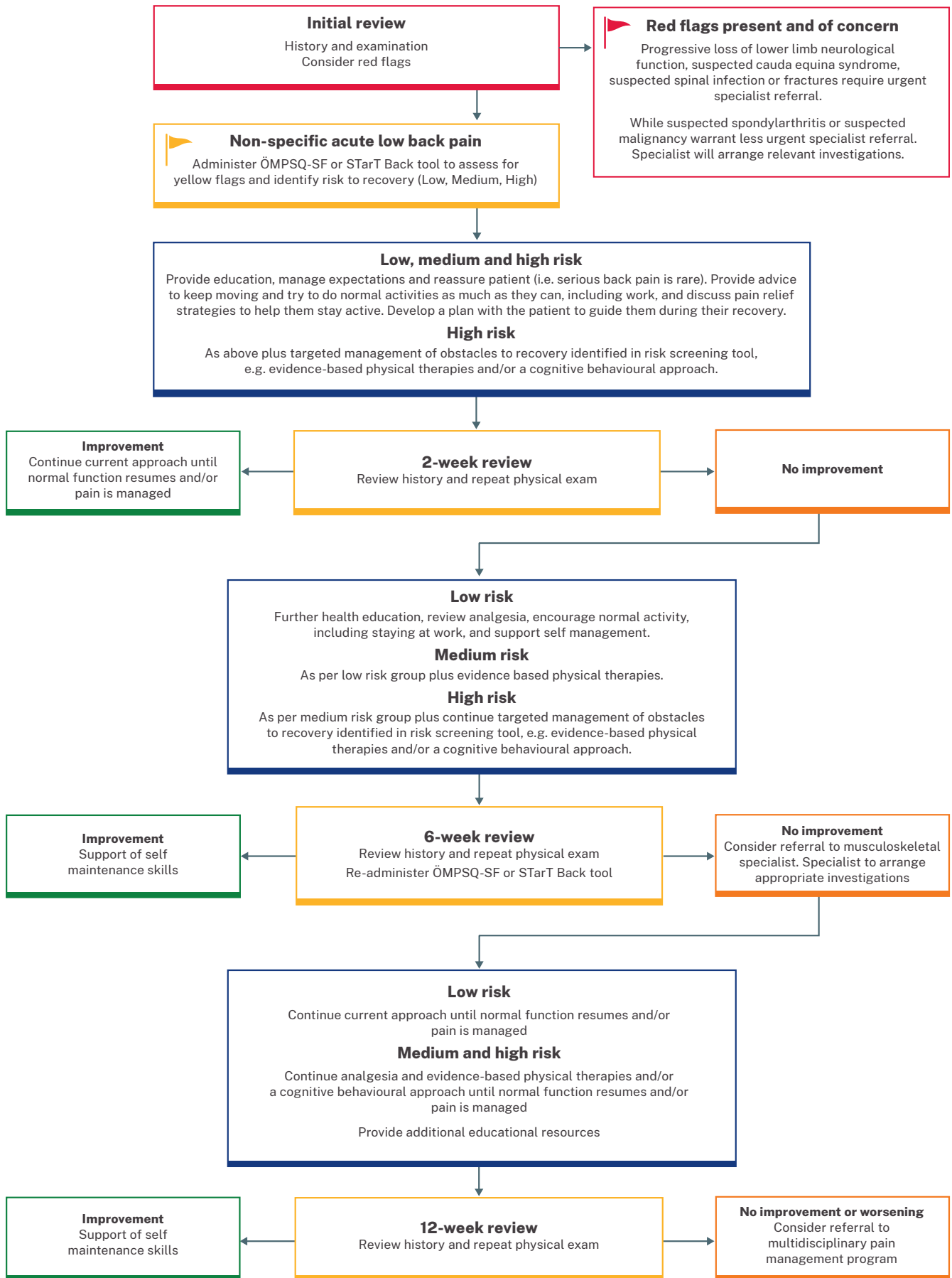
Low risk	Medium risk	High risk
0-3	≥ 4 (with a distress sub-score 0-3)	≥ 4 (with a distress sub-score ≥ 4)

For more information about these risk screening tools, see the SIRA web page on [Standardised outcome measures](#)

Presentation to primary care with low back pain



Pathway A: Non-specific acute low back pain

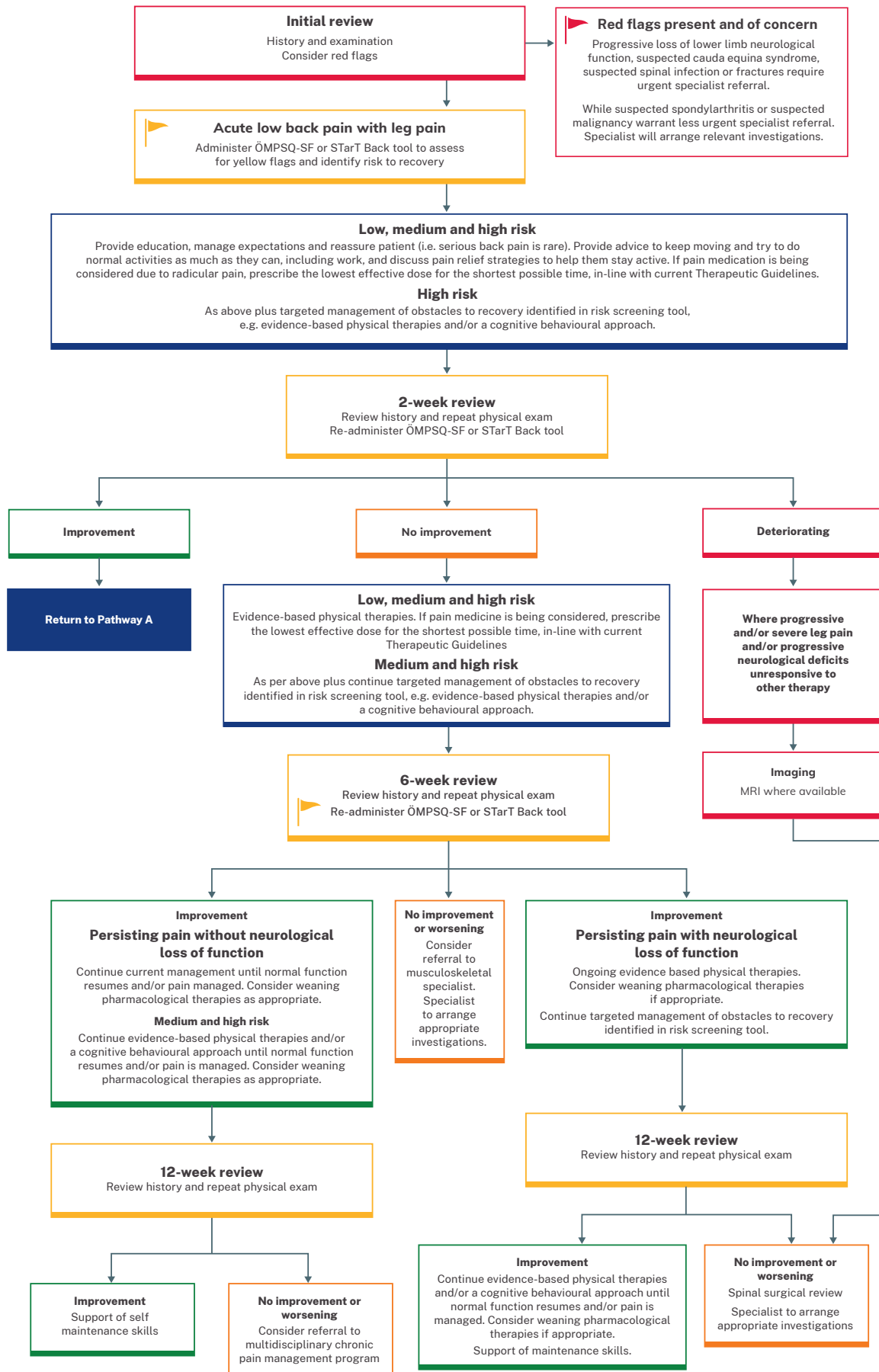


Pathway B: Suspected serious pathology (red flag conditions)



* Neurological loss: lower limb motor weakness associated with radicular pain radiating into one or both legs, often accompanied by evidence of impairment of nerve root function (numbness, tingling or muscle weakness or diminished deep tendon reflexes corresponding to the specific nerve root involved).

Pathway C: Acute low back pain and leg pain



Abbreviations

ACI	New South Wales Agency for Clinical Innovation
LBP	low back pain
ÖMPSQ-SF	Örebro Musculoskeletal Pain Screening Questionnaire – Short Form
SIRA	New South Wales State Insurance Regulatory Authority

Glossary

Term	Definitions
Acute low back pain	Low back pain with duration of less than three months.
Cauda equina syndrome	Compression of multiple lumbar nerve roots. May be associated with urinary retention or incontinence from loss of sphincter function, bilateral motor weakness of the lower extremities and perineal anaesthesia. This may be caused by a large central lumbosacral disc herniation.
Chronic low back pain	Low back pain present for more than three months.
Low back pain	Soreness or stiffness in the back between the bottom of the rib cage and gluteal crease. ¹⁶
Musculoskeletal specialists	Specialist physiotherapist, rheumatologist, sport and exercise physician, spine surgeon or pain or rehabilitation physician. Cognitive behaviour therapy trained physiotherapist and/or clinical psychologist may also be considered for those with medium or high risk.
Non-specific low back pain	Pain occurring primarily in the back with no signs of a serious underlying condition, such as spinal stenosis or radiculopathy, or other specific spinal causes, such as spondylolysis, spondylolisthesis or vertebral compression fracture.
Örebro Musculoskeletal Pain Screening Questionnaire – Short Form	A screening tool that predicts long-term disability and failure to return to work. The short form includes 10 items selected from the full version. A score of 50 or higher indicates a risk of long-term disability.
Physical therapies	Physical therapy provider will be chosen based on scope of practice required for patient treatment approach.
Radicular pain	Pain that radiates into either or both legs, often accompanied by numbness corresponding to the specific nerve root involved. Radicular pain may be present with or without radiculopathy.
Radiculopathy	Impairment of nerve root function, accompanied by numbness, tingling or muscle weakness or diminished deep tendon reflexes corresponding to the specific nerve root involved.
STarT Back tool	A tool developed for primary care to select treatment for people with low back pain based on the presence of potentially modifiable physical and psychological indicators for persistent disabling symptoms.



Red flags

- ▶ Signs and symptoms of infection
- ▶ Signs and symptoms of inflammatory spondylarthritis
- ▶ Features of cauda equina syndrome or severe neurological deficit
- ▶ History of malignancy
- ▶ Significant trauma
- ▶ Unexpected weight loss
- ▶ Consider minimal trauma fractures in the elderly and those on corticosteroids, where there are osteoporotic risk factors.



Yellow flags

- ▶ Belief that pain and activity are harmful
- ▶ ‘Sickness behaviours’ (like extended rest)
- ▶ Low or negative moods, social withdrawal
- ▶ Treatment that does not fit with best practice
- ▶ Problems with compensation system
- ▶ Previous history of back pain, time off work, other claims
- ▶ Problems at work, poor job satisfaction
- ▶ Overprotective family or lack of social support.

For enquiries please contact [SIRA](#) or the [ACI Musculoskeletal Network](#).

References

1. Australian Commission on Safety and Quality in Health Care. Australian Charter of Healthcare Rights (2nd ed.) [Internet]. Sydney: ACSQHC; 2019 [cited 20 Aug 2022]. Available from: <https://www.safetyandquality.gov.au/consumers/working-your-healthcare-provider/australian-charter-healthcare-rights>
2. NSW Agency for Clinical Innovation. Management of people with acute low back pain: model of care [Internet]. Chatswood: ACI; 2016. [cited 20 Aug 2022]. Available from: https://aci.health.nsw.gov.au/_data/assets/pdf_file/0007/336688/acute-low-back-pain-moc.pdf
3. Australian Commission on Safety and Quality in Health Care. Low Back Pain Clinical Care Standard [Internet]. Sydney: ACSQHC; 2022 [accessed 1 Sep 2022]. Available from: <https://www.safetyandquality.gov.au/standards/clinical-care-standards/low-back-pain-clinical-care-standard>
4. van Wambeke P, Desomer A, Ailliet L, et al. Low back pain and radicular pain: assessment and management. Good Clinical Practice (GCP). Brussels: Belgian Health Care Knowledge Centre (KCE). KCE Reports 287, 2017.
5. Bardin LD, King P, Maher CG. Diagnostic triage for low back pain: a practical approach for primary care. *Med J Aust.* 2017 Apr 3;206(6): 268–73. DOI: 10.5694/mja16.00828
6. National Institute for Health and Care Excellence. Low back pain and sciatica in over 16s: assessment and management [Internet]. UK: NICE; 30 November 2016 [updated: 11 December 2020; cited 20 Aug 2022]. Available from: <https://www.nice.org.uk/guidance/NG59/chapter/Recommendations#assessment-of-low-back-pain-and-sciatica>
7. NPS MedicineWise. Choosing Wisely Australia: Recommendations – Australasian Faculty of Rehabilitation Medicine [Internet]. Sydney: NPS MedicineWise; Sep 2017 [cited 20 Aug 2022]. Available from: <https://www.choosingwisely.org.au/recommendations/afrm5>
8. NPS MedicineWise. Choosing Wisely Australia: Recommendations – Australian Rheumatology Association [Internet]. Sydney: NPS MedicineWise; Feb 2018 [cited 20 Aug 2022]. Available from: <https://www.choosingwisely.org.au/recommendations/ara3>
9. Foster NE, Anema JR, Cherkin D, et al. Prevention and treatment of low back pain: evidence, challenges, and promising directions. *Lancet.* 2018 Jun 9;391(10137):2368–83. DOI: 10.1016/S0140-6736(18)30489-6
10. Buchbinder R, van Tulder M, Öberg B, et al. Low back pain: a call for action. *Lancet.* 2018 Jun 9;391(10137): 2384–8. DOI: 10.1016/S0140-6736(18)30488-4
11. Royal Australian College of General Practitioners. Staying active for acute low back pain [Internet]. Melbourne: RACGP; 28 May 2020 [cited 20 Aug 2022]. Available from: <https://www.racgp.org.au/clinical-resources/clinical-guidelines/handi/patient-resources/musculoskeletal/staying-active-for-acute-low-back-pain>
12. Pain and Analgesia Expert Group. Therapeutic guidelines: pain and analgesia, version 7 [Internet]. Melbourne: Therapeutic Guidelines Limited; 2020 [cited 20 Aug 2022]. Available from: <https://tgldcdp.tg.org.au/guide-Line?guidelinePage=Pain+and+Analgesia&frompage=etgcomplete>
13. Rheumatology Expert Group. Therapeutic guidelines: rheumatology, version 3 [Internet]. Melbourne: Therapeutic Guidelines Limited; 2017 [cited 20 Aug 2022]. Available from: <https://tgldcdp.tg.org.au/guideLine?guidelinePage=Rheumatology&frompage=etgcomplete>
14. Australian Commission on Safety and Quality in Health Care. Clinical care standards [Internet]. Sydney: ACSQHC; 2022 [cited 20 Aug 2022]. Available from: <https://www.safetyandquality.gov.au/standards/clinical-care-standards/low-back-pain-clinical-care-standard>

15. Almeida M, Saragiotto B, Richards B, Maher CG. Primary care management of non-specific low back pain: key messages from recent clinical guidelines. *Med J Aust.* 2018 Apr 2;208(6):272-275. DOI: 10.5694/mja17.01152

16. Linton SJ, Nicholas M, MacDonald S. Development of a short form of the Örebro Musculoskeletal Pain Screening Questionnaire. *Spine.* 2011 Oct 15;36(22):1891-5. doi: 10.1097/BRS.0b013e3181f8f775

17. University of Keele. STarT Back: evidence based implementation of stratified care [Internet]. Staffordshire, UK: University of Keele; 2021 [cited Dec 2021]. Available from: <https://startback.hfac.keele.ac.uk/>

18. National Institute for Health and Care Excellence. Low back pain and sciatica in over 16s: assessment and management [internet]. NIHCE; London: NIHCE; 2020 [cited 5 Apr 2023]. Available at: <https://www.nice.org.uk/guidance/ng59/ifp/chapter/What-are-low-back-pain-and-sciatica>

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