Low back pain: the acute management of patients with chronic (longer than 6 weeks) non-specific low back pain

NICE guideline
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If you wish to comment on this version of the guideline, please be aware that all the supporting information and evidence is contained in the full version.
# Contents

Introduction .....................................................................................................3  
Patient-centred care.........................................................................................5  
Key priorities for implementation......................................................................6  
1 Guidance ..................................................................................................7  
   1.1 Assessment ........................................................................................7  
   1.2 Information, education and patient treatment preferences .............7  
   1.3 Exercise ............................................................................................7  
   1.4 Manual therapies .............................................................................8  
   1.5 Other non-pharmacological therapies ...........................................8  
   1.6 Combined physical and psychological intervention .....................9  
   1.7 Pharmacological therapies ..............................................................9  
   1.8 Invasive procedures .......................................................................10  
   1.9 Referral for surgery ........................................................................10  
2 Notes on the scope of the guidance .......................................................11  
3 Implementation .......................................................................................11  
4 Research recommendations .....................................................................12  
   4.1 Screening protocols .......................................................................12  
   4.2 Delivery of patient education ..........................................................13  
   4.3 Sequencing of therapies ..................................................................13  
   4.4 Psychological treatments ...............................................................14  
5 Other versions of this guideline ...............................................................15  
   5.1 Full guideline ................................................................................15  
   5.2 Quick reference guide .....................................................................15  
   5.3 ‘Understanding NICE guidance’ .....................................................15  
6 Related NICE guidance ..........................................................................16  
7 Updating the guideline ...........................................................................16  
Appendix A: The Guideline Development Group .......................................17  
Appendix B: The Guideline Review Panel .................................................20  
Appendix C: The algorithm .......................................................................21
Introduction

Low back pain is a common disorder. Nearly everyone is affected by it at some time. For most people affected by low back pain, substantial pain or disability is short lived and they soon return to normal activities; regardless of any advice or treatment they receive. A small proportion, however, develop chronic pain and disability. Once back pain has been present for greater than one year few people with long-term pain and disability return to normal activities. It is this group who account for the majority of the health and social costs associated with low back pain.

Guidelines and consensus statements internationally are consistent in their overall approach to the management of acute low back; that is back pain of less than six weeks duration. What is has been less clear is how those patients whose spinal pain and disability persists for longer than six weeks should be managed to in order to prevent long-term disability. Appropriate management of people in this group has the potential to reduce the number of people with disabling long-term back pain; and consequentially to reduce the cost of back pain to society.

Non-specific low back pain is pain muscle tension or stiffness affecting the lower back for which there is not a recognised patho-anatomic cause. The lower back is commonly defined as the area bounded by the bottom of the rib cage and the buttock creases. Some people with non-specific low back pain may also feel pain in their upper legs; but the low back pain usually predominates.

Estimates for the prevalence of low back pain vary considerably between studies; estimates range up to 33% for point prevalence, 65% for one year prevalence, and 84% for lifetime prevalence. Published data do not distinguish between low back pain persisting for greater than one year and less than one year. Annually, back pain probably affects a third of the population; around 20% of those affected (one in fifteen of the population) will see their general practitioner for advice.
The guideline will assume that prescribers will use a drug’s summary of product characteristics to inform their decisions for individual patients.
Patient-centred care

This guideline offers best practice advice on the care of people with non-specific low back pain.

Treatment and care should take into account patients’ needs and preferences. People with non-specific low back pain should have the opportunity to make informed decisions about their care and treatment, in partnership with their healthcare professionals. If patients do not have the capacity to make decisions, healthcare professionals should follow the Department of Health guidelines – ‘Reference guide to consent for examination or treatment’ (2001) (available from www.dh.gov.uk). Healthcare professionals should also follow the code of practice that accompanies the Mental Capacity Act (summary available from www.publicguardian.gov.uk).

Good communication between healthcare professionals and patients is essential. It should be supported by evidence-based written information tailored to the patient’s needs. Treatment and care, and the information patients are given about it, should be culturally appropriate. It should also be accessible to people with additional needs such as physical, sensory or learning disabilities, and to people who do not speak or read English.

If the patient agrees, families and carers should have the opportunity to be involved in decisions about treatment and care.

Families and carers should also be given the information and support they need.
Key priorities for implementation

- Consider offering a course of manual therapy including spinal manipulation of up to 9 sessions over up to 12 weeks. [1.4.1]
- Consider offering a course of acupuncture needling comprising up to 10 sessions over a period of up to 12 weeks. [1.8.1]
- Consider offering a structured exercise programme tailored to the individual. [1.3.3]
- Offer supervised group exercise programmes in preference to one-to-one supervised exercise programmes. [1.3.4]
- Consider referral for a combined physical and psychological treatment programme for patients who have high disability and/or significant psychological distress after having received less intensive treatments. [1.6.1]
- Do not offer X-ray of the lumbar spine for the management of non-specific low back pain. [1.1.1]
- MRI for non-specific low back pain should only be performed within the context of a referral for an opinion on spinal fusion. [1.1.3]
- Consider referral for an opinion on spinal fusion for people who have completed a comprehensive package of care including a combined physical and psychological treatment programme and who have persistent severe non-specific low back pain for which the patient would consider surgery. [1.9.1]
- Do not offer injections of therapeutic substances into the back. [1.8.2]

1 A choice of any of these therapies may be offered, taking into account patient preference.
1 Guidance

The following guidance is based on the best available evidence. The full guideline ([add hyperlink]) gives details of the methods and the evidence used to develop the guidance.

1.1 Assessment

1.1.1 Do not offer X-ray of the lumbar spine for the management of non-specific low back pain.

1.1.2 Consider MRI (magnetic resonance imaging) when a diagnosis of spinal malignancy, sepsis, fracture, cauda equina syndrome or inflammatory disease is suspected.

1.1.3 MRI for non-specific low back pain should only be performed within the context of a referral for an opinion on spinal fusion.

1.2 Information, education and patient treatment preferences

1.2.1 Use educational materials consistent with this guideline to support other treatments.

1.2.2 Include an educational component consistent with this guideline as part of other interventions.

1.2.3 Do not offer stand-alone formal education programmes.

1.2.4 Take into account the patient’s expectations and preferences when considering recommended treatments.

1.2.5 The patient’s expectations and preferences should not be used to predict the response to treatments.

1.3 Exercise

1.3.1 Advise people with low back pain that maintaining a physically active lifestyle is likely to be beneficial.
1.3.2 Advise all people with low back pain to exercise.

1.3.3 Consider offering a structured exercise programme tailored to the individual\(^2\).

1.3.4 Offer supervised group exercise programmes in preference to one-to-one supervised exercise programmes.

1.4 **Manual therapies**

1.4.1 Consider offering a course of manual therapy including spinal manipulation of up to 9 sessions over up to 12 weeks\(^3\).

1.5 **Other non-pharmacological therapies**

**Electrotherapy modalities**

1.5.1 Do not offer laser therapy.

1.5.2 Do not offer interferential therapy.

1.5.3 Do not offer therapeutic ultrasound.

**Transcutaneous nerve stimulation (TENS)**

1.5.4 Do not offer transcutaneous electrical nerve stimulation (TENS) routinely.

**Lumbar supports**

1.5.5 Lumbar supports are not recommended.

**Traction**

1.5.6 Do not offer traction because of the increased risk of aggravating symptoms.

\(^2\) A choice of an exercise programme, a course of manual therapy (see section 1.4.1) and a course of acupuncture (see section 1.8.1) may be offered, taking into account patient preference.

\(^3\) A choice of an exercise programme (see section 1.3.3), a course of manual therapy and a course of acupuncture (see section 1.8.1) may be offered, taking into account patient preference.
1.6 Combined physical and psychological intervention

1.6.1 Consider referral for a combined physical and psychological treatment programme for patients who have high disability and/or significant psychological distress after having received less intensive treatments.

1.7 Pharmacological therapies

NSAIDS/COX-2 inhibitors

1.7.1 Advise the person to take regular paracetamol as the first medication option.

1.7.2 Consider offering non-steroidal anti-inflammatory drugs (NSAIDs) for short-term use when paracetamol is ineffective.

1.7.3 Give due consideration to the risk of side effects from NSAIDs in older people, and other patients at high risk of experiencing side effects.

1.7.4 When offering treatment with an oral NSAID/COX-2 (cyclooxygenase-2) inhibitor, the first choice should be either a standard NSAID or a COX-2 inhibitor (other than etoricoxib 60 mg). In either case, these should be co-prescribed with a proton pump inhibitor (PPI), choosing the one with the lowest acquisition cost.

Opioids

1.7.5 Consider offering strong opioids for short-term use to people in severe pain.

1.7.6 Consider referral for specialist assessment for people who may require prolonged use of strong opioids.

1.7.7 Give due consideration to the risk of opioid dependence and side effects.

This recommendation is from ‘Osteoarthritis: the care and management of osteoarthritis in adults’ (NICE clinical guideline 59).
1.7.8 Offer an NSAID or opioid depending upon the individual risk of side effects and patient preference.

1.7.9 Consider offering mild opioids when regular paracetamol alone is ineffective.

1.7.10 Base decisions on continuation of mild opioids on individual response.

Antidepressants

1.7.11 Do not offer selective serotonin reuptake inhibitors (SSRIs) for treating pain.

1.7.12 Consider offering a trial of tricyclic antidepressants.

1.7.13 Start tricyclic antidepressants at a low dosage and increase up to the maximum antidepressant dose until therapeutic effect is achieved or unacceptable side effects prevent further increase. People starting on a tricyclic antidepressant should be reviewed at least monthly.

1.8 Invasive procedures

1.8.1 Consider offering a course of acupuncture needling comprising up to 10 sessions over a period of up to 12 weeks.

1.8.2 Do not offer injections of therapeutic substances into the back.

1.9 Referral for surgery

1.9.1 Consider referral for an opinion on spinal fusion for people who have completed a comprehensive package of care including a combined physical and psychological treatment programme and who have persistent severe non-specific low back pain for which the patient would consider surgery.

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5 A choice of an exercise programme (see section 1.3.3), a course of manual therapy (see section 1.4.1) and a course of acupuncture may be offered, taking into account patient preference.
1.9.2 People who have psychological distress should receive appropriate treatment for this before referral for spinal fusion.

1.9.3 If spinal fusion is being considered, refer the patient to a specialist surgical service.

1.9.4 Due consideration should be given to possible risks of spinal fusion.

1.9.5 Do not refer people for intradiscal electrothermal therapy (IDET), percutaneous intradiscal radiofrequency thermocoagulation (PIRFT) or radiofrequency facet joint denervation.

2 Notes on the scope of the guidance

NICE guidelines are developed in accordance with a scope that defines what the guideline will and will not cover. The scope of this guideline is available from www.nice.org.uk/guidance/index.jsp?action=download&o=34381

How this guideline was developed

NICE commissioned the National Collaborating Centre for Primary Care to develop this guideline. The Centre established a Guideline Development Group (see appendix A), which reviewed the evidence and developed the recommendations. An independent Guideline Review Panel oversaw the development of the guideline (see appendix B).

There is more information in the booklet: ‘The guideline development process: an overview for stakeholders, the public and the NHS’ (third edition, published April 2007), which is available from www.nice.org.uk/guidelinesprocess or from NICE publications (phone 0845 003 7783 or email publications@nice.org.uk and quote reference N1233).

3 Implementation

The Healthcare Commission assesses how well NHS organisations meet core and developmental standards set by the Department of Health in ‘Standards..."
guidelines forms part of the developmental standard D2. Core standard C5
says that NHS organisations should take into account national agreed
guidance when planning and delivering care.

NICE has developed tools to help organisations implement this guidance
(listed below). These are available on our website (www.nice.org.uk/CGXXX).

[NICE to amend list as needed at time of publication]

• Slides highlighting key messages for local discussion.
• Costing tools:
  – costing report to estimate the national savings and costs associated with
    implementation
  – costing template to estimate the local costs and savings involved.
• Implementation advice on how to put the guidance into practice and
  national initiatives that support this locally.
• Audit support for monitoring local practice.

4 Research recommendations

The Guideline Development Group has made the following recommendations
for research, based on its review of evidence, to improve NICE guidance and
patient care in the future.

4.1 Screening protocols

What is the clinical and cost effectiveness of using screening protocols to
target treatments for patients with non-specific low back pain?

Why this is important

There is much evidence from cross sectional and longitudinal studies that
people with poorer physical function and in particular psychological factors
such as elevated fear of activity, psychological distress and distorted
 cognitions about back pain are more disabled by their pain and are more likely
to have a poor outcome from treatment. It is suggested by some researchers
that screening to identify those who have a profile suggestive of poor outcome
and referring them to combined physical and psychological therapies at an early stage will improve outcome.

There is one randomised controlled trial (RCT) which demonstrated the value of screening in improving outcome with respect to return to work. There is no UK study to date which has demonstrated that targeting treatments based on a risk factor profile leads to improved outcome or cost effectiveness.

### 4.2 Delivery of patient education

How can education be effectively delivered for people with non-specific low back pain?

**Why is this important?**

Improved understanding of low back pain and its management are identified as key components of care both by patients and by healthcare professionals. These guidelines emphasise the importance of patient choice, and people can only effectively exercise choice if they have an adequate understanding of the available options. Extensive research literature addresses the education of adults using a wide variety of techniques, but studies of patient education in low back pain have focused almost exclusively on written information. Little evidence is available as to whether such materials are the most effective way to deliver educational goals. Interdisciplinary projects combining educational and healthcare research methodologies should:

- identify appropriate goals and techniques for the education of people with low back pain
- determine efficacy in achieving educational goals
- determine effects on clinical outcomes including pain.

### 4.3 Sequencing of therapies

What is the effectiveness and cost effectiveness of sequential interventions (manual therapy, exercise and acupuncture) compared with single interventions on pain, functional disability and psychological distress, in people with chronic non-specific back pain of between six weeks and one year?
Why is this important?

There is evidence that individually manual therapy, exercise and acupuncture are cost effective management options compared to usual care for chronic non-specific low back pain. There are substantial cost implications for those who do not respond to initial therapy and receive multiple back care interventions. It is unclear whether there is added health gain for this subgroup from either multiple or sequential use of therapies. There is also a need for further research to determine the characteristics of people with back pain who respond differentially to manual therapy, exercise or acupuncture.

Research should:

- Test the effect of sequencing manual therapy, exercise and acupuncture in the management of chronic non-specific low back pain.
- Determine the cost effectiveness of providing more than one of these interventions to people with chronic non-specific low back pain.
- Investigate whether subgroups of people with chronic non-specific low back pain respond differently to acupuncture, exercise or manual therapy.

4.4 Psychological treatments

What is the effectiveness and cost effectiveness of psychological treatments for non-specific low back pain greater than six weeks?

Why this is important

The effectiveness and cost effectiveness of psychological treatments for non-specific low back pain is not known. Data from RCTs of people with a mixture of painful disorders, and other research, suggest that they help non-specific low back pain; but there are few robust back pain specific data.

Research should:

- Use RCTs to test the effect of adding psychological treatment to other treatments for non-specific low back pain.
- Test individual and/or group treatments.
- Clearly describe, and justify the psychological treatments tested; these should have a robust theoretical justification.
If possible the comparative effectiveness and cost effectiveness of different psychological treatments should be tested, e.g. group versus individual treatment, or treatment approaches grounded in different theoretical paradigms.

Outcomes of interest include: pain, disability, psychological distress, self-efficacy, coping strategies and social engagement.

5 Other versions of this guideline

5.1 Full guideline

The full guideline, 'Low back pain: the acute management of patients with chronic (longer than 6 weeks) non-specific low back pain' contains details of the methods and evidence used to develop the guideline. It is published by the National Collaborating Centre for Primary Care and is available from the NICE website (www.nice.org.uk/CGXXXfullguideline) and the National Library for Health (www.nlh.nhs.uk). [Note: these details will apply to the published full guideline.]

5.2 Quick reference guide

A quick reference guide for healthcare professionals is available from www.nice.org.uk/CGXXXquickrefguide

For printed copies, phone NICE publications on 0845 003 7783 or email publications@nice.org.uk (quote reference number N1XXX). [Note: these details will apply when the guideline is published.]

5.3 ‘Understanding NICE guidance’

Information for patients and carers ('Understanding NICE guidance') is available from www.nice.org.uk/CGXXXpublicinfo

For printed copies, phone NICE publications on 0845 003 7783 or email publications@nice.org.uk (quote reference number N1XXX). [Note: these details will apply when the guideline is published.]
We encourage NHS and voluntary sector organisations to use text from this booklet in their own information about low back pain.

6 Related NICE guidance

Published

Four commonly used methods to increase physical activity: brief interventions in primary care, exercise referral schemes, pedometers and community-based exercise programmes for walking and cycling. NICE public health guidance 2 (2006). Available from www.nice.org.uk/PH002

Under development
NICE is developing the following guidance (details available from www.nice.org.uk):

- Management of long-term sickness and incapacity for work. NICE public health guidance (publication expected March 2009).

7 Updating the guideline

NICE clinical guidelines are updated as needed so that recommendations take into account important new information. We check for new evidence 2 and 4 years after publication, to decide whether all or part of the guideline should be updated. If important new evidence is published at other times, we may decide to do a more rapid update of some recommendations.
Appendix A: The Guideline Development Group

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Co-opted GDG members  
The following people attended meetings at which their expertise was required.  

Dr Michael Cummings  
Medical Director, British Medical Acupuncture Society  

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Appendix B: The Guideline Review Panel

The Guideline Review Panel is an independent panel that oversees the development of the guideline and takes responsibility for monitoring adherence to NICE guideline development processes. In particular, the panel ensures that stakeholder comments have been adequately considered and responded to. The panel includes members from the following perspectives: primary care, secondary care, lay, public health and industry.

[NICE to add]
Appendix C: The algorithm

Non-specific low back pain
6 weeks – one year

Core therapies
All people with low back pain should be advised to exercise, and to maintain a physically active lifestyle AND
Be provided with educational materials consistent with these guidelines to support care for people with back pain
AND
Depending on patient preference consider offering people a course of manual therapy, exercise therapy, or acupuncture.
These courses of treatment should include an educational component consistent with these guidelines.
AND
Drug treatments, as appropriate, to manage pain should be considered.

Drug therapies
- Use paracetamol as the first option
- If paracetamol alone is insufficient, depending on the individual risk of side effects and patient preferences, consider offering mild opioids OR a short course of NSAIDs
- Consider offering a trial of antidepressants
- (Dosage should be started at a low dose and increased until therapeutic effect is achieved or side effects are unacceptable)
- Consider a short course of strong opioids in people with severe pain

In addition

Course of therapies
- Manual therapy
  - A course of manual therapy including spinal manipulation of up to 3 sessions over 12 weeks
- Exercises
  - A structured exercise programme tailored to the individual
    - Group supervised exercise programmes are preferred to one-to-one supervised exercise programmes
- Acupuncture
  - A course of acupuncture needle comprising of up to 10 sessions over a period of 12 weeks

Imaging
- MRI should be considered when a diagnosis of spinal stenosis, spondylolisthesis, cauda equina syndrome, or inflammatory disease is suspected
- Do not offer MRI of the lumbar spine for the management of non-specific low back pain.
- MRI should only be performed in the context of a referral for an opinion on spinal surgery

Out of pathway

- Improved
- Pain > 1 year

Significant psychological distress and/or high disability AND Failure to respond to at least one other course of treatment
Consider referral for combined physical and psychological treatment

Continued severe disability despite optimal management of any psychological distress
Consider assessment for spinal fusion; this may include MRI of the lumbar spine to confirm suitability for spinal fusion
Any referral for spinal fusion should be to a specialist surgical service