KING SAUD UNIVERSITY
KING KHALID UNIVERSITY HOSPITAL
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CLINICAL PRACTICE GUIDELINES COMMITTEE

Evidence-Based Clinical Practice Guidelines for Management of Persistent Non-Specific Low Back Pain

HWCPG-ORTHO-001

Clinical Practice Guidelines Subcommittee
Orthopedic Surgery Department
King Khalid University Hospital
King Saud University

First Edition

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Adopted from source CPG

Low back pain: early management of persistent non-specific low back pain (CG 88 – 2009) National Collaborating Centre for Primary Care (NCCPC), Royal College of General Practitioners (RCGP) and National Institute of Health and Care Excellence (NICE)

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Preface

It gives me great pleasure to see this project come to fruition. Low back pain is one of the most common complaints both in primary care as well as in the orthopedic clinic. Applying an evidence – based, standard approach to its management is one of our top priorities in this instit ution. I would like to Thank Dr. AlSaleh and the colleagues at the Sheikh BaHamdan Research Chair, CPG Committee & the Quality Department for their continued efforts and support.

Prof. Fawzi F. Al-Jassir MD, MSc, FRCSC
Chairman-Orthopedic Surgery Department

Low back pain continues to plague millions of people around the world. There as many ways to treat it as there are schools of teaching. With the diverse background and multiple schools of thought present in our institution preparing and then applying a LBP CPG is of utmost importance and one of our top priorities. I would like to that the researchers at the BaHamdan Chair and staff of CPG Committee for their guidance and support in preparation of this guideline.

Dr. Khalid A. AlSaleh MBBS, FRCSC
Head of CPG subcommittee,
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Acknowledgments

We would like to present our highest gratitude and acknowledgment to the Dean of the College of Medicine, Vice Dean for Hospital Affairs, Vice-Dean for Quality and Development, Staff of Sheikh Abdullah Salem Bahamdan Research Chair for Evidence-Based Health Care and Knowledge Translation (namely Dr. Lubna Al-Ansary, Dr. Hayfaa Wahbi and Dr. Rasmieh Alzeidan), Staff of Hospital's Clinical Practice Guidelines Committee (namely Dr. Yasser Amer) for technical and methodological support and all the Staff of the Quality Management Department for organizational support and commitment (namely Dr. Farheen Shaikh).

NICE (National Institute for Health and Care Excellence, UK) has been contacted by Dr. Yasser Amer in 12/5/2013 and requested for their permission for adopting and implementing their updated CPG (2009) in KSU Hospitals. *We received their final reply in June 18th 2013 as the following:-*

"Dear Dr Amer

Thank you for your email of 13 May requesting permission to use CG 88 Low back pain: early management of persistent non-specific low back pain as part of guidance you are developing for use within your own local healthcare settings. I note that any adaptation will utilise the ADAPTE Process (Version 2) and AGREE II. Please accept my apologies for the delay in coming back to you on this – I was under the impression that a response had been sent but I suspect this may not be the case. *In principle NICE has no objection to your request and would be happy for the King Saud University Hospitals to adapt content from the guideline for use in Saudi Arabia. However, please note the following:*

- NICE cannot provide any approval or endorsement of your adaptation and no such inference should be given to intended audiences.
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- Any NICE content used in your adaptation must be acknowledged wherever mentioned with a URL and accompanied by a disclaimer. The URL will ensure your users will always have access to the original source and the most up-to-date content. Our suggested wording is as follows:

  This publication is an adapted translation of CG 88 Low back pain: early management of persistent non-specific low back pain, published by the National Institute for Health and Clinical Excellence (NICE) in 2009. The original publication is available from http://guidance.nice.org.uk/CG88 this adaptation has not been checked or approved by NICE to ensure it accurately reflects the original NICE publication and no guarantees are given by NICE in regard to the accuracy of the adaptation. The NICE guidance that this adaptation is based upon was prepared for the National Health Service in England and Wales. NICE guidance does not apply to Saudi Arabia and NICE has not been involved in the development or adaptation of any guidance for use in Saudi Arabia.

  Best wishes and good luck with the adaptation.
  Please do not hesitate to contact me if I can be of further help.
  Iain Moir
  Publishing Manager
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Abbreviations

ADAPTE **:** Process and methods for CPGs Adaptation

AGREE II **:** Appraisal of Guidelines for Research and Evaluation II Instrument

CG/ CPG **:** Clinical Practice Guideline

CPP **:** Combined physical and psychological interventions

DEM **:** Department of Emergency Medicine

GDG **:** Guideline Development Group (of the source NICE CPG)

G-I-N **:** Guidelines International Network

GPP : Good Practice Point

IDET **:** Intradiscal Electrothermal Therapy

KAUH **:** King Abdulaziz University Hospital

KKUH : King Khalid University Hospital

KSU **:** King Saud University, Riyadh, Saudi Arabia

LBP : Low back pain

NCCPC **:** National Collaborating Centre for Primary Care

NGC **:** National Guidelines Clearinghouse

NICE **:** National Institute of Health and Care Excellence, UK

NSAIDs **:** Non-Steroidal Anti-Inflammatory Drugs

PIPOH **:** patient population – intervention – professionals – outcomes – healthcare settings (formulation of health/clinical questions)

QALY **:** Quality-adjusted life years

QMD **:** Quality Management Department in KKUH/KAUH

RCGP : Royal College of General Practitioners

TENS **:** Transcutaneous nerve stimulation

Overview Material

- **CPG Release date: 2013**
- **Status:**

  Adopted (using ADAPTE Manual & Resource Toolkit-Version 2.0 that was released by the Guidelines International Network Adaptation Working Group (The former ADAPTE Collaboration)
- **Print and electronic sources:**

  i. **Printed copies;** are available in Orthopedic Surgery Department, Family Medicine Unit/ Primary Care Clinics, Emergency Medicine Department, Shaikh Abdullah Bahamdan Research Chair for Evidence Based Health Care and Knowledge Translation, the CPG Committee, Quality Management Department and KSU College of Medicine Library**.**

  ii. **Electronic sources;** are available on the KSU College of Medicine and University Hospitals website (icity.ksu.edu.sa) and will be sent to staff through KSU e-mails. *And will be made available to all points of care in the KSU hospitals*
- **Adapter:** Members of Orthopedic Surgery CPGs Subcommittee and Staff of Orthopedic Surgery Department

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  - National Collaborating Centre for Primary Care (NCCPC)
  - Royal College of General Practitioners (RCGP)

Introduction

The following introduction is included in the original CPG document; "**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 low back pain has been present for more than a 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.

There is a generally accepted approach to the management of back pain of less than 6 weeks' duration (acute low back pain). What has been less clear is how low back pain should be managed in people whose pain and disability has lasted more than six weeks. Appropriate management has the potential to reduce the number of people with disabling long-term back pain; and so reduce the personal, social, and economic impact of low back pain to society.

This guideline covers the management of persistent or recurrent low back pain defined as non-specific low back pain that has lasted for more than 6 weeks, but for less than 12 months. It does not address the management of severe disabling low back pain that has lasted longer than 12 months.

Non-specific low back pain

Non-specific low back pain is tension, soreness and/or stiffness in the lower back region for which it isn't possible to identify a specific cause of the pain. Several structures in the back, including joints, discs and connective tissues, may contribute to symptoms. The diagnosis of non-specific low back pain is dependent on the clinician being satisfied that there is not a specific cause for their patient's pain. A clinician who suspects that there is a specific cause for their patient's low back pain (see box 1) should arrange the relevant investigations. However, the diagnosis of specific causes of low back pain is beyond the remit of this guideline.

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. Several structures, including the joints, discs and connective tissues, may contribute to symptoms.

The management of the following conditions is not covered by this guideline:

• Radicular pain resulting from nerve root compression (sometimes called sciatica).

• Cauda equina syndrome (this should be treated as a surgical emergency requiring immediate referral).

Epidemiology of low back pain

Estimates of the prevalence of low back pain vary considerably between studies - up to 33% for point prevalence, 65% for 1- year prevalence, and 84% for lifetime prevalence.(Walker, B. F., 2000) There is no convincing evidence that age affects the prevalence of back pain.(Airaksinen, O., Brox, J. I., Cedraschi, C. et al , 2006)

There are few epidemiological data that are directly relevant to the target population for these guidelines. Published data do not distinguish between low back pain that persists for over a year and less than a year.

One year after a first episode of back pain 62% of people still have pain and 16% of those initially unable to work are not working after one year (Hestbaek, L., Leboeuf-Yde, C., and Manniche, C., 2003). Typically, pain and disability improve rapidly during the first month; (58% reduction from initial scores for both pain and disability) with little further improvement being observed after three months (Pengel, L. H., Herbert, R. D., Maher, C. G. et al, 2003). Estimates for the adult population burden of chronic back pain include; 11% for disabling back pain in the previous three months, 23% for low back pain lasting more than three months and, 18% for at least moderately troublesome pain in the previous month (Andersson, H. I., Ejlertsson, G., Leden, I. et al , 1993; Cassidy, J. D., Carroll, L. J., and Cote, P., 1998; Parsons, S., Breen, A., Foster, N. E. et al , 2007).

Diagnosis

For patients presenting with a new episode, or exacerbation, of low back pain consideration needs to be given to the possibility that there is a specific cause for their pain. For acute back pain, malignancy, infection, osteoporotic and non-osteoporotic fractures need to be considered. Malignancy is more common in older people and those with a past

history of tumours known to metastasize to bone (e.g. breast, lung and prostate). Infection should be considered in those who may have an impaired immune system, e.g. people living with HIV, or who are systemically unwell. Osteoporotic fractures typically affect older people (women more than men) and those with other chronic illnesses; particularly if they have used long term oral steroids. Apart from osteoporotic fractures in older people these are all uncommon; very few patients presenting with back pain will need further investigation before making a diagnosis of acute non-specific low back pain. The general approach to the treatment for acute non-specific low back pain is advice to stay active and to avoid bed rest, plus pain relieving medications such as paracetamol, weak opioids or NSAIDs.(Koes, B. and van Tulder, M., 2006)

For those with pain that continues for longer than six weeks or who further deteriorate between six weeks and one year, the possibility of a specific cause needs to be re-considered. In addition to the specific causes of acute low back pain, the possibility of chronic inflammatory conditions such as ankylosing spondylitis or other inflammatory disorders need to be considered.

Objective for treatment of non-specific low back pain

The overall objective of the early management of non-specific low back pain (lasting six weeks to one year) is to ensure that an episode of low back pain does not result in long-term withdrawal from normal activities, including sickness absence from paid employment. It is improving these outcomes (pain, disability and distress) that are the focus for the management of non-specific low back pain and thus the focus of this guideline. More severe pain and back pain-related disability, and psychological distress predict a poor long term outcome for people with non-specific back pain. (Pincus, T., Santos, R., Breen, A. et al , 2008)

Available treatments for non-specific low back pain

There are a plethora of treatments available for the treatment of non-specific low back pain. Not all of the treatments used have a strong theoretical underpinning. The differences and similarities between different therapeutic approaches are not always clearly explicated in the literature. Furthermore, for many of the individual treatment approaches used any therapeutic benefit is the result of both the specific treatment modality used and the non-specific effects of the therapist delivering the treatment. For therapist-delivered interventions the guideline development group took the pragmatic decision that it was the

effect of the package of care delivered by the therapist or therapists that is of interest rather than the individual components of the treatment package. The packages of care may be delivered by health professional from a range of clinical backgrounds. The guideline development group explicitly considered the nature of the intervention packages, not professional background of the therapists involved. It is anticipated that any therapist delivering these therapies will be adequately trained for this activity.

Broadly speaking the treatments that have been used for non-specific low back pain are:

- Education/information; including advice from practitioners regarding exercise and/or causes of back pain, formal education sessions, and written educational material.
- Exercise; including group and individual supervised exercise; both land and water based.
- Other non-pharmacological interventions; including, interferential, laser, lumbar supports, transcutaneous electrical nerve stimulation, traction, ultrasound,
- Psychological interventions; these including a variant of cognitive behavioral therapy and self-management.
- Combined physical and psychological interventions (CPP); these include the components seen in some types of back school and multidisciplinary rehabilitation programmes.
- Pharmacological interventions; including antidepressants, non-steroidal anti-inflammatory drugs (NSAIDs), opioids, and paracetamol.
- Invasive procedures Including acupuncture, electro-acupuncture, nerve blocks, neuroreflexotherapy, percutaneous electrical nerve stimulation (PENS), injection of therapeutic substance into the spine.
- Surgical referral; for this guideline the evidence supporting different therapeutic approaches and the evidence on the decision making process for selecting therapeutic approaches has been reviewed.”.

Statement of intent

This CPG is not intended to be explained or to serve as a standard of medical care. Standards of care are determined on the basis of all clinical data available for an individual case and are subject to change as scientific knowledge and technology advance and patterns of care evolve, these parameters of practice should be considered CPGs only. Adherence to the CPG recommendations will not ensure a successful outcome in every case, nor should they be construed as including all proper methods of care or excluding other acceptable methods of care aimed at the same results. The ultimate judgment regarding a particular clinical procedure or treatment plan must be made by the appropriate healthcare professional(s) responsible for clinical decisions regarding a particular clinical procedure or treatment plan; the doctor. This judgment should only be arrived at following discussion of the options with the patient, in light of the diagnostic and treatment choices available. However, it is advised that significant departures from the national CPG or any local CPGs derived from it should be fully documented in the patient's case notes at the time the relevant decision is taken.

Scope and Purpose

- **Disease/ Condition:** Persistent non-specific low back pain.
- **CPG objectives:** This guideline gives recommendations to clinicians and others about clinical assessment, pharmacological and non-pharmacological treatments and referral to surgery.
- **Health Questions (PIPOH):-**

  P: patient population (target audience):

  Adults 18 years or older with non-specific low back pain (LBP); both genders without any other multi-morbidity and People with non-specific low back pain who are considering purchasing treatment privately may also find these guidelines useful when choosing treatment options

  Areas outside the remit of the guideline

  1) Individuals who have LBP because of specific spinal pathologies, including (Malignancy, Infection, Osteoporotic Collapse, Fracture, Ankylosing Spondylitis or other inflammatory disorders and Cauda equina compression).
  2) People with radiculopathy and/or nerve root pain.
  3) Children under the age of 18 years.
  4) People with acute LBP (less than 6 weeks duration)

  I: Interventions considered/ CPG Category:

  Management (Diagnosis and Treatment)

  Clinical assessment and Imaging (X-rays, MRI), pharmacological and non-pharmacological treatments (e.g. physical therapy and other modalities) and referral to surgery.

  1.1 Assessment and imaging

  1.2 Information, education and patient preferences

  1.3 Physical activity and exercise

  1.4 Manual therapy

  1.5 Other non-pharmacological therapies

  1.6 Invasive procedures

  1.7 Combined physical and psychological treatment programme

  1.8 Pharmacological therapies

1.9 Referral for surgery

P: Professionals (Intended/ Target users) and Clinical Specialty: Staff (physicians, physiotherapists, nurses and technicians) in Rehabilitation Medicine, Family Medicine, Emergency Medicine, Orthopedic surgery, Neurosurgery and Spinal surgery and Pharmacy.

O: Outcome:

Primary outcomes: Decrease pain scores (days in pain), disability score (e.g. Roland-Morris disability score) and psychological distress.

Secondary outcomes: Safety (harms), recovery costs, adverse events/ side effects and medication use and patient satisfaction and reassurance.

*Examples of other outcomes that could be considered to be used for outcomes measurements; quality of life, life-years gained, quality-adjusted life years (QALYs) functional status/ return-to-work (sick leave days and work absence), deaths avoided, heart attacks avoided, cases detected, healthcare costs, .etc. (details in the source CPG)

H: Health care setting:

Primary, secondary and tertiary care settings dealing with assessment, treatment and management of non-specific low back pain in adults (e.g. Primary Care/ Family Medicine Clinics, Emergency Room, Orthopedic/ Spine Surgery Clinic, Rehabilitation Medicine/ Musculo-skeletal Clinic, Neurosurgery Clinic and Pharmacy) in King Khalid University Hospital and King Abdulaziz University Hospital.

Recommendations

Table (2) Strength of Evidence/ recommendations assigned

Level of Evidence	Type of Evidence
1++	High-quality meta-analyses, systematic reviews of RCTs, or RCTs with a very low risk of bias
1+	Well-conducted meta-analyses, systematic reviews of RCTs, or RCTs with a low risk of bias
1-	Meta-analyses, systematic reviews of RCTs, or RCTs with a high risk of bias
2++	High-quality systematic reviews of case-control or cohort studies High-quality case-control or cohort studies with a very low risk of confounding, bias or chance and a high probability that the relationship is causal
2+	Well-conducted case-control or cohort studies with a low risk of confounding, bias or chance and a moderate probability that the relationship is causal
2-	Case-control or cohort studies with a high risk of confounding, bias or chance and a significant risk that the relationship is causal
3	Non-analytical studies (for example case reports, case series)
4	Expert opinion, formal consensus

The recommendations were adopted to be implemented in the settings of the Primary Care, orthopedic surgery, neurosurgery outpatient Clinics, Wards and Emergency Room; which are recommended to include the infrastructure, equipment and medications needed in order to successfully implement these recommendations. The required healthcare professionals involved in the CPG implementation are mentioned in the Scope and Purpose Section of this document.

The panel decided to adopt sections #4 till #12 from the source NICE 88 CG.

Key Recommendations (in Bold)

1.1 Assessment and imaging

1.1.1 Keep diagnosis under review.

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

1.1.3 Consider MRI (magnetic resonance imaging) when a diagnosis of spinal malignancy, infection, fracture, cauda equina syndrome or ankylosing spondylitis or another inflammatory disorder is suspected.

1.1.4 Only offer an MRI scan for non-specific low back pain within the context of a referral for an opinion on spinal fusion

1.2 Information, education and patient preferences

1.2.1 Provide people with advice and information to promote self-management of their low back pain.

1.2.2 Offer educational advice that:

- *Includes information on the nature of non-specific low back pain*
- *Encourages the person to be physically active and continue with normal activities as far as possible.*

1.2.3 Include an educational component consistent with this guideline as part of other interventions, but do not offer stand-alone formal education programmes.

1.2.4 Take into account the person's expectations and preferences when considering recommended treatments, but do not use their expectations and preferences to predict their response to treatments.

1.2.5 Offer one of the following treatment options, taking into account patient preference: an exercise programme, a course of manual therapy or a course of acupuncture. Consider offering another of these options if the chosen treatment does not result in satisfactory improvement.

1.3 Physical activity and exercise

1.3.1 Advise people with low back pain that staying physically active is likely to be beneficial.

1.3.2 Advise people with low back pain to exercise.

1.3.3 Consider offering a structured exercise programme tailored to the person:

- ***This should comprise up to a maximum of eight sessions over a period of up to 12 weeks.***
- ***Offer a group supervised exercise programme, in a group of up to 10 people.***
- ***A one-to-one supervised exercise programme may be offered if a group programme is not suitable for a particular person*.**

1.3.4 Exercise programmes may include the following elements:

- Aerobic activity
- Movement instruction
- Muscle strengthening
- Postural control
- Stretching.

1.4 Manual therapy

1.4.1 Consider offering a course of manual therapy, including spinal manipulation, comprising up to a maximum of nine sessions over a period of up to 12 weeks.

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 simulation (TENS).

Lumbar supports

1.5.5 Do not offer lumbar supports.

Traction

1.5.6 Do not offer traction.

1.6 Invasive procedures

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

Note: acupuncture is not currently practiced nor endorsed in KSUMC

1.6.2 Do not offer injections of therapeutic substances into the back for non-specific low back pain.

1.7 Combined physical and psychological treatment programme

1.7.1 Consider referral for a combined physical and psychological treatment programme, comprising around 100 hours over a maximum of 8 weeks, for people who:

- ***have received at least one less intensive treatment and***
- ***have high disability and/or significant psychological distress.***

1.7.2 Combined physical and psychological treatment programmes should include a cognitive behavioural approach and exercise.

1.8 Pharmacological therapies

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

1.8.2 When paracetamol alone provides insufficient pain relief, offer:

- *non-steroidal anti-inflammatory drugs (NSAIDs) and/or*
- *weak opioids.*

Take into account the individual risk of side effects and patient preference.

1.8.3 Give due consideration to the risk of side effects from NSAIDs, especially in:

- *older people*
- *other people at increased risk of experiencing side effects.*

1.8.4 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. In either case, for people over 45 these should be co-prescribed with a PPI (proton pump inhibitor), choosing the one with the lowest acquisition cost.

1.8.5 Consider offering tricyclic antidepressants if other medications provide insufficient pain relief. Start at a low dosage and increase up to the maximum antidepressant dosage until therapeutic effect is achieved or unacceptable side effects prevent further increase.

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

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

1.8.8 Give due consideration to the risk of opioid dependence and side effects for both strong and weak opioids.

1.8.9 Base decisions on continuation of medications on individual response.

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

1.9 Referral for surgery

1.9.1 Consider referral for an opinion on spinal fusion for people who:

- ***Have completed an optimal package of care, including a combined physical and psychological treatment programme and***
- ***Still have severe non-specific low back pain for which they would consider surgery.***

1.9.2 Offer anyone with psychological distress appropriate treatment for this before referral for an opinion on spinal fusion.

1.9.3 Refer the patient to a specialist spinal surgical service if spinal fusion is being considered. Give due consideration to the possible risks for that patient.

1.9.4 Do not refer people for any of the following procedures:

- *intradiscal electrothermal therapy (IDET)*
- *percutaneous intradiscal radiofrequency thermocoagulation (PIRFT)*
- *radiofrequency facet joint denervation.*

RECOMMENDATIONS

The detailed recommendations were adopted from NICE CG 88

4. Assessment and Imaging of non-specific low-back pain

4.1 Introduction

Initial assessment serves to clarify the diagnosis of non-specific low back pain. These guidelines apply only to non-specific low back pain present for between six weeks and one year. Non-specific low back pain is back pain not caused by cancer, sepsis, fracture, ankylosing spondylitis or other inflammatory disorders. Specific causes of low-back pain will normally have been excluded early in an episode of back pain. However, clinicians may need to subsequently reassess patients to exclude specific causes of low back pain.

The diagnosis of non-specific low back pain is dependent on the clinician being satisfied that there is not a specific cause for their patient's pain. Where the clinician has grounds to be concerned that there is a specific cause for their patient's low back pain they should arrange the relevant investigations [box 1]. The diagnosis of specific causes of low back pain, however, is beyond the remit of this guideline.

Box 1 Specific causes of low back pain (not covered in this guideline)

- Malignancy
- Infection
- Fracture
- Ankylosing Spondylitis and other inflammatory disorders

The syndrome of radicular pain due to nerve root compression (sometimes called sciatica) is a different clinical syndrome; its management is not part of this guideline. The management of the syndrome of cauda equina compression causing widespread neurological damage requires emergency treatment and is not part of this guideline.

The guidance on this chapter addresses the assessment of people diagnosed with non-specific low back pain, it does not address the investigation of people in whom a specific cause of back pain is suspected.

4.2 Recommendations for assessment & imaging*

4.2.1 Keep diagnosis under review

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

4.2.3 Consider MRI (magnetic resonance imaging) when a diagnosis of spinal malignancy, infection, fracture, cauda equina syndrome or ankylosing spondylitis or other inflammatory disorders are suspected.

4.2.4 Only offer an MRI scan for non-specific low back pain within the context of a referral for an opinion on spinal fusion.

**For more details please refer to sections 4.3 X-ray and MRI (clinical questions, clinical evidence, health economics and evidence statements) of NICE CG 88.*

5. Information, education and patient treatment preferences

5.1 Recommendations for information, education and patient preferences

5.1.1 Provide people with advice and information to promote self-management of their low back pain

5.1.2 Offer educational advice that:

• includes information on the nature of non-specific low back pain.

• encourages the person to be physically active and continue with normal activities as far as possible. Include an educational component consistent with this guideline as part of other interventions but do not offer stand-alone formal education programs.

5.1.3 Take into account the person's expectations and preferences when considering recommended treatments, but do not use their expectations and preferences to predict their response to treatments.

5.1.4 Offer one of the following treatment options, taking into account patient preference an exercise program or a course of manual therapy.

Consider offering another of these options further if the chosen treatment does not result in satisfactory improvement.

For separate recommendations for exercise; see next section.

For more details please refer to sections:

5.2. Information (clinical questions, clinical evidence, health economics and evidence statements),

5.3. Education (clinical question, clinical evidence, health economics and evidence statements),

5.4. Patient preference (clinical question, clinical evidence, health economics and evidence statements) of NICE CG 88

GPP:

6. Physical activity and exercise

6.1 Recommendations for physical activity & exercise

6.1.1 Advise people with low back pain that staying physically active is likely to be beneficial.

6.1.2 Advise people with low back pain to exercise.

6.1.3 Consider offering a structured exercise program tailored to the person:

• This should comprise up to a maximum of eight sessions over a period of up to 12 weeks.

• Offer a group supervised exercise program, in a group of up to 10 people.

• A one-to-one supervised exercise program may be offered if a group program is not suitable for a particular person

6.1.4 Exercise programs may include

- aerobic activity
- movement instruction
- muscle strengthening
- postural control
- stretching

For more details please refer to sections:

6.2. Exercise advice (clinical questions, clinical evidence, health economics and evidence statements),

6.3. Exercise programmes (clinical question, clinical evidence, health economics and evidence statements),

5.4. Patient preference (clinical question, clinical evidence, health economics and evidence statements) of NICE CG 88

7. Manual therapy

7.1 Introduction

The manual therapies reviewed were spinal manipulation (a low amplitude high velocity movement at the limit of joint range taking the joint beyond the passive range of movement), spinal mobilisation (joint movement within the normal range of motion) and massage (manual manipulation/mobilisation of soft tissues). Collectively these are all manual therapy; that is the use of the therapist's hands to deliver some, or all of the intervention. In reviewing the evidence the original author's descriptions of the interventions have been retained; these are not always consistent with this typology. The GDG's recommendations are consistent with this typology

Mobilisation and massage are performed by a wide variety of practitioners. Manipulation can be performed by chiropractors or osteopaths, and by doctors or physiotherapists who have undergone specialist post-graduate training in manipulation.

7.2 Recommendations for manual therapy

7.2.1 Consider offering a course of manual therapy including spinal manipulation, comprising up to a maximum of nine sessions over a period of up to 12 weeks.

For more details please refer to sections:

7.3. Manual therapy (clinical questions, clinical evidence, health economics and evidence statements).

Note: Manual therapy is one of the most effective interventions for these patients, with a wide variety of therapy techniques including Spinal manipulation and mobilization, Myofascial release and Trigger point therapy which are acquired from specialized courses like Mckenzie, Mulligan and Cyriax …etc , and these courses are certified from SPTA (Saudi Physical Therapy Association) [link: http://spta.org.sa/]. These services are practiced, provided and endorsed in KSU Hospitals by trained and certified physical therapists.

The staff of Rehabilitation Medicine Department in KKUH includes physiotherapists, occupational therapists, physicians and nurses but does not include osteopaths, chiropractors or acupuncturists.

8. Other non-pharmacological therapies (physical therapy)

8.1 Introduction

Other non-pharmacological therapies in this context are therapies in which the patient has little active involvement with the treatment. The most common treatments were suggested by the stakeholder group and a final list was developed by the GDG based upon those treatments that are commonly used in the NHS. This is not exhaustive as treatments frequently come onto the market with little or no testing and may not be commonly available on the NHS. The main treatments considered were commonly used electrotherapies, lumbar supports and spinal traction including motorized mechanical traction and autotraction. Autotraction is performed by utilizing the patient's own body weight (for example by suspension via the lower limb) or through movement.

8.2 Recommendations for other non-pharmacological therapies

- ***Electrotherapy modalities***

  8.2.1 Do not offer laser therapy.

  8.2.2 Do not offer interferential therapy.

  8.2.3 Do not offer therapeutic ultrasound.

- ***Transcutaneous nerve stimulation (TENS)***

  8.2.4 Do not offer transcutaneous electrical nerve simulation (TENS)

- ***Lumbar supports***

  8.2.5 Do not offer lumbar supports.

- ***Traction***

  8.2.6 Do not offer traction.

For more details please refer to the following sections in the original CPG document (NICE CG 88):

8.3. Electrotherapy therapies (clinical questions, clinical evidence, health economics and evidence statements),

8.4 Transcutaneous Electrical Nerve Stimulation (TENS) (clinical question, clinical evidence, health economics and evidence statements),

8.5 Lumbar Supports (clinical question, clinical evidence, health economics and evidence statements),

8.6 Traction (clinical question, clinical evidence, health economics and evidence statements).

Note: *The reviewers from the KKUH Rehabilitation Medicine Department stated that they are currently offering this category of patients physical therapies mentioned in section 8 (other non-pharmacological therapies) including interferential therapy, therapeutic ultrasound, TENS, hydrotherapy, medical tape and hot and cold packs and they are planning to conduct a study on the effectiveness of these therapies on patients attending their clinics to decide on whether to include these in the recommendations section in the next update of this CPG.*

9. Invasive Procedures

9.1 Recommendations for invasive procedures *

9.1.1 Consider offering a course of acupuncture needling comprising up to a maximum of 10 sessions over a period of up to 12 weeks. **The KSUHs CPG panel decided to exclude the acupuncture course recommendation since it is not endorsed nor practiced in KSUHs.**

9.1.2 Do not offer injections of therapeutic substances into the back for non-specific low back pain.

10. Psychological interventions and mixed packages of care (combined physical and psychological interventions)

10.1 Introduction

In this chapter, as well as considering psychological therapies used as a monotherapy, the GDG also considered the evidence for packages of care that were characterized by including both physical activity/exercise and psychological interventions. The decision for inclusion as a mixed package of care was based upon the reported content of the intervention rather than the profession of the practitioner delivering the intervention. It was difficult to determine in many studies which professions were involved in program delivery. The intensity and duration of the interventions varied considerably between studies. Some interventions were delivered primarily by physiotherapists and others were delivered by a combination of professions. The GDG considered studies to be mixed packages of care or Combined Physical and Psychological (CPP) interventions if the content was broadly similar to that recommended in the 'Recommended Guidelines for Pain Management Programs for Adults' issued by the British Pain Society(British Pain Society., 2007).

The GDG recognized the heterogeneity of the types of programs in this section. Previous reviews undertaken in the development of this guideline had suggested that intense, and by implication, expensive programs of long duration afforded no extra benefit over brief

interventions for those who were assessed and identified at low or moderate risk of a poor outcome; only those at high risk of a poor outcome benefited from intense programs. For this reason, the GDG looked at the literature on screening to identify which patients should be referred for these intensive treatments. The Health Economic implications of this are also considered and have informed the treatment pathway.

10.2 Recommendations for combined physical and psychological treatment program

10.2.1 Consider referral for a combined physical and psychological treatment program, comprising around 100 hours over a maximum of 8 weeks, for people who**:**

• have received at least one less intensive treatment and

• have high disability and/or significant psychological distress

10.2.2 Combined physical and psychological treatment programs should include a cognitive behavioral approach and exercise

For more details please refer to sections 10.3 Psychological Screening (clinical questions, clinical evidence, health economics and evidence statements), 10.4 Psychological Interventions (clinical question, clinical evidence, health economics and evidence statements), 10.5 Combined Physical and Psychological Therapy (clinical question, clinical evidence, health economics and evidence statements), 8.6 Traction (clinical question, clinical evidence, health economics and evidence statements), of NICE CG 88

11. Pharmacological therapies

11.1 Introduction

This review considered the main drug treatments used for non-specific low back pain; opioid and non-opioid analgesics, antidepressants (tricyclic and others) and non-steroidal anti-inflammatory drugs (NSAIDs). These are mainly oral preparations. The use of injected therapeutic substances is considered elsewhere in this guideline. Both weak opioids and strong opioids are discussed in the recommendations in this section. Examples of weak opioids are codeine and dihydrocodeine (these are sometimes combined with paracetamol as co-codamol or co-dydramol, respectively). Examples of strong opioids are buprenorphine, diamorphine, oxycodone, and fentanyl. Some opioids, such as tramadol, are difficult to classify because they can act like a weak or strong opioid depending on the dose used and the circumstances. It should be noted that this section includes the use of tricyclic

antidepressants as analgesics in NSLBP. This refers to the use of these drugs for antinociceptive effects rather than their action as antidepressants

When considering recommending NSAIDs the prescriber should consider recommendations presented in the NICE guidance on the management of Osteoarthritis (National Institute for Health and Clinical Excellence., 2008).

COX-2 inhibitors are currently not licensed in people with NSLBP but the GDG recognise that practitioners might offer these to people who are at risk of gastrointestinal effects; the GDG feel that the best guidance on the use of COX-2s is that given by NICE in the Osteoarthritis guideline.

The NICE osteoarthritis guideline applies specifically to people aged 45 or over who have osteoarthritis. The balance of risks and benefits may be different in people with low back pain, many of whom are aged less than 45. In particular, co-prescribing a proton pump inhibitor to reduce upper gastro-intestinal side-effects (PPI) may not always be necessary in younger people

Low Back Pain: full guideline (May 2009) 191 The NICE osteoarthritis guideline considered that although NSAIDs and COX-2 inhibitors may be regarded as a single drug class of 'NSAIDs', these recommendations continue to use the two terms for clarity, and because of the differences in side-effect profile.

No opioids or tricyclic antidepressants and only some NSAIDs have a UK marketing authorization for treating low back pain. If a drug without a marketing authorization for this indication is prescribed, informed consent should be obtained and documented.

11.2 Recommendations for pharmacological therapies

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

11.2.2 When paracetamol alone provides insufficient pain relief, offer:

- non-steroidal anti-inflammatory drugs (NSAIDs) **and/or**
- weak opioids

Take into account the individual risk of side effects and patient preference.

11.2.3 Give due consideration to the risk of side effects from NSAIDs,

especially in:

- older people
- other people at increased risk of experiencing side effects.

11.2.4 When offering treatment with an oral NSAID/COX-2 (cyclo-oxygenase 2) inhibitor, the first choice should be either a standard NSAID or a COX-2 inhibitor. In either case, for people over 45 these should be co-prescribed with a PPI, choosing the one with the lowest acquisition cost [This recommendation is adapted from 'Osteoarthritis: the care and management of osteoarthritis in adults' (NICE clinical guideline 59).]

11.2.5 Consider offering tricyclic antidepressants if other medications provide insufficient pain relief. Start at a low dosage and increase up to the maximum antidepressant dosage until therapeutic effect is achieved or unacceptable side effects prevent further increase.

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

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

11.2.8 Give due consideration to the risk of opioid dependence and side effects for both strong and weak opioids.

11.2.9 Base decisions on continuation of medications on individual response.

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

For more details please refer to sections:

11.3 NSAIDs (clinical questions, clinical evidence, health economics and evidence statements),

11.4 Opioids (clinical question, clinical evidence, health economics and evidence statements),

11.5 Antidepressants (clinical question, clinical evidence, health economics and evidence statements) of NICE CG 88

12. Indications for referral for surgery

12.1 Introduction

The scope of this document specifically precluded recommendations regarding surgery but does include the indications are for referral for surgery. The GDG took the decision to investigate the evidence for surgery to inform practitioners when surgical intervention might be effective. Surgical procedures considered included trans-dermal destructive procedures as well as open surgical procedures. The GDG were of the opinion that this would inform who should be referred for a surgical opinion. In doing this a review of the efficacy of commonly used surgical treatments was undertaken and the characteristic of the participants in these trials considered.

12.2 Recommendations for referral for surgery

12.2.1 Consider referral for an opinion on spinal fusion for people who:

• Have completed an optimal package of care including a combined physical and psychological treatment program, and

• Still have severe non-specific low back pain for which the patient would consider surgery.

12.2.2 Offer anyone with psychological distress appropriate treatment for this before referral for an opinion on spinal fusion**.**

12.2.3 Refer the patient to a specialist spinal surgical service if spinal fusion is being considered. Give due consideration to the possible risks in that patient

12.2.4 Do not refer people for any of the following procedures:

• intradiscal electrothermal therapy (IDET)

For more details please refer to sections

12.3 Referral for Surgery (clinical questions, clinical evidence, health economics and evidence statements),

11.4 Opioids (clinical question, clinical evidence, health economics and evidence statements),

11.5 Antidepressants (clinical question, clinical evidence, health economics and evidence statements) of NICE CG 88

External Review and Consultation Process

- ***Who was asked to review the CPG***

Name	Affiliation/ Credentials/ expertise
Orthopedic Surgery Department, KKUH	
Dr. Waleed Awwad, FRCSC	Assistant Professor & Consultant Department of Orthopedic Surgery KSU College of Medicine, KKUH
Family Medicine Unit, KKUH	
Dr. Ousama B. Alfahed, MBBS, SBFM	Senior Registrar, FM Primary Care Clinics (PCCs) KSU College of Medicine, KKUH Head, Family Medicine/PCCs CPGs Subcommittee
Neurosurgery Unit, Surgery Department, KKUH	
Dr. Amro F. Al-Habib, MD, FRCSC, MPH	Consultant, Neurosurgeon and Spine Surgeon Assistant Professor and Head, Division of Neurosurgery KSU College of Medicine, KKUH
Emergency Medicine Department, KKUH	
Dr. Hossam H. Abdelrazik	Consultant Department of Emergency Medicine, KKUH Head, DEM Quality & Accreditation Committee Member, CPG Subcommittee, DEM
Dr. Adel Tamimi	Consultant Department of Emergency Medicine, KKUH Head, CPG Subcommittee, DEM
Rehabilitation Medicine Department, KKUH	
Mr. Saeed Alamri	Orthopedic physical therapist Department of Rehabilitation Medicine, KKUH Head, CPG Subcommittee, Rehab. Medic. Dept.
Ms. Shathi Y. Al-Saidan	Pediatric physical therapist Department of Rehabilitation Medicine, KKUH Member, CPG Subcommittee, Rehab. Medic. Dept.
Ms. Ghadah I. AlRashid	Musculoskeletal physical therapist Department of Rehabilitation Medicine, KKUH Member, CPG Subcommittee, Rehab. Medic. Dept.

Plan for Scheduled Review and Update:

The panel has decided to review the adapted for updates after three years, from its publication date (2013) which should be in 2016, unless new recommendations are published by the source CPG developers, after checking for updates in the source guidelines and clinical audit and feedback from implementation efforts in KKUH.

List of Funding Sources

The Following bodies of King Saud University provided non-financial funding throughout the development of this work in terms of utilization of its facilities (i.e. medical libraries, websites resources, hospital records, availability of project management personnel, leadership commitment, technical support, expert methodologists review, administrative support, storage, documentation and meeting coordination and continuous training for members of the Hospital CPGs Subcommittees on CPGs evaluation, adaptation and implementation. This work has no relation to any pharmaceutical company.

- King Khalid University Hospital (KKUH).
- Department of Orthopedic Surgery
- Hospital Clinical Practice Guidelines Committee.
- Orthopedic Surgery CPGs Subcommittee
- Family Medicine Unit CPGs Subcommittee
- Emergency Medicine CPGs Subcommittee
- Quality Management Department (QMD).
- Shaikh Abdullah Bahamdan Research Chair for Evidence-Based Health Care and Knowledge Translation (EBHC-KT).

Adaptation Process Methodology

Clinical Practice Guideline Adaptation is the systematic approach to the endorsement and/or modification of a guideline(s) produced in one cultural and organizational setting for application in a different context. Adaptation may be used as an alternative to de novo guideline development, e.g., for customizing (an) existing guideline(s) to suit the local context.

The description of the methodology for the production of this CPG can be fulfilled by utilizing the sequential process for trans-contextual adaptation of CPGs proposed by the ADAPTE Working group of the Guidelines International Network (G-I-N); the ADAPTE Manual and Resource Toolkit Version 2.0. as this method was approved by KKUH/KAUH Official CPG Committee to be the method of CPG production in the University Hospitals and is in accordance to the Hospital-Wide Policy and Procedure for CPG Adaptation ***(HWQPP-010).***

Search and Selection of source CPGs

A systematic search was done in the CPGs internet websites, as documented below in the list:-

1-Guidelines international Network (G-I-N)

2-National Guidelines Clearinghouse (NGC)

3- National Institute of Health and Clinical Excellence (NICE)

3- Medline/PubMed

4-Google

Choosing inclusion/ exclusion criteria for guideline selection:-

The panel has decided in their meeting on some initial inclusion/exclusion criteria that will assist in the search and retrieval of guidelines. They are stated as follows:-

1) Selecting only **evidence-based CPGs** (CPG must include a report on systematic literature searches and clear documented methodology with an explicit links between individuals recommendations and their supporting research evidence and references).
2) Selecting on **CPGs produced by an organization** (excluding any CPGs written by single authors)

3) Selecting only ***international CPGs*** since there **are no** available National evidence-based CPGs Specifying a range of **dates for publication to be from 2008 - 2013.**(excluding all CPGs produced before 2008);
4) Selecting CPGs written in **English language only** (also *ARABIC* if any; but can be excluded as they are not Evidence-Based simply they are adopted from other source CPGs)
5) Selecting only **source original (developed de-novo rather than adapted)** CPGs.

Guideline authorship*;* The organizing committee has decided on group authorship and stated the order of authorship:-

Name of the chair: Dr Khaled Alsaleh

Name of the Working group (Panel):-

'CPG Adaptation for Management of Low back pain'

Based on the PIPOH and the selection criteria three CPGs were retrieved

1) Toward Optimized Practice (TOP) guideline on evidence-informed primary care management of low back pain can be found at TOP 2011 PDF or at National Guideline Clearinghouse 2012 Dec 17:37954
2) National Institute for Health and Clinical Excellence (NICE) guideline on early management of persistent non-specific low back pain can be found at NICE 2009 May:CG88 or at National Guideline Clearinghouse 2010 Apr 26:14699, summary can be found in BMJ 2009 Jun 4;338:b1805 full-text
3) American College of Physicians/American Pain Society (ACP/APS) joint guideline on diagnosis and treatment of low back pain can be found in Ann Intern Med 2007 Oct 2;147(7):478 full-text

Assessement of the quality of CPG

The Appraisal of Guidelines Research & Evaluation II (AGREE II) Instrument (www.agreetrust.org) provides a framework for assessing the quality of CPGs.

AGREE Domain Score of the three source guidelines

AGREE II DOMAINS	CPG1 (ACP/APS2007)	CPG2 (TOP 2009)	CPG3 (NICE 2009)
D1: Scope & Purpose	92 %	94 %	92 %
D2: Stakeholder Involvement	53 %	44 %	92 %
D3: Rigour of Development	76 %	54 %	83 %
D4: Clarity & Presentation	92 %	100 %	89 %
D5: Applicability	4 %	0 %	33 %
D6: Editorial Independence	92 %	0 %	100 %

Therefore the panel decided to adopt the NICE CG 88 and to exclude the other two CPGs due to higher AGREE domain scores of NICE CG88.

Assessment of guideline currency

NICE CG88 - 2009
1. Are you aware of any **new** evidence relevant to this CPG statement? NO 2. Is there any new evidence to invalidate any of the recommendations comprising the CPG? NO 3. Are there any plans to update the CPG in the near future? NO 4. When the CPG was last updated? The CPG was issued: May 2009 (The web page was last updated 04 January 2013); their searches were conducted between May 2007 and May 2008. What is the citation for the latest version? http://www.nice.org.uk/CG88 **(last accessed 10/11/2013)**

Table (..): Decision support for King Khalid University Hospital Adaptation Working Group/ Organizing Committee/ Panel for CPGs for 'Management of Low Back Pain in KSUHs'

Chair: Dr. Khaled Alsaleh

PHASE	MODULE	STEP	TOOL	DECISION		REASON*(if not utilized)*
				Utilized	Not utilized	
ONE: SET-UP	1.1. Preparation	1	1	√		
			2	√		
		2		√		
		3		√		
		4		√		
		5	3	√		
			4	√		
			1	√		
		6	5	√		
TWO: ADAPTATION	2.1. Scope and Purpose	7	6	√		
	2.2. Search and Screen	8	2	√		
			7	√		
		9	8		√	*Decided not to utilize this step in order not to delay the process*

		10	**9**		**√**	*Decided to rely on inclusion/ exclusion criteria (filters) & PIPOH compatibility*
			10		**√**	
	2.3. Assessment	**11**	**9**	**√**		
			10	**√**		
		12	**11**	**√**		
		13	**12**		**√**	***Decided to select all (Rs) of NICE CG88***
		14	**13**		**√**	***Decided to rely on D3 Scores of AGREE II***
			14		**√**	
		15	**15**		**√**	***Decided to rely on D5, D2 Scores of AGREE II***
	2.4. Decision and Selection	**16**	***Table (7)***	**√**		
		17	***Decision making and selection (2 options)***	**√**		***The panel modified the options to be two (Accept or Reject) rather than five according to recommendation of KSUHs CPG Committee & EBHCKT Research Chair***
	2.5. Customization	**18**	**16**	**√**		
THRE: FINALIZATION	**3.1. External Review and Acknowledgment Module**	**19**	**17**	**√**		
		20		**√**		
		21		**√**		
		22		**√**		
	3.2. Aftercare Planning	**23**	**18**	**√**		
	3.3. Final Production	**24**		**√**		

Implementations Tools for the Adapted CPG:-

The panel decided to adopt all the implementation tools developed by the NICE including:-

1. ***Appendix (1)***
   Care pathway (Low back pain).
2. ***Appendix (2)***
   Order sets (Spine Clinic assessment sheet)
3. ***Appendix (3)***
   Order set (Thoraco-lumbar-spinal fusion)
4. ***Appendix (4)***
   NICE Clinical Audit Tool
5. **CPOE** *(has been built into the new HIS of the hospital e-SIHI by Dr. Yasser Amer)*
6. **Patient Education** *(currently being revised with orthopedic and rehabilitation medicine departments)*
7. **Appendix (5) ICD-10 Codes**
8. **Quick Reference Guide** *(in the Key Recommendations section)*

Appendix (1)

Care Pathway for Low Back Pain

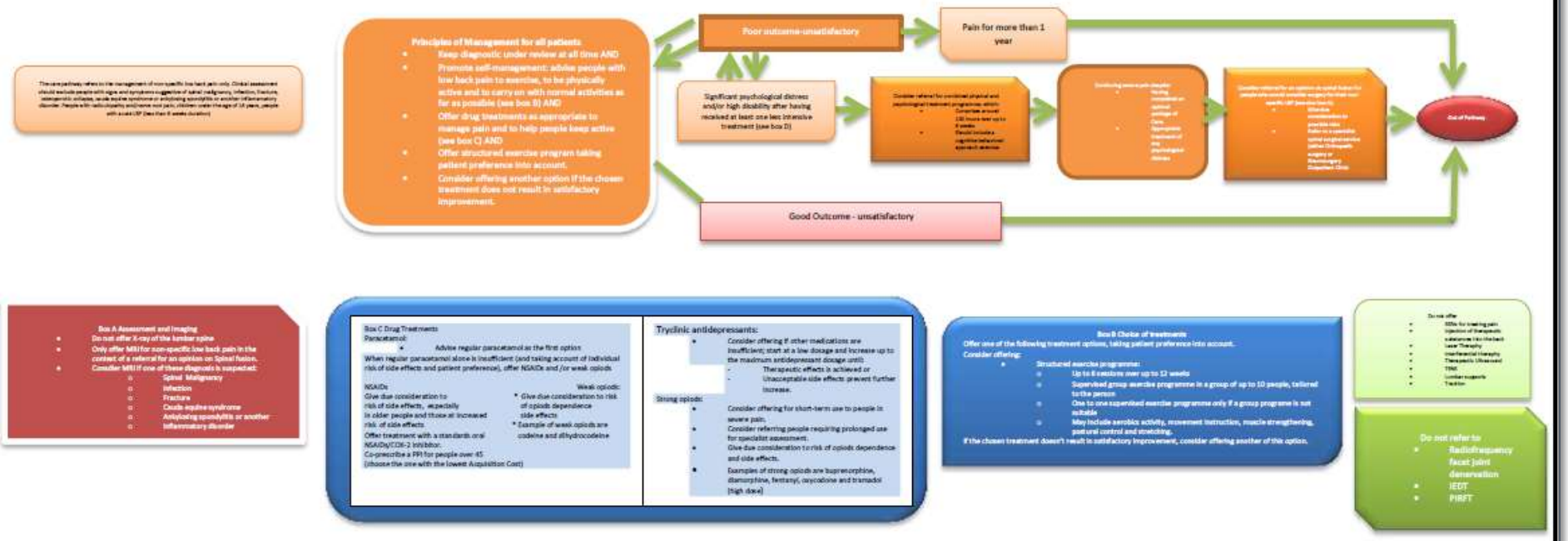
Early management of persistent non-specific low back pain

Adapted from Quick Reference Guide

NICE (National Institute for Health and Clinical Excellence)
Clinical Guideline 88 (May 2009)
Developed by the National Collaborating Centre for Primary Care (NCCPC)

LOW BACK PAIN CARE PATHWAY

This pathway is applicable in KSUHs Outpatient Clinics of Family Medicine, Orthopedic Surgery, Neurology and Emergency Room.



COX-2 cyclooxygenase 2; IDET: intradiscal electrothermal therapy; MRI: magnetic resonance imaging; NSAIDs: non-steroidal anti-inflammatory drugs PIRFT: percutaneous intradiscal radiofrequency thermocoagulation; PPI proton pump inhibitor; SSRI: selective serotonin reuptake inhibitor; TENS: transcutaneous electrical nerves stimulation

No opiods, COX-2 inhibitors or tricyclic antidepressants and only some NSAIDS have a UK marketing authorization for treating low back pain. If a drug without a marketing authorization for this indication is prescribed, informed consent should be obtained and documented

Note: Manual therapy and acupuncture are not endorsed nor provided by KSUHs.

Low Back Pain Care Pathway

This pathway is applicable in KSUHs Outpatient Clinics of Family Medicine, Orthopedic Surgery, Neurosurgery and Emergency Room.

This <u>care pathway</u> refers to the management of non-specific low back pain only. Clinical assessment should exclude people with signs and symptoms suggestive of spinal malignancy, infection, fracture, osteoporotic collapse, cauda, equina syndrome or ankylosing spondylitis or another inflammatory disorder.
People with radiculopathy and/nerve root pain, children under the age of 18 years and people with acute LBP (less than 6 weeks duration)

<u>Principles of Management for all patients</u>

- Keep diagnostic under review at all time

AND

- Promote self-management: advise people with low back pain to exercise, to be physically active and to carry on with normal activities as far as possible **(see box B)**

AND

- Offer drug treatments as appropriate to manage pain and to help people keep active **(see box C)**

AND

- Offer structured exercise program taking patient preference into account.
  Consider offering another option if the chosen treatment does not result in satisfactory improvement.

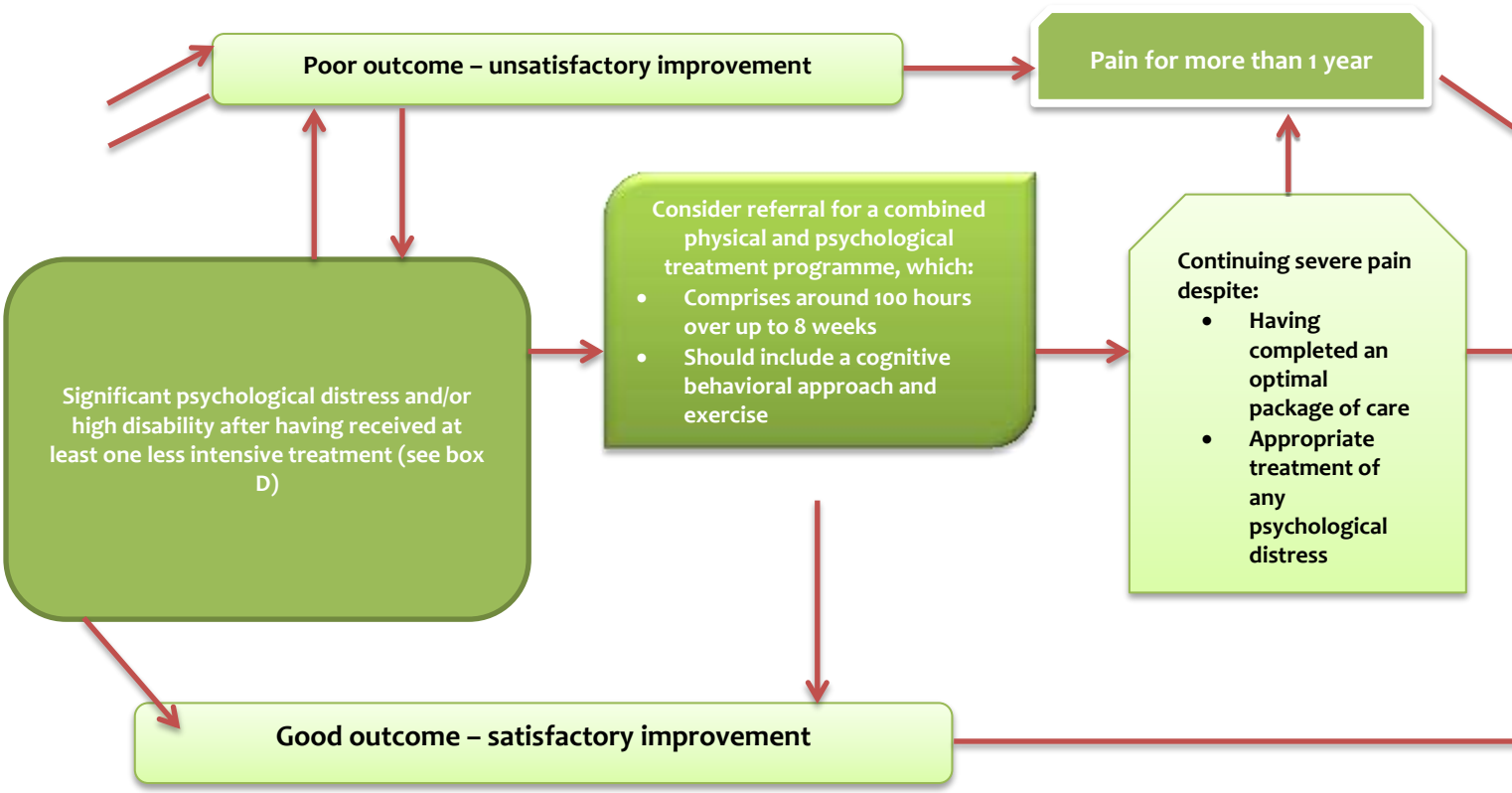
Box A Assessment and Imaging

- Do not offer X-ray of the lumbar spine
- Only offer MRI for non-specific low back pain in the context of a referral for an opinion on spinal fusion.
- Consider MRI if one of these diagnoses is suspected:
  - Spinal malignancy
  - Infection
  - Fracture
  - cauda equina syndrome
  - ankylosing spondylitis or another inflammatory disorder

Box B Advice and education

- Provide advice and information to promote self-management
- Offer education advice that:
  - Includes information on the nature of non-specific low back pain
  - Encourages normal activities as far as possible
- Advise people to stay physical active and to exercise
- Include an educational component consistent with this guide as part of other interventions (but don't offer stand-alone formal education programmes)
- When considering recommend treatments, take into account the person's expectations and preferences (but bear in mind that this won't necessarily predict a better outcome)

COX-2 cyclooxygenase 2; IDET: intradiscal electrothermal theraphy; MRI: magnetic resonance imaging; NSAIDs: non-steroidal anti-inflammatory drugs; PIRFT: percutaneous intradiscal radiofrequency thermocoagulation; PPI: proton pump inhibitor; SSRI: selective serotonin reuptake inhibitor; TENS: transcutaneous electrical nerve stimulation.



Box C Drug treatments

Paracetamol:

- Advise regular paracetamol as the first option

When regular paracetamol alone is insufficient (and taking account of individual risk of side effects and patient preference), offer NSAIDs and/or weak opioids

NSAIDs

- Give due consideration to risk Of side effects, especially in older people and those at increased risk of side effects
- Offer treatment with a standard Oral NSAID/COX-2 inhibitor
- Co-prescribe a PPI for people over 45 (choose the one with the lowest acquisition cost)

Weak opioids:

* Give due consideration to risk of opioids dependence and side effects
* Examples of weak opioids are codeine and dihydrocodeine

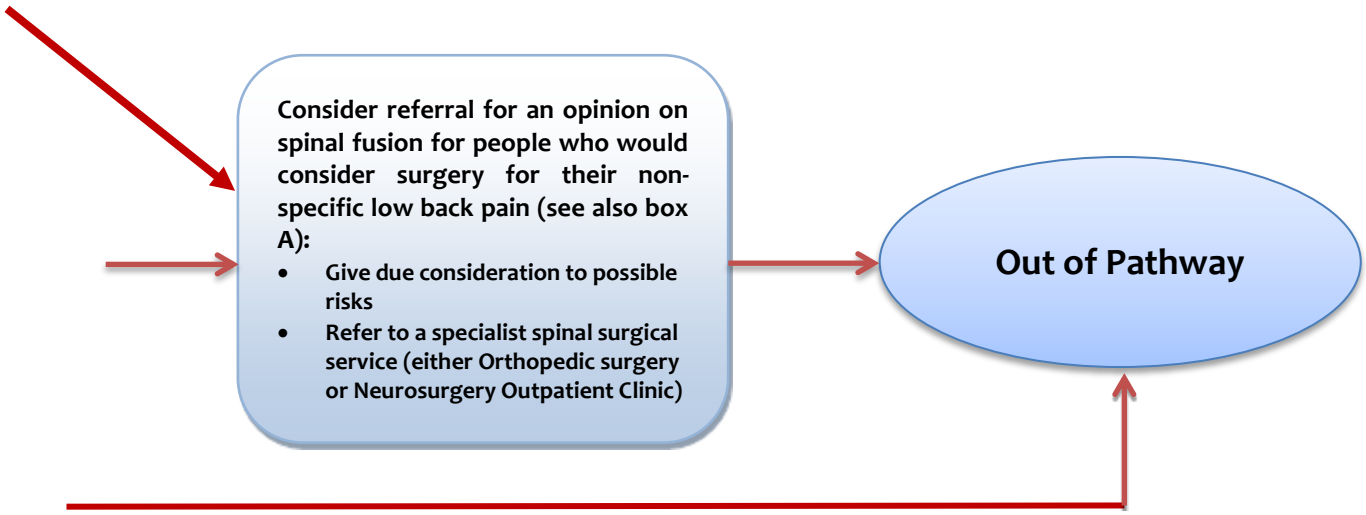
Tricyclic antidepressants:

- Consider offering if other medications are insufficient; start at a low dosage and increase up to the maximum antidepressant dosage until:
  - Therapeutic effects is achieved **or**
  - Unacceptable side effects prevent further increase

Strong opioids:

- Consider offering for short-term use to people in severe pain
- Consider referring people requiring prolonged use for specialist assessment
- Give due consideration to risk of opioids dependence and side effects
- Examples of strong opioids are buprenorphine, diamorphine, fentanyl, oxycodone and tramadol (high dose)

For all medications, base decisions on continuation on individual response



Box B Choice of treatments

Offer the following treatment option, taking patient preference into account. Consider offering:

- **Structured exercise programme:**
  - Up to 8 sessions over up to 12 weeks
  - Supervised group exercise programme in a group of up to 10 people, tailored to the person
  - One-to-one supervised exercise programme only if a group programme is not suitable
  - May include aerobic activity, movement instruction, muscle strengthening, postural control and stretching

If the chosen treatment doesn't result in satisfactory improvement, consider offering other options suggested by the spinal surgery specialist.

Do not offer

- SSRIs for treating pain
- Injections of therapeutic substances into the back
- Laser therapy
- Interferential therapy
- Therapeutic ultrasound
- TENS
- Lumbar supports
- Traction

Do not refer to

- Radiofrequency facet joint denervation
- IDET
- PIRFT

Appendix (2)

KKUH-Spine Clinic Assessment Sheet

Date: ***Hospital File Number:***

Name: ***Age:*** ***Gender:***

Reason for Referral:

History:

Onset: **Duration:** **Character:**

Location: **Progression:**

Aggravating factors: **Relieving factors:**

Bowel & Bladder: **Constitutional symptoms:**

Walking tolerance: **Sitting tolerance:** **Standing tolerance:**

Disability: does ADL? (Yes/No) **Performs Job? (Yes/No)** **Recreational activities? (Yes/No)**

Back pain dominant? (Yes/No) **Leg pain Dominant? (Yes/No)** **Myelopathy symptoms? (Yes/No)**

PMHx: **PSHx:** **Anesthetic complications? (Yes/No)**

Meds:

Allergies: **Bleeding disorder? (Yes/No)** **Social Hx:** **Smoker? (Yes/No)**

Physical Examination:

Height: **Weight:** **Gait:** **Tip-toe:** **Heel-raise:**

Tandem:

Deformity:

Compensation: **Shoulder balance:** **Pelvic obliquity:** **leg-length discrepancy:**

Palpation: **Tenderness? (Yes/No)** **Step? (Yes/No)** **Muscle spasm? (Yes/No)**

ROM: **Flex:** **Ext:** **Lat. Bend:** **Rotation:**

Shoulders: **Hips:** **Knees:** **Distal pulses:**

Neurologic exam: **Motor deficit:** **Sensory Deficit:** **DTR abnormality:**

SLRT: **FSS:** **Hoffman:** **Babinski:**

Non-organic signs: **Non-anatomic? (Yes/No)** **Over-reaction? (Yes/No)**

Others:

Imaging: **X-rays:** **CT:**

MRI: **EMG/NCS:**

Bone scan: **BMD:** **Labs:**

Impression:

Plan

Appendix (3)

جامعة الملك سعود
المستشفيات الجامعية
King Saud University
University Hospitals

Name: .....
Nationality: .....
Patient No. : .....
Sex : ..... D.O.B. : .....

ADULT THORACO-LUMBAR FUSION STANDING ORDERS: PRE-OP

1. All blanks (*i.e.*, where there is a line to write on) to be completed by ordering physician.
2. The physician must indicate which option he is ordering by placing (√) in the box. If the option is NOT being ordered, the box is LEFT BLANK.
3. The health care professional carrying out the order enters initials, date, and time in the appropriate columns when an order has been carried out; and completes the section at the end of the form that identifies to whom the initials belong.

ORDERS	**Initials (Carrying Out Orders)**
Admit to:_____Under the care of Dr._____	
Diagnosis _____	
Procedure/Surgery _____ Date to be performed _____	
Diet: NPO post-midnight on the night prior to surgery	
Activity: As tolerated, unless otherwise indicated	
Nursing Orders:	
If diabetic: Glucocheck qid	
If above age 40: ECG	
Intravenous Fluids: Normal Saline at 100-125 ml/hr once NPO	
Medications: Order the patient's existing medications on page 2	
Prophylactic antibiotics: As per SSI CPG	
Thrombo-prophylaxis: Apply knee high TEDs	
Laboratory:	
CBC, U&E, Electrolytes, Creatinine, PT, PTT, Urine analysis, Cross match 2 units PRBC	
Pregnancy test when applicable	
X-Rays / Imaging:	
If no pre-op X-rays present on KKUH PACS, PA & lateral of operated area needed	
If Scoliosis: scoliosis films, bending films & consider CT or MRI as needed	

If above age 40: CXR	
Patient Education:	
Reconfirm patient's rights and responsibilities with patient	
Discuss expected length of stay, postop course & expected date of discharge	

	Name	Signature	Pager / Computer No.	Date and Time
Ordering Physician				
Initiating Nurse				

KNOWN ALLERGIES OR SENSITIVITIES (INCLUDE FOOD, DRUG, LATEX)

STANDING ORDERS:

MEDICATION ORDERS	Initials (Carrying Out Orders)

	Name	Signature	Pager / Computer No.	Date and Time
Ordering Physician				
Initiating Nurse				

Initials	Name	Computer No	Initials	Name	Computer No

Based on the adapted Evidence-Based Clinical Practice Guidelines for Persistent Non-specific Low back Pain, First Edition 2013 (HWCPG-ORTHO-001)

KNOWN ALLERGIES OR SENSITIVITIES (INCLUDE FOOD, DRUG, LATEX)

Name: .....

Nationality: .....

Patient No. : .....

Sex : ..... D.O.B. : .....

ADULT THORACO-LUMBAR FUSION STANDING ORDERS: POST-OP DAY 0-1

ORDERS	Initials (Carrying Out Orders)
Diet: fluids to full diet as tolerated. If diabetic, then diabetic low calorie diet	
Activity:	
Head of bed up to 30° unless otherwise noted	
In bed knee and ankle exercises. May sit & ambulate with assistance	
Deep breathing exercises, incentive spirometry	
Laboratory:	
CBC, U&E, Electrolytes, Creatinine, PT, PTT	
Nursing Orders:	
If diabetic, glucocheck qid or as per medicine/endocrine	
IV fluids: Normal Saline at 100-125 ml/hr	
Prophylactic Antibiotics:	
As per SSI CPG	
Pain management: If under management of pain service: none required	
Paracetamol 1gm IV q6h	
Morphine 0.1 mg/kg IV or subQ q4h PRN	
Thrombo-prophylaxis:	
Continue TEDS, apply Pneumatic compression stockings	
If high risk for DVT/PE: Start Exoxaprin 6 hours post-op	
Other Medications: Order the patient's existing medications on page 2	
Wound Care:	
Re-enforce dressing as needed	
Remove pressure dressing at morning after surgery	
Surgical Drain Care:	
Empty and document output, if less than 30 ml in 12 hours then discontinue	
Foley Catheter & Urine output:	

Keep Foley in-situ. If output is less than 0.5 ml/kg/hr then notify MD				
	Name	**Signature**	**Pager / Computer No.**	**Date and Time**
Ordering Physician				
Initiating Nurse				

KNOWN ALLERGIES OR SENSITIVITIES (INCLUDE FOOD, DRUG, LATEX)

Name: .....

Nationality: .....

Patient No. : .....

Sex : ..... D.O.B. : .....

ADULT THORACO-LUMBAR FUSION STANDING ORDERS: POST-OP DAY 2-4

ORDERS	Initials (Carrying Out Orders)
Activity:	
Start ambulation with help of physical therapist	
Avoid bending and twisting. Maximum sitting limit is 15-20 minutes	
Continue knee and ankle exercises while in bed	
Laboratory:	
CBC, U&E, Electrolytes, Creatinine, PT, PTT daily	
Nursing Orders:	
If diabetic, glucocheck qid or as per medicine/endocrine	
IV fluids: discontinue once taking orally	
Prophylactic Antibiotics:	
As per SSI CPG	
Pain management:	
Tramadol 50-100 mg po bid	
Paracetamol 1gm po q4h ORN	
Thrombo-prophylaxis:	
Discontinue TEDS & pneumatic compression stockings	
Once ambulatory, may discontinue Enoxaprin	
Wound Care:	
May change dressing using sterile technique if dressing is wet. If dry, do not change	
Foley Catheter:	
Discontinue Foley catheter.	
Discharge plan:	
Once patient is ambulatory and has no active medical issue, he/she may be discharged	
Follow up in the spine (ortho) clinic in 6 weeks , X-ray request is given to patient for XOA	

	Name	Signature	Pager / Computer No.	Date and Time

Ordering Physician				
Initiating Nurse				

KNOWN ALLERGIES OR SENSITIVITIES (INCLUDE FOOD, DRUG, LATEX)

STANDING ORDERS:

MEDICATION ORDERS				**Initials (Carrying Out Orders)**
Pantoprazol 40 mg IV for 3 days				
	Name	**Signature**	**Pager / Computer No.**	**Date and Time**
Ordering Physician				
Initiating Nurse				

Initials	**Name**	**Computer No**	**Initials**	**Name**	**Computer No**

Based on the adapted Evidence-Based Clinical Practice Guidelines for Persistent Non-specific Low back Pain, First Edition 2013 (HWCPG-ORTHO-001)

Appendix (4)

The panel decided to adopt and utilize the Clinical Audit support tool designed by NICE to implement NICE guidance CG88

LOW BACK PAIN – CLINICAL AUDIT SUPPORT

Using audit support

The audit support document can be used to measure current practice in the early management of persistent non-specific low back pain against the recommendations in the NICE guideline. Use it for a local audit project, by either using the whole tool or cutting and pasting the relevant parts into a local audit template.

Audit criteria and standards are based on the guideline's key priorities for implementation. The standards given are typically 100% or 0%. If these are not achievable in the short term, set a more realistic standard based on discussions with local clinicians. However, the standards given remain the ultimate objective.

The data collection tool can be used or adapted for the data collection part of the clinical audit cycle by the trust, service or practice. The tool is based on the key priorities for implementation relating to clinical activity. Data may be required from a range of sources, including policy documents and patient records. Suggestions for these are indicated on the tools, although this is not an exhaustive list and they may differ in your organisation.

The sample for this audit should include people with non-specific low back pain that has lasted for more than 6 weeks, but for less than 12 months. Select an appropriate sample in line with your local clinical audit strategy.

Whether or not the audit results meet the standard, re-auditing is a key part of the audit cycle. If your first data collection shows room for improvement, re-run it once changes to the service have had time to make an impact. Continue with this process until the results of the audit meet the standards.

Clinical Criteria for Low Back Pain

Criterion 1	**People should be provided with advice and information to promote self-management of their persistent non-specific low back pain.**
Exceptions	None
Standard	100%
Definitions	None
Criterion 2	**People with persistent non-specific low back pain should be offered an exercise programme**
Exceptions	None
Standard	100%
Definitions	None
Criterion 3	**A structured exercise programme should:** • **comprise up to eight sessions over up to 12 weeks** • **be offered as a supervised group exercise programme in a group of up to 10 people or** • **be offered as a one-to-one supervised exercise programme if a group**

	programme is not suitable.
Exceptions	None
Standard	100%
Definitions	Exercise programmes may include the following elements: • aerobic activity • movement instruction • muscle strengthening • postural control • stretching.
Criterion 6	**People with persistent non-specific low back pain should not be offered injections of therapeutic substances into the back.**
Exceptions	None
Standard	0%
Definitions	None
Criterion 7	**People with persistent non-specific low back pain should not be offered X-ray of the lumbar spine.**
Exceptions	None
Standard	0%
Definitions	None
Criterion 8	**People with persistent non-specific low back pain should not be offered an MRI scan.**
Exceptions	People being referred for an opinion on spinal fusion.
Standard	0%
Definitions	Consider MRI (magnetic resonance imaging) when a diagnosis of spinal malignancy, infection, fracture, cauda equina syndrome or ankylosing spondylitis or another inflammatory disorder is suspected.

Criterion 9	Patients should be offered written information about: • their illness or condition (such as the Understanding NICE guidance and Back Care leaflet that accompanies the guideline) • the treatment and care they should be offered, including being made aware of the 'Understanding NICE guidance' booklet (www.nice.org.uk/CG88) • the service providing their treatment and care.
Exceptions	None

Standard	100%
Definitions	Patients should be offered written information to help them make informed decisions about their healthcare. This should cover the condition, treatments and the health service providing care. Information should be available in formats appropriate to the individual, taking into account language, age, and physical, sensory or learning disabilities.
Number of criterion replaced:	**Local alternatives to above criteria (to be used where other data addressing the same issue are more readily available).**
Exceptions	
Settings	
Standard	
Definitions	

Patient data collection tool for 'low back pain' is completed one form for each patient or episode are made available from the official website of the NICE source CPG

Appendix (5)

ICD – 10 Codes

Chronic Low back Pain:-

- M54 dorsalgia
  - M54.1 radiculopathy
  - M54.3 sciatica
  - M54.4 lumbago with sciatica
  - M54.5 low back pain
  - M54.8 other dorsalgia
  - M54.9 dorsalgia, unspecified
- M48 other spondylopathies
  - M48.3 traumatic spondylopathy
  - M48.4 fatigue fracture of vertebra
  - M48.5 collapsed vertebra, not elsewhere classified
  - M48.8 other specified spondylopathies
  - M48.9 spondylopathy, unspecified
- M53 other dorsopathies, not elsewhere classified
  - M53.2 spinal instabilities
  - M53.3 sacrococcygeal disorders, not elsewhere classified
  - M53.8 other specified dorsopathies
  - M53.9 dorsopathy, unspecified
- optional subclassification to indicate site of involvement for M48, M53, M54
  - 0 multiple sites in spine
  - 5 thoracolumbar region
  - 6 lumbar region
  - 7 lumbosacral region
  - 8 sacral and sacrococcygeal region
  - 9 site unspecified
- M51 other intervertebral disc disorders
  - M51.0 lumbar and other intervertebral disc disorders with myelopathy
  - M51.1 lumbar and other intervertebral disc disorders with radiculopathy
  - M51.2 other specified intervertebral disc displacement
  - M51.3 other specified intervertebral disc degeneration
  - M51.4 Schmorl's nodes
  - M51.8 other specified intervertebral disc disorders
  - M51.9 intervertebral disc disorder, unspecified
- M60.9 myositis, unspecified
- M79.1 myalgia
- optional subclassification for site of involvement for M60, M79
  - 0 multiple sites
  - 5 pelvic region and thigh
  - 8 other
  - 9 site unspecified
- S33 dislocation, sprain and strain of joints and ligaments of lumbar spine and pelvis
  - S33.0 traumatic rupture of lumbar intervertebral disc
  - S33.1 dislocation of lumbar vertebra

S33.2 dislocation of sacroiliac and sacrococcygeal joint
S33.3 dislocation of other and unspecified parts of lumbar spine and pelvis
S33.5 sprain and strain of lumbar spine
S33.6 sprain and strain of sacroiliac joint
S33.7 sprain and strain of other and unspecified parts of lumbar spine and pelvis

- S39 other and unspecified injuries of abdomen, lower back and pelvis
  S39.0 injury of muscle and tendon of abdomen, lower back and pelvis
  S39.7 other multiple injuries of abdomen, lower back and pelvis
  S39.8 other specified injuries of abdomen, lower back and pelvis
  S39.9 unspecified injury of abdomen, lower back and pelvis
- G55.1 nerve root and plexus compressions in intervertebral disc disorders
- G55.3 nerve root and plexus compressions in other dorsopathies
- M96.1 postlaminectomy syndrome, not elsewhere classified
- F45.4 persistent somatoform pain disorder

Acute Low back Pain:-

- M54 dorsalgia
  M54.1 radiculopathy
  M54.3 sciatica
  M54.4 lumbago with sciatica
  M54.5 low back pain
  M54.6 pain in thoracic spine
  M54.8 other dorsalgia
  M54.9 dorsalgia, unspecified
- M48 other spondylopathies
  M48.3 traumatic spondylopathy
  M48.4 fatigue fracture of vertebra
  M48.5 collapsed vertebra, not elsewhere classified
  M48.8 other specified spondylopathies
  M48.9 spondylopathy, unspecified
- M53 other dorsopathies, not elsewhere classified
  M53.2 spinal instabilities
  M53.3 sacrococcygeal disorders, not elsewhere classified
  M53.8 other specified dorsopathies
  M53.9 dorsopathy, unspecified
- optional subclassification to indicate site of involvement for M48, M53, M54
  0 multiple sites in spine
  5 thoracolumbar region
  6 lumbar region
  7 lumbosacral region
  8 sacral and sacrococcygeal region
  9 site unspecified
- M51 other intervertebral disc disorders
  M51.0 lumbar and other intervertebral disc disorders with myelopathy
  M51.1 lumbar and other intervertebral disc disorders with radiculopathy
  M51.2 other specified intervertebral disc displacement
  M51.3 other specified intervertebral disc degeneration

M51.4 Schmorl's nodes
M51.8 other specified intervertebral disc disorders
M51.9 intervertebral disc disorder, unspecified

- M60.9 myositis, unspecified
- M79.1 myalgia
- optional subclassification for site of involvement for M60, M79
  0 multiple sites
  5 pelvic region and thigh
  8 other
  9 site unspecified
- M96.1 postlaminectomy syndrome, not elsewhere classified
- M96.3 postlaminectomy kyphosis
- S33 dislocation, sprain and strain of joints and ligaments of lumbar spine and pelvis
  S33.0 traumatic rupture of lumbar intervertebral disc
  S33.1 dislocation of lumbar vertebra
  S33.2 dislocation of sacroiliac and sacrococcygeal joint
  S33.3 dislocation of other and unspecified parts of lumbar spine and pelvis
  S33.5 sprain and strain of lumbar spine
  S33.6 sprain and strain of sacroiliac joint
  S33.7 sprain and strain of other and unspecified parts of lumbar spine and pelvis
- S39 other and unspecified injuries of abdomen, lower back and pelvis
  S39.0 injury of muscle and tendon of abdomen, lower back and pelvis
  S39.7 other multiple injuries of abdomen, lower back and pelvis
  S39.8 other specified injuries of abdomen, lower back and pelvis
  S39.9 unspecified injury of abdomen, lower back and pelvis
- G55.1 nerve root and plexus compressions in intervertebral disc disorders
- G55.3 nerve root and plexus compressions in other dorsopathies
- F45.4 persistent somatoform pain disorder

References of All Material Used in Creating the CPG

- **Low back pain: Early management of persistent non-specific low back pain; NICE (National Institute for Health and Care Excellence, UK) clinical guidelines (CG 88). Issued May 2009**
  http://publications.nice.org.uk/low-back-pain-cg88/guidance
  (last accessed 10/11/2013)

- There is a care pathway for the management of persistent non-specific low back pain on pages 4–6 of the quick reference guide.
  http://publications.nice.org.uk/low-back-pain-cg88/appendix-c-the-algorithm
  (last accessed 10/11/2013)