

## SUMMARY

# LOW BACK PAIN AND RADICULAR PAIN: ASSESSMENT AND MANAGEMENT





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## ■ FOREWORD

When the undersigned were young, lumbago and sciatica were treated with... two or three suitcases! You had to stay flat on your back with the suitcases placed underneath your calves so that your hips and knees were at a 90° angle. In the meantime, treatment views have become diametrically opposed, and the most important message stemming from our 2006 practice guideline remains fully valid: get up, put your suitcases back in the closet and walk!

But what else have we learned since 2006? Honestly speaking, the wealth of studies on the topic is downright disappointing. And here we're not talking so much about the quantity but rather the quality. It's mind-boggling but also very concerning to ascertain that there are no resources for conducting research to finally discover what works and what does not for an ailment that causes so many people misery and that has such a major social impact.

Fortunately, when we were formulating the guideline we were able to call on a very dynamic, multidisciplinary group of experts who combined their *know how* to help us separate the wheat from the chaff. We extend our sincere gratitude to them for their valuable contribution.

This guideline is only the first part of a diptych. It will be followed by a proposal for a care pathway for these patients, whose publication is slated for the fall. And perhaps, after our suitcases have been unpacked from our summer vacation, we can also take steps to embark on proper clinical research within the framework of our own KCE Trials programme...?

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## LIST OF ABBREVIATIONS

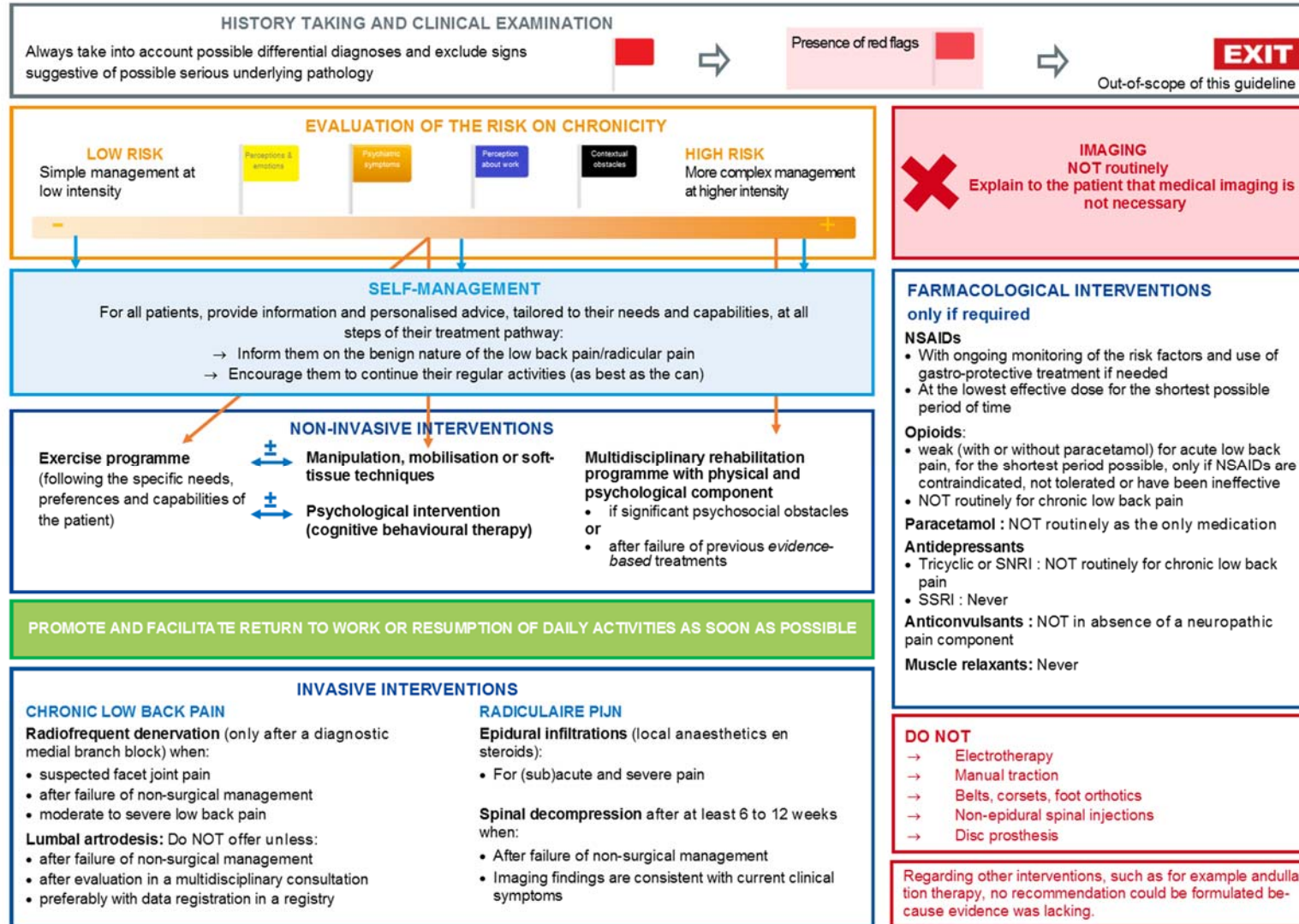
<b>ABBREVIATION</b>	<b>DEFINITION</b>
<b>AXXON</b>	Representative association of Belgian physiotherapists
<b>AZ</b>	Algemeen Ziekenhuis (general hospital)
<b>BCFI - CBIP</b>	Belgisch Centrum voor Farmacotherapeutische - Informatie Centre Belge d'Information Pharmacothérapeutique
<b>BBS</b>	Belgian Back Society
<b>BBVAG - APBMT</b>	Belgische Beroepsvereniging voor Arbeidsgeneesheren - Association Professionnelle Belge des Médecins du Travail
<b>BPS</b>	Belgian Pain Society
<b>BSN</b>	Belgian Society of Neurosurgery
<b>BSS</b>	Belgian Spine Society
<b>BVAS - ABSYM</b>	Belgische Vereniging van Artsensyndicaten - Association Belge des Syndicats Médicaux
<b>BVC - UBC</b>	Belgische Vereniging van Chiropractors – Union Belge des Chiropractors
<b>CEBAM</b>	Belgian Centre for Evidence-Based Medicine Cochrane Belgium
<b>CHC</b>	Centre Hospitalier Chrétien
<b>CHU - UVC</b>	Centre Hospitalier Universitaire - Universitair Verplegingscentrum
<b>Fedris</b>	Federaal Agentschap voor beroepsrisico's – Agence Fédérales des risques professionnels
<b>FNO</b>	Fonds Nuts Ohra
<b>FOD – SPF</b>	Federale Overheidsdienst – Service Publique Fédéral
<b>GDG</b>	Guideline Development group
<b>GRID</b>	Groupe Régional Interdisciplinaire Douleur
<b>IDEWE</b>	Belgische Externe Dienst voor Preventie en Bescherming op het Werk
<b>KU</b>	Katholieke Universiteit
<b>MRI</b>	Magnetic Resonance Imaging



<b>NICE</b>	National Institute for Health and Care Excellence
<b>NIHDI – RIZIV – INAMI</b>	National Institute for Health and Disability Insurance - Rijksinstituut voor Ziekte- en Invaliditeitsverzekering – Institut National d'Assurance Maladie-Invalidité
<b>NRS</b>	Numerical Rating Scale
<b>NSAID</b>	Nonsteroidal anti-inflammatory drugs
<b>OKE</b>	Het Ondersteunings-en Kenniscentrum Ergotherapie
<b>RBSPRM</b>	Royal Belgian Society of Physical and Rehabilitation Medicine
<b>RCT</b>	Randomized controlled trial
<b>RZ</b>	Regionaal Ziekenhuis (regional hospital)
<b>SSBe</b>	Spine Society of Belgium
<b>SSMG</b>	Société Scientifique de Médecine Générale
<b>SSST</b>	Société Scientifique de Santé au Travail
<b>UKO</b>	Unie voor gediplomeerden in de Kinesithérapie en Osteopathie
<b>VAVP</b>	Vlaamse Anesthesiologische Vereniging voor Pijnbestrijding
<b>VBS – GBS</b>	Verbond der Belgische beroepsverenigingen van artsen-specialisten – Groupement des unions professionnelles Belges de médecins spécialistes
<b>VE</b>	Vlaams Ergotherapeutenverbond vzw
<b>VWVA</b>	Vlaamse Wetenschappelijke Vereniging Arbeidsgeneeskunde
<b>WIP</b>	World Institute of Pain
<b>WVVK</b>	Wetenschappelijke vereniging van Vlaamse kinesitherapeuten
<b>ZNA</b>	Ziekenhuis Netwerk Antwerpen
<b>ZOL</b>	Ziekenhuis Oost-Limburg



# ALGORITHM







# ■ SUMMARY

## TABLE OF CONTENTS

- FOREWORD ..... 1
- ALGORITHM ..... 4
- SUMMARY ..... 5
- 1. INTRODUCTION ..... 7
  - 1.1. METHODS..... 7
- 2. ASSESSMENT OF LOW BACK PAIN AND RADICULAR PAIN ..... 8
  - 2.1. HISTORY TAKING AND CLINICAL EXAMINATION ..... 8
  - 2.2. RISK STRATIFICATION..... 12
  - 2.3. IMAGING ..... 14
- 3. NON-INVASIVE MANAGEMENT ..... 15
  - 3.1. SELF-MANAGEMENT..... 15
  - 3.2. SUPERVISED EXERCISE PROGRAMME ..... 16
  - 3.3. MANUAL TECHNIQUES ..... 16
  - 3.4. PSYCHOLOGICAL INTERVENTIONS ..... 17
  - 3.5. MULTIDISCIPLINARY REHABILITATION PROGRAMME ..... 17
  - 3.6. RETURN TO WORK ..... 18
- 4. PHARMACOLOGICAL INTERVENTIONS ..... 19
  - 4.1. NSAIDS, OPIOIDS OR PARACETAMOL ..... 19
  - 4.2. ANTIDEPRESSANTS AND ANTICONVULSANTS ..... 21
- 5. INVASIVE INTERVENTIONS..... 22
  - 5.1. EPIDURAL INFILTRATIONS FOR (SUB)ACUTE RADICULAR PAIN ..... 22
  - 5.2. RADIOFREQUENCY DENERVATION: FOR SUSPECTED CHRONIC FACET JOINT PAIN ..... 23



5.3.	SURGICAL SPINAL DECOMPRESSION FOR PERSISTENT RADICULAR PAIN .....	24
5.4.	ARTHRODESIS: ONLY FOR VERY SPECIFIC CASES OF LOW BACK PAIN.....	24
6.	<b>INTERVENTIONS NOT RECOMMENDED.....</b>	<b>25</b>
7.	<b>INTERVENTIONS WITHOUT A CLEAR RECOMMENDATION .....</b>	<b>27</b>
8.	<b>RESEARCH PROPOSITIONS .....</b>	<b>28</b>
9.	<b>TOPICS NOT STUDIED .....</b>	<b>29</b>
10.	<b>IMPLEMENTATION .....</b>	<b>29</b>
11.	<b>GLOSSARY.....</b>	<b>30</b>
12.	<b>QUESTIONNAIRES .....</b>	<b>31</b>



## 1. INTRODUCTION

This guideline covers the comprehensive management of low back pain and radicular pain, from the first assessment to the return to work, including all non-invasive and invasive treatments. The guideline is limited to **low back pain<sup>a</sup> and radicular pain not attributable to an underlying, specific serious pathology** (infection, tumour, osteoporosis, fracture, structural deformity, inflammatory disorder, cauda equina syndrome or serious neurological disorder).

The term '**low back pain**' does not require a specific definition, but there is some controversy about the term '**radicular pain**'. In the current guideline, we define radicular pain as pain in the lower extremities with a dermatomal distribution. In some patients radicular pain can be dominant over the low back pain and in some patients the pain is isolated. Not all radicular pain has a neuropathic pain component, i.e. pain caused by a lesion or a disease affecting the (somatosensory) nervous system. Radicular pain can be associated with neurological symptoms and signs (numbness and/or tingling in a dermatome pattern, reflex disturbances or motor weakness in an associated myotome).

The guideline is multidisciplinary: it is aimed at all health care providers involved in low back pain management, such as physiotherapists, general practitioners, specialists in physical medicine and rehabilitation, anaesthesiologists-algologists (pain specialists), orthopaedic surgeons, neurosurgeons, psychologists and other clinicians involved in this topic.

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<sup>a</sup> The term non-specific was not used because it appeared to have inconsistent meanings in the literature.

### 1.1. Methods

Our recommendations are largely based on the NICE guideline "*Low back pain and sciatica in over 16s: assessment and management*" published on 30 November 2016.

We have followed the ADAPTE approach in order to take into account the Belgian context when formulating each clinical recommendation ([www.adapte.org](http://www.adapte.org)). This has required the active involvement of a multidisciplinary group of health care providers, hereinafter called the '*Guideline Development Group*' (GDG).

The differences between the NICE and the Belgian versions are clearly illustrated in the scientific report.

The GDG assigned a **strength level** to each **recommendation**. This strength level expresses the GDG's confidence that the desirable effects of an intervention outweigh its undesirable effects. This strength was discussed by the GDG and was defined based on four elements: quality of the available evidence, balance between the intervention's desirable effects and undesirable effects, values and preferences of clinicians and patients and cost estimate (allocation of resources).

The strength of the recommendations is indicated in the following terms:

- 'Offer': for strong recommendation for the intervention
- 'Consider': for weak recommendation for the intervention
- 'Do not offer': for strong recommendation against the intervention
- 'Do not routinely offer': for recommendation against the intervention



If there are no scientific data (e.g. not a single study provides an answer to the research question) about a topic that the GDG considers to be essential, an expert opinion can be formulated if a consensus is reached within the GDG. This expert opinion is expressed with verbs other than 'offer' or 'consider'.

More information on the methodology is available in chapter 2 of the scientific report.

## 2. ASSESSMENT OF LOW BACK PAIN AND RADICULAR PAIN

### 2.1. History taking and clinical examination

A comprehensive history taking and clinical examination are the first important steps in treating patients with back pain and/or radicular pain. This enables a differential diagnosis and to identify symptoms or signs suggestive of possible serious or even rare underlying pathology.

No specific clinical examination can be recommended. NICE search question only concerned the effectiveness of clinical examination for **radicular pain**, and it was unable to find any studies meeting the search criteria. The Belgian GDG would like to add that there is no single test that combines adequate sensitivity and specificity for determining the cause of the radicular pain, such as a herniated disc. The most important objective of a history taking and clinical examination is to exclude serious underlying diseases in the presence of low back pain and radicular pain. The objective is to detect signals and symptoms that are typically called 'red flags'. A single red flag also does not have adequate sensitivity and specificity, but a combination (in a *cluster*) of red flags can indicate a specific disease, to the extent that this coincides with the health care provider's clinical opinion. However, the absence or presence of a specific cause should always be regarded as a hypothesis and not as a definitive diagnosis, and red flags should be detected again during each consultation. Text box 1 contains a list of red flags compiled by the GDG. Treatment of patients with red flags falls outside the scope of this guideline.



Recommendation	Strength of the recommendation	Level of evidentiary value
<ul style="list-style-type: none"><li>Always take into account differential diagnoses when examining or reviewing the patients with low back pain or radicular pain, particularly if they develop new or changed symptoms. Exclude signs suggestive of possible serious underlying pathology (identified as red flags), for example, cancer, infection, trauma, inflammatory disease such as spondyloarthritis, or severe neurological problems such as cauda equina syndrome.</li></ul>	Expert opinion	Not applicable



**Text box 1 – List of red flags, grouped by cluster (based on expert opinion)**

Urgent (immediate)		
Red flag		Action
<b>Neurological emergencies</b>		
<ul style="list-style-type: none"> <li>Widespread (e.g. in the arms, cranial nerves or bilateral) neurological symptoms (pyramidal signs, coordination problems, motor or sensory disturbances...)</li> <li>Progressive neurological symptoms</li> <li>Saddle anaesthesia /hypoesthesia, urinary retention, faecal or urinary incontinence, isolated sexual dysfunction (cauda equina syndrome)</li> <li>Severe motor deficit (MRC score <math>\leq 3/5</math>) &lt;48 h</li> </ul>		Emergency department
<b>Traumatic fracture</b>		
<ul style="list-style-type: none"> <li>Severe low back pain following significant/high-energy trauma</li> <li>Back pain following any trauma with ankylosing spondylitis</li> </ul>	 	Emergency department
<b>Vascular problems</b>		
<ul style="list-style-type: none"> <li>Vascular signs (cold foot, reduced peripheral arterial pulsation) that could indicate a torn aneurysm of the aorta if paired with low back pain or even with shock.</li> </ul>		Echography & vascular surgery consult

Semi-urgent (within 48h)		
Red flag		Action
<b>Pathological fracture</b>		
Low back pain following minor trauma or even without awareness of trauma with: <ul style="list-style-type: none"> <li>History/risk of osteoporosis</li> <li>Chronic corticoid use</li> <li>Thoracic pain</li> <li>Older age</li> <li>Unexplained weight loss, fatigue</li> <li>History of cancer</li> </ul>		1/ X-ray (or CT) 2/ Spine surgery consult
<b>Infection</b>		
<ul style="list-style-type: none"> <li>Objective signs (e.g. nocturnal sweating, fever, chills)</li> <li>Intravenous drug use</li> <li>Immunocompromised patient</li> <li>Unexplained weight loss</li> <li>Known previous or concurrent systemic infection or risk of infection</li> <li>Recent surgical intervention</li> <li>Urinary or cutaneous infection</li> </ul>		1/ MRI & Lab (e.g. leukocyte count, CRP, sedimentation) 2/ Spine surgery consult and/or Internist/infection specialist consult



Less urgent	
Red flag	Action
<p><b>Tumour</b></p> <ul style="list-style-type: none"> <li>• New onset back pain at age &lt;18 and &gt;55</li> <li>• History of cancer</li> <li>• Unexplained weight loss, fatigue</li> <li>• Severe nocturnal pain</li> </ul>	<p>1/ MRI 2/ oncology/radiotherapy consult &amp; spine surgery consult</p>
<p><b>Inflammatory disease</b></p> <ul style="list-style-type: none"> <li>• Constant progressive non-mechanical pain</li> <li>• Improvement in back pain with exercise but not with rest</li> <li>• Severe nocturnal pain</li> <li>• Morning stiffness &gt; 30 min or nocturnal awakening in younger patients</li> </ul>	<p>Rheumatology consult</p>
<p><b>Miscellaneous</b></p> <ul style="list-style-type: none"> <li>• Increasing postoperative pain</li> <li>• Excruciating and therapy-resistant low back pain (&gt;6 weeks)</li> <li>• Unilateral pyramidal signs</li> </ul>	<p>1/ MRI 2/ Spine specialist consult (specialist in physical medicine and rehabilitation, orthopaedic surgeon, neurosurgeon or anaesthesiologist/algologist)</p>

The specificity of the red flags are limited, especially when using a single flag; clinicians should focus on clusters of red flags indicating a specific serious pathology



## 2.2. Risk stratification

Most cases of low back pain and radicular pain spontaneously evolve favourably. However, a minority of patients may experience a permanent loss of functionality. Identifying 'at-risk' patients and offering a specific treatment so that their pain does not become chronic should be an integral part of low back pain management.

The risk evaluation (or stratification) phase is therefore of crucial importance. The elements that indicate an increased chance of chronic and debilitating pain are searched for during this phase. These can be of a psychological, psychiatric and contextual nature or be work-related. They are called yellow, orange, black and blue flags (see text box 2).

The moment of the risk evaluation must be properly selected. After all, the goal is to identify the patients before they have ended up in a cycle of chronic pain. On the other hand, we shouldn't be too quick to label patients at 'at-risk' patients, because then we run the risk of 'overtreating' those in whom the problem might spontaneously resolve. This is why performing a risk stratification less than 48 hours after the initial onset of pain is not recommended. According to the Belgian GDG, it's best for this to take place during the second consult (after about 2 weeks).

### Text box 2 – List of yellow, blue, black and orange flags

#### **Yellow flags**

##### **Beliefs, appraisals, and judgements**

- Unhelpful beliefs about the pain: indication of injury as uncontrollable or likely to worsen
- Expectations of poor treatment outcome, delayed return to work

##### **Emotional responses**

- Distress not meeting criteria for diagnosis of a mental disorder
- Worry, fears, anxiety

##### **Pain behaviour (including pain coping strategies)**

- Avoidance of activities due to expectations of pain and possible re-injury
- Over-reliance on passive treatments (hot packs, cold packs, analgesics)

#### **Orange flags**

##### **Psychiatric symptoms**

- Clinical depression
- Personality disorder

#### **Black flags**

##### **System or contextual obstacles**

- Legislation restricting options for return to work
- Conflict with the insurance staff over injury claim
- Overly solicitous family and health care providers
- Heavy work, with little opportunity to modify duties

#### **Blue flags**

##### **Perceptions about the relationship between work and health**

- Belief that work is too onerous and likely to cause further injury
- Belief that workplace supervisor and workmates are unsupportive

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Source: Michael K. Nicholas et al., in "Psychological Risk Factors ("Yellow Flags") in patients with low back pain: A Reappraisal". *PHYS THER.* 2011; 91:737-753.





The *STarT Back* and the *Örebro Musculoskeletal Pain Screening Questionnaire short version (ÖMPSQ)* are two examples of tools that can predict a chronic loss of functionality. They contain about 10 questions each and are easy to use in practice. They have both their advantages and disadvantages and can be used for different purposes.<sup>b</sup>

Both tools have been validated for populations with only patients with low back pain or for mixed populations with patients with low back pain and/or radicular pain. However, neither was validated specifically for radicular pain. They have been translated into Dutch and French (but only the translation of the *STarT Back* tool has been validated today). NICE differentiates between two risk categories, each of which requires a different approach. The scores used in the tools are not strictly congruent with these two categories.

The NICE's 'high' risk categories hence contain the 'moderate' and 'high' risk profiles of the *STarT Back*. Which category a patient will be allocated to also depends on the health care provider's analysis.

Independent of the number of risk categories defined by the stratification tools, the most important message to remember is that **patients with a low risk only require simple management while patients with a higher risk need a more complex and multimodal approach.**

Also important is that a risk stratification tool can support the clinical decision but can never replace it. What's more, patients must be re-evaluated several times during their treatment.

Recommendation	Strength of the recommendation	Level of evidentiary value
<ul style="list-style-type: none"> <li>Consider using risk stratification (e.g. with the <i>STarT Back</i> risk assessment tool or the short version of the <i>Örebro Musculoskeletal Pain Screening Questionnaire</i>) for each new episode of low back pain with or without radicular pain. This risk stratification should not be performed during the first 48 hours after the pain onset*. The aim of the risk stratification is to inform shared decision-making about stratified management.</li> </ul>	Weak	Low to very low
<ul style="list-style-type: none"> <li>Based on the risk stratification, consider:               <ul style="list-style-type: none"> <li>Simpler and less intensive support for patients with low back pain with or without radicular pain likely to improve quickly and have a good outcome, for example reassurance, advice to keep active and guidance on self-management.</li> <li>More complex and intensive support for patients with low back pain with or without radicular pain at higher risk of a poor outcome, for example exercise programmes with or without manual techniques and a psychological intervention such as cognitive-behavioural approach.</li> </ul> </li> </ul>	Weak	Low to very low

*\*It is advised to perform the risk stratification during the second consultation, approximately 2 weeks after onset.*

<sup>b</sup> The *ÖMPSQ* (in its long version, in any case) appears to be a better predicting tool than the *STarT Back* tool, but the latter can be adjusted to the risk and the type of risk factor during treatment (more physical at the average level and more psychological in the higher category).



### 2.3. Imaging

The diagnosis is always uncertain for low back pain and radicular pain. In addition, a physician will often use imaging (RX, MRI or CT scan) to reassure himself or his patient.

In the absence of red flags<sup>c</sup>, the proof of the medical benefit and the cost-effectiveness of the imaging are rather limited and conflicting. In general, the studies show that imaging cannot confirm or refute a provisional diagnosis. Moreover, many of the imaging exams often detect joint degeneration or disc herniation. Then there is a tendency to attribute the cause of the pain to these conditions, although this type of degeneration is also often seen in people who exhibit no symptoms. In this case, imaging can even have an iatrogenic effect and confirm patients' beliefs that their symptoms are caused by serious injuries to the spinal column.

Furthermore, the risk to patients and the costs to society of multiple radiations should not be underestimated. This is why imaging should only be performed where it is likely to add value to future management of the condition (for example, if epidural infiltration or spinal surgery are being considered), and not in the case of diagnostic uncertainty.

In Belgium there is no reason to make a distinction between first-line and the second-line use of imaging because patients have direct access to specialists.

Recommendation	Strength of the recommendation	Level of evidentiary value
<ul style="list-style-type: none"><li>In the absence of red flags, do not routinely offer imaging for people with low back pain with or without radicular pain. Only prescribe imaging if its expected result may lead to change management, e.g. when an invasive intervention is being considered.</li></ul>	Weak	Low to very low
<ul style="list-style-type: none"><li>Explain to people with low back pain with or without radicular pain that they may not need imaging, even if they are being referred for a specialist opinion.</li></ul>	Expert opinion	Not applicable

<sup>c</sup> Performing medical imaging in the presence of signs or symptoms that indicate a serious underlying disorder (red flags) is not a part of the scope of this guideline and is therefore not discussed in this chapter.



### 3. NON-INVASIVE MANAGEMENT

With low back pain and radicular pain there is a chance of spontaneous recovery within days to weeks. The first (and continuing) step is to reassure the patient about the positive natural course of the pain, encourage self-management and advise him to stay active. In an additional step, the patient can also be advised to follow a supervised exercise programme.

If an increased risk for chronicity is detected during the risk assessment (see chapter 2.2. Risk stratification), a more complex intervention could be needed, including manual techniques and/or psychological support. This is called a multimodal approach. The patient's specific needs, preferences and capabilities should be taken into account when drawing up a treatment plan.

#### 3.1. Self-management

The concept of self-management assumes that the patient himself has the ability to develop positive coping strategies and avoid the vicious cycles of physical deconditioning, negative state of mind, withdrawal from normal activity and anxiety.

Evidence in the literature on the effectiveness of self-management as the sole intervention is weak. In contrast, the evidence is quite convincing when self-management is combined with other interventions or as part of multidisciplinary rehabilitation programmes, which is often the case. Self-management must therefore be encouraged as good practice throughout all the steps of low back pain management.

To encourage self-management, the health care provider can reassure the patient and inform him about the cause of the low back pain, which is (usually) benign. He can also advise the patient to remain physically active, continue with his regular physical activities as best he can and even do (unsupervised) exercises.

It is also a good opportunity to take into account the patient's concerns about their back pain and tailor the advice to individual abilities and beliefs.

NICE also investigated the recommendation to maintain complete rest. It could not find any evidence that bed-rest is dangerous in the short term but could also not find any proof that it offers benefits.

Recommendation	Strength of the recommendation	Level of evidentiary value
<ul style="list-style-type: none"> <li>• Provide each patient with advice and information, tailored to their needs and capabilities, to help them self-manage their low back pain with or without radicular pain, at all steps of the treatment pathway. This includes:               <ul style="list-style-type: none"> <li>o Information on the benign nature of the low back pain and radicular pain.</li> <li>o Encouragement to continue with their normal activities, exercises included.</li> </ul> </li> </ul>	Expert opinion	Moderate to very low



### 3.2. Supervised exercise programme

The terms 'exercise programme' encompass a wide range of different exercise types based on a number of theoretical models. The exercises can be performed individually or in a group and under the supervision of various health care providers. This section only discusses supervised exercises. Unsupervised exercises are considered as self-management and were already discussed in the previous section.

Compared to the standard care or with other non-invasive interventions, we noted that every type of exercise offers a specific benefit, without demonstrable risk. Based on the available evidence, **exercise should be the only compulsory element in a multimodal approach.**

There was no clear evidence that a specific exercise type, a specific exercise programme, duration or intensity is better. The efficacy also appears to be comparable for acute and chronic low back pain. It is essential that the exercise programme is tailored to the patient's abilities. NICE also stressed that group activities can save costs. Whether it's in a group or individually, the most important element is that the exercises require active participation by the patient.

Recommendation	Strength of the recommendation	Level of evidentiary value
<ul style="list-style-type: none"> <li>Consider an exercise programme (specific exercises or a combination of approaches) for people with low back pain with or without radicular pain. Take patient's specific needs, capabilities and preferences into account when choosing the type of exercise programme.</li> </ul>	Weak	Moderate to low

### 3.3. Manual techniques

Manual techniques encompass various manipulation, mobilization and soft tissue techniques (including but not restricted to massages). The Belgian GDG preferred the use of the term 'manual techniques' to avoid confusion with 'manual therapies'. This last term points, in Belgium, to a specific domain of professional physiotherapists' qualification integrate these techniques into a more global physiotherapy's package.

The scientific evidence of the benefit of manual techniques was not reliable enough to recommend them as a single intervention. However, these techniques do offer a clinical benefit with pain relief and improved function when combined with active management (such as exercises).

That is why they are an optional therapeutic modality. They can be offered as additional therapy to patients for whom self-management and exercises are not enough due to their clinical course, risk level, needs, preferences or specific abilities.

In contrast, no evidence could be found in the literature on the benefit of (manual) traction, which was also considered to be a manual technique by NICE. That is why this treatment is not recommended (see chapter 6).

The recommendation regarding manual techniques is aimed at patients with low back pain and radicular pain, but the Belgian GDG did point out that manipulating patients with radicular syndrome may entail a risk.

Recommendation	Strength of the recommendation	Level of evidentiary value
<ul style="list-style-type: none"> <li>Consider manipulation, mobilization or soft tissue techniques for managing low back pain with or without radicular pain, but only as part of a multimodal treatment with a supervised exercise programme.</li> </ul>	Weak	High to very low



### 3.4. Psychological interventions

Not enough evidence was found to make any recommendations for the use of isolated psychological treatments for low back pain or radicular pain. However, they may benefit the patient if psychological interventions (mainly cognitive behavioural therapy) are offered in combination with other therapies such as self-management or exercises.

Psychological interventions should never be mandatory, but these may be important for some patients at a certain point in time during their treatment (depending on their risk level).

Recommendation	Strength of the recommendation	Level of evidentiary value
<ul style="list-style-type: none"> <li>Consider a psychological intervention* using a cognitive behavioural approach for managing low back pain with or without radicular pain, but only as part of a multimodal treatment with a supervised exercise programme.</li> </ul>	Weak	Moderate to very low

\* Psychological interventions are optional and are only applied to certain patients at certain time periods and depending on their risk stratification.

### 3.5. Multidisciplinary rehabilitation programme

The multidisciplinary rehabilitation programmes fit within the biopsychosocial approach. They combine a physical component (such as specific exercises and manual techniques) and at least one other psychological, social, educational or ergonomic element.

This is why **these programmes should only be available to patients with low back pain for whom significant psychological obstacles to recovery have been identified by the risk stratification or in whom previous treatments have not improved the pain.**

The available scientific evidence is divergent. Some studies, though not all, point to the benefit of these programmes. However, their high cost is a distinct disadvantage.

In Belgium, access to and reimbursement of the multidisciplinary rehabilitation programmes in hospitals is currently restricted for patients with at least 6 weeks of low back pain.

Recommendation	Strength of the recommendation	Level of evidentiary value
<ul style="list-style-type: none"> <li>Consider a multidisciplinary rehabilitation programme which combines a physical and a psychological component incorporating a cognitive behavioural approach and which takes into account the person's specific needs and capabilities for people with persistent low back pain or radicular pain:               <ul style="list-style-type: none"> <li>When they have psychological obstacles to recovery,</li> <li>or</li> <li>When previous evidence-based management has not been effective.</li> </ul> </li> </ul>	Weak	Moderate to very low



### 3.6. Return to work

NICE found no evidence that return-to-work programmes offered any benefit. However, this does not mean according to NICE or the Belgian GDG that continuing or resuming professional activities is not important. The notion of 'work' is not the most important element in this respect. Resuming their daily activities is equally important for people who do not work or no longer work.

This is why a consensus-based opinion was formulated by NICE and agreed on by the Belgian GDG: returning to work or resuming normal activities are one of the treatment goals for people with low back pain.

Recommendation	Strength of the recommendation	Level of evidentiary value
<ul style="list-style-type: none"><li>Promote and facilitate return to work or normal activities of daily living as soon as possible for people with low back pain with or without radicular pain.</li></ul>	Expert opinion	High to very low



## 4. PHARMACOLOGICAL INTERVENTIONS

### 4.1. NSAIDs, opioids or paracetamol

Medication is not always needed in the management of low back pain with or without radicular pain, despite the risk of an unfavourable evolution. If a medication is required, **NICE prefers non-steroidal anti-inflammatory drugs (NSAIDs)** as the first choice, provided that the patient can tolerate them, followed by weak opioid analgesics with or without paracetamol.

NSAIDs appear to be effective for pain alleviation and for improved function (versus placebo) at short term. However, this effectiveness must be weighed against the risk of adverse events. The recommendation for oral NSAIDs is hence weak and is paired with several precautionary measures. The recommendation does not identify the kind of NSAID to be used because their effectiveness was not compared against each other. The selection of NSAID should therefore be influenced by the patient's risk profile and preference.

Some studies have shown that **opioid analgesics** have an effect on **chronic** low back pain but that there is a high risk of adverse effects, including risk of addiction. These products are therefore not systematically recommended for this indication. If they are prescribed nevertheless, this must be done with great caution. No difference was shown between strong and weak opioids.

For acute low back pain or acute episode of recurring low back pain, no evidence was found for the benefit of using opioids. Nevertheless, according to a consensus-based opinion, limited use of weak opioids for the shortest period possible may be considered for patients who cannot tolerate NSAIDs or for whom NSAIDs are unsuitable. In this case, opioids can be combined with paracetamol but a fixed 'paracetamol-tramadol' combination is not recommended by the CBIP/BCFI.<sup>d</sup>

Recent evidence on **paracetamol** showed no benefit compared with placebo in patients with acute low back pain of moderate intensity (based on a single study). It is therefore difficult to recommend its use for this population. However, because paracetamol may be effective in some patients with mild pain intensity (even if it is only due to a placebo effect), it may be the only option if NSAIDs or opioids are contra-indicated (e.g. elderly patients with risk factors).

Muscle relaxants are not recommended for low back pain and radicular pain. These are discussed in chapter 6 (not recommended interventions).

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<sup>d</sup> According to the CBIP/BCFI: 'The fixed combination of paracetamol + tramadol does not make a lot of sense: it's difficult to dose tramadol and the half-lives of the two substances differ greatly.'



Recommendation	Strength of the recommendation	Level of evidentiary value
<ul style="list-style-type: none"><li>If a medication is required for managing low back pain with or without radicular pain (e.g. due to the severity of the pain or the patient's preferences), consider oral NSAIDs, taking into account potential differences in gastrointestinal, liver and cardio-renal toxicity and the person's risk factors, including age.</li></ul>	Weak	Moderate to very low
<ul style="list-style-type: none"><li>When prescribing oral NSAIDs for low back pain, think about an appropriate clinical assessment, ongoing monitoring of the evolution of risk factors, and the use of gastro-protective treatment.*</li></ul>	Expert opinion	Not applicable
<ul style="list-style-type: none"><li>When prescribing oral NSAIDs for low back pain, select the lowest effective dose for the shortest possible period of time.**</li></ul>	Expert opinion	Not applicable
<ul style="list-style-type: none"><li>Think about weak opioids (with or without paracetamol) for the shortest period possible for managing acute low back pain with or without radicular pain only if NSAIDs are contraindicated, not tolerated or have been ineffective.</li></ul>	Expert opinion	Not applicable
<ul style="list-style-type: none"><li>Do not routinely offer opioids for managing chronic low back pain with or without radicular pain.</li></ul>	Weak	High to very low
<ul style="list-style-type: none"><li>Do not routinely offer paracetamol (as single medication) for managing low back pain with or without radicular pain.</li></ul>	Weak	High to very low

*\*The Belgian GDG emphasises that gastro protective treatment is not always needed and it depends on the kind of NSAID (usually not for COX-2-selective NSAID), the treatment duration (usually not in short term) and the patient characteristics.*

*\*\* The lowest effective dose is the lowest dose that has an effect according to each individual patient. The Belgian GDG stresses the risk of under- or over-dose and suggests to start in most situations with the recommended dose, to assess the result and in case of improvement to test a decrease of this dose.*





### 4.2. Antidepressants and anticonvulsants

Antidepressants and anticonvulsants are proposed by NICE as initial treatment for neuropathic pain in adults. However, these kinds of medications are not recommended for patients with low back pain without a neuropathic pain component.

The Belgian GDG nuanced this point of view for two types of antidepressants: tricyclic antidepressants and non-selective serotonin-norepinephrine reuptake inhibitors.

They have a potential benefit for chronic pain with central sensitisation (i.e. increased activity of the central nervous system).

The only evidence found by NICE for anticonvulsants concerned patients with radicular pain. The study showed that the medication can decrease pain compared to placebo but also that there is an increased occurrence of adverse effects.

Recommendation	Strength of the recommendation	Level of evidentiary value
<ul style="list-style-type: none"> <li>Do not offer selective serotonin-norepinephrine reuptake inhibitors (SSRI) for managing low back pain with or without radicular pain.</li> </ul>	Strong	Moderate to very low
<ul style="list-style-type: none"> <li>Do not routinely offer tricyclic antidepressants or non-selective serotonin-norepinephrine reuptake inhibitors (SNRI) for managing low back pain with or without radicular pain. This recommendation is applicable only for chronic pain; the use of antidepressants is not recommended in acute pain.</li> </ul>	Weak	Moderate to very low
<ul style="list-style-type: none"> <li>Do not offer anticonvulsants for managing low back pain with or without radicular pain in absence of a neuropathic pain component.</li> </ul>	Strong	Moderate to low



## 5. INVASIVE INTERVENTIONS

### 5.1. Epidural infiltrations for (sub)acute radicular pain

Little evidence suggests that epidural injections with local anaesthetic and steroids have benefit for radicular pain and may reduce the number of candidates for surgical interventions. Most RCTs (*Randomised Controlled Trials*) concerned patients with moderately severe radicular pain (score of 5 or more on a numeric rating scale of 0-10).

In the Belgian context, where specialised physicians are directly accessible to patients, without there necessarily being a waiting period for the first consultation, an epidural injection is an option for acute radicular pain, although not during the first 2 weeks of the pain onset.

As of 1 November 2016, only the image-guided radicular or transforaminal injections, with a maximum of one nerve root per session, and with a maximum of 3 injections per year, are reimbursed in Belgium. Use of depot corticosteroids epidurals is off-label and therefore informed consent from the patient is necessary (at least 24 hours) before the infiltration. ([https://kce.fgov.be/sites/default/files/page\\_documents/KCE\\_252A\\_off-label\\_gebruik\\_Geneesmiddelen\\_Synthese.pdf](https://kce.fgov.be/sites/default/files/page_documents/KCE_252A_off-label_gebruik_Geneesmiddelen_Synthese.pdf))

Recommendation	Strength of the recommendation	Level of evidentiary value
<ul style="list-style-type: none"><li>Consider epidural injections of local anaesthetic and steroids* in people with (sub)acute (at least 2-3 weeks) and severe** radicular pain.</li></ul>	Weak	Moderate to very low

\*Since the 1<sup>st</sup> of November 2016, only the image-guided radicular or transforaminal injections are reimbursed in Belgium.

\*\*Severe radicular pain should be defined on an individual basis with the patient but a score rated as 5 or more on a numeric rating scale (NRS 0-10) could be considered as a reasonable yardstick.



### 5.2. Radiofrequency denervation: for suspected chronic facet joint pain

The facet joints are joints situated between the vertebrae that connect the vertebrae with each other and are innervated by the medial branches of the dorsal rami. They can cause pain, although the clinical diagnosis is uncertain. This uncertainty could be reduced by a diagnostic medial branch block with local anaesthetic. This is a prerequisite before starting the specific treatment by radiofrequency denervation.

Some studies (4 small RCTs) showed that radiofrequency denervation (RFD) can have a clinical benefit in patients with suspected facet joint pain.

These studies concerned the management of chronic pain, with a mean pain score >5 and who had failed to respond to appropriate conservative treatment. This is why RFD should only be considered in this specific population. Additionally, RFD is a technically demanding procedure. It should therefore only be performed by appropriately trained physicians. Imaging is not required before a radiofrequency denervation.

In Belgium, RFD is reimbursed under the following criteria: it must be image-guided, be performed at least at 3 (unilateral) joint levels and be performed at most 3 times per year.

Recommendation	Strength of the recommendation	Level of evidentiary value
<ul style="list-style-type: none"> <li>• Consider an assessment for radiofrequency denervation for people with chronic low back pain with suspected facet joint pain when:               <ul style="list-style-type: none"> <li>o non-surgical, evidence-based, multimodal management has not worked for them, and</li> <li>o the main source of pain is thought to come from structures innervated by the medial branch nerve and</li> <li>o they have moderate to severe localised back pain (rated as 5 or more on a numeric rating scale (NRS 0-10)) at the time of referral.</li> </ul> </li> </ul> <p>Imaging is not a prerequisite for radiofrequency denervation.</p>	Weak	Moderate to very low
<ul style="list-style-type: none"> <li>• Only do radiofrequency denervation in people with chronic low back pain after a positive response to a diagnostic medial branch block.</li> </ul>	Expert opinion	Not applicable



### 5.3. Surgical spinal decompression for persistent radicular pain

As mentioned earlier, radicular symptoms usually disappear spontaneously after a time. Nevertheless, pain relief treatment should be available for a subset of patients with severe radicular pain who have failed to respond to an appropriate conservative pain management. Scientific evidence suggests that spinal decompression might provide a solution in this case.

There is still a lot of controversy about the optimal time frame to perform this intervention.

The ideal moment for this should therefore be determined on a case-by-case basis. For disc herniation, it is advisable to wait at least 6 weeks because of the high incidence of spontaneous favourable evolution. This waiting period does not apply if the patient exhibits a significant neurological deficit or if the pain is uncontrollable despite evidence-based pain management. Imaging prior to the intervention is required, and the radiological findings must be consistent with the current clinical picture.

Recommendation	Strength of the recommendation	Level of evidentiary value
<ul style="list-style-type: none"><li>Consider surgical spinal decompression for people with radicular pain (at least 6-12 weeks after the onset) when non-surgical, evidence-based, multimodal management has not improved pain or function and the radiological findings are consistent with the current clinical symptoms.</li></ul>	Weak	Low to very low

### 5.4. Arthrodesis: only for very specific cases of low back pain

Given the fact that the actual benefit of spinal fusion (arthrodesis) over comparator treatments was not proven and that the procedure entails significant risks, this intervention should not be routinely recommended for people with low back pain. However, one cannot preclude that there are some rare subgroups of patients (e.g. degenerative anterolisthesis with marked instability, severe degenerative deformities) who can benefit from the procedure.

A prerequisite is that the patients are properly selected and that prior appropriate conservative multimodal management has failed.

For these rare cases, a multidisciplinary consultation should precede the decision and a systematic assessment of the risk-benefit ratio of this option should be carried out. In Belgium, data analysis gathered in a registry appears to be more feasible than conducting an RCT, as proposed by NICE.

Recommendation	Strength of the recommendation	Level of evidentiary value
<ul style="list-style-type: none"><li>Do not offer spinal fusion for people with low back pain unless within the following preconditions:<ul style="list-style-type: none"><li>after failure of non-surgical, evidence-based, multimodal management and</li><li>after evaluation in a multidisciplinary consultation and</li><li>preferably with data registration in a register</li></ul></li></ul>	Strong	Low to very low



## 6. INTERVENTIONS NOT RECOMMENDED

Various interventions are not recommended because studies have shown that they yield no clinical benefit or because the risk-benefit ratio is unfavourable. These interventions are useless and can even be dangerous in some cases.

They are summarised in the list below, with a brief explanation of the reasons why there is a strong recommendation against their use.

**Table 1 – Interventions not recommended in the management of low back pain and radicular pain**

Interventions	Explanation
<b>Belts or corsets</b>	Based on 5 RCTs, no benefit was shown with belts or corset versus standard care in low back pain without radicular pain, although these could entail additional cost for the patient. No evidence was found for patients with radicular pain.
<b>Foot orthotics</b>	No sufficient clinical benefit of foot orthotics was found in 4 studies for patients with low back pain with and without radicular pain. There is also an additional cost for the patient.
<b>Rocker sole shoes</b>	Compared to flat shoes, rocker sole shoes did not demonstrate any benefit. There is also a risk of discomfort and an additional cost for the patient.
<b>(manual) Traction</b>	There is very limited evidence of the benefit of (manual) traction: only two studies showed a favourable effect but there were important methodological problems. Moreover, this intervention can entail risks.
<b>Treatment with ultrasound</b>	There was insufficient evidence of clinical benefit to recommend the use of ultrasound for treating low back pain or radicular pain. The only evidence of benefit was of low quality and based on low patient numbers.
<b>Percutaneous electrical nerve stimulation (PENS)</b>	A potential effect was found in studies with low-quality evidence with limited patient numbers, but PENS is not widely used in current practice. So a recommendation for its use would result in a significant change in practice and is in no way justified by the available evidence.
<b>Transcutaneous electrical nerve stimulation (TENS)</b>	A clinical benefit was seen for quality of life and pain alleviation in the low back pain population when compared with placebo. However, the number of patients was limited. Overall, the benefit of TENS could not be demonstrated.
<b>Interferential therapy</b>	There was a lack of evidence of clinical benefit for this form of electrotherapy for low back pain. More specifically, 2 high-quality RCTs found no difference when compared to placebo.
<b>Muscle relaxants</b>	The available evidence does not support the use of muscle relaxants for low back pain. Given their adverse effects, muscle relaxants should not be part of clinical practice for this indication. NICE recommends investigating the clinical effectiveness and cost-effectiveness of benzodiazepines for the acute management of low back pain. However, this question was considered to be outdated by



Interventions	Explanation
	<p>the Belgian GDG and is therefore not included in the present guideline. Moreover, some muscle relaxants (Tetrazepam) have been removed from the market in Belgium.</p> <p>Our recommendation regarding these products is correspondingly negative.</p>
<b>Antibiotics</b>	<p>Only a single study (of weak to moderate quality) was found for this topic. It concerned patients with disc prolapse confirmed by MRI. Given the adverse effects observed in this study, the societal impact of antibiotic use and the real overconsumption in Belgium, it was decided that antibiotics should not be offered in any case for low back pain or radicular pain.</p>
<b>Non-epidural spinal injections</b>	<p>No convincing, good-quality evidence demonstrated short-term and long-term effectiveness of this technique in a population with low back pain. There is also no evidence of adverse effects, but the majority of these injections are done with imaging. This exposes the patient to harmful radiation.</p> <p>The Belgian GDG stresses, however, that the recommendation against spinal injections does not apply to local anaesthesia of facet joints.</p>
<b>Disc replacement (disc prosthesis)</b>	<p>The evidence was limited and the clinical benefit for disc replacement observed in terms of quality of life stemmed mainly from a study comparing intervertebral disc replacement to anterior lumbar fusion (arthrodesis). The latter procedure is not commonly performed because it is not effective. Moreover, there was a higher number of severe adverse effects associated with disc replacement in comparison to spinal fusion.</p>



## 7. INTERVENTIONS WITHOUT A CLEAR RECOMMENDATION

No conclusions could be drawn about a number of interventions studied by NICE because evidence was lacking.

These are summarised below, with a brief explanation of the reason why we could not formulate a clear recommendation.

**Table 2 – Interventions without clear recommendation for the management of low back pain and radicular pain**

Interventions	Explanation
<b>Topical NSAIDs</b>	Topical NSAIDs were included in NICE's literature search, but no evidence of their benefit was found for patients with low back pain. Therefore, no recommendation could be made specifically for topical NSAIDs in this guideline.
<b>Postural therapies</b>	No RCT or observational study could be found about the effectiveness of postural education/exercise as a single intervention.
<b>Alexander technique</b>	There was evidence in favour of the Alexander technique (potential quality of life improvement for people with low back pain) but only in a single study. This was not sufficient to make a positive recommendation. Moreover, the Belgian GDG stressed that Alexander technique is not a mandatory part of the training for physiotherapists and ergotherapists.
<b>Acupuncture</b>	There was no clear proof that acupuncture works better than placebo on low back pain. There was also no evidence of any adverse effects. It is possible that neuropathic pain could be a better indication for acupuncture than mechanical pain, but the literature review does not permit a clear differentiation between these two types of pain. It is therefore impossible to formulate a clear recommendation.
<b>Back school</b>	The term "back school" is widely used in Belgium. This is a multidisciplinary programme which is broader than the original concept used by NICE (consisting of educational sessions on the nature of low back pain). The original back schools were considered outdated and not reflective of the current UK practice. These were therefore not studied by NICE.
<b>Facet joint infiltrations for facet joint pain syndrome</b>	The Belgian GDG stressed that the studied population included in studies on non-epidural spinal infiltrations was very broad and that the patients with facet joint pain were not clearly identified. The lack of specific evidence on the benefits and disadvantages of facet joint infiltrations hence did not allow the formulation of a clear recommendation.
<b>Electrophysiological diagnostic techniques before spinal decompression</b>	The role of electrophysiological techniques (electromyography, evoked potentials) in the diagnosis of radicular pain was not discussed by NICE. Therefore, no conclusion could be drawn on this topic either.



## 8. RESEARCH PROPOSITIONS

NICE recommends investigating several topics. The Belgian GDG did not fully support NICE but formulated 4 research questions which could best be answered by monitoring new clinical studies or within the scope of a Belgian research project.

**Table 3 – Interventions for low back pain and radicular pain for which a research question was formulated**

Intervention	Explanation	Method
<b>Laser:</b> What is the clinical effectiveness and cost-effectiveness of laser therapy in the management of low back pain and radicular pain?	While evidence of clinical benefit for pain alleviation and functional improvement was observed in some comparator studies, there were concerns about the quality of the studies and the applicability of the technique. There remains uncertainty about the efficacy and effectiveness of laser therapy, despite the promising studies. There is therefore a need for high-quality clinical trials to investigate the effectiveness and cost-effectiveness of laser therapy for low back pain with and without radicular pain.	Monitoring of the publication of new high-quality trials
<b>Radiofrequency denervation:</b> What is the clinical effectiveness and cost-effectiveness of radiofrequency denervation in the long term for chronic low back pain with suspected facet joint pain?	The duration of pain relief following the intervention is uncertain. Data from RCTs suggest pain relief is maintained for at least 6-12 months, but no study has reported longer-term outcomes.	Monitoring of the publication of new high-quality trials Or Research to be carried out in Belgium
<b>Multidisciplinary rehabilitation programme:</b> What is the ideal duration of a multidisciplinary rehabilitation programme for low back pain with or without radicular pain?	The cost-effectiveness of long-term support (>12 months) by such a programme for patients with low back pain is unknown. That is why NICE suggested that this cost-effectiveness be investigated in terms of resource usage.  The Belgian GDG believes that given the lack of data on the long-term effect, research on the optimal duration of such a programme would be more useful for clinical practice.	Research to be carried out in Belgium
<b>Spinal fusion:</b> Based on an analysis of the registry of patients who underwent spinal fusion, in which patient subgroups could spinal fusion be offered as a surgical option?	If the risks of this intervention outweigh the benefit, then spinal fusion should be reserved for patients who did not improve after non-surgical, evidence-based, multimodal management and after approval by a multidisciplinary consultation. Analysis of a patient registry with the spinal fusion results should allow identification of patients who could benefit of this intervention.	Research to be carried out in Belgium





## 9. TOPICS NOT STUDIED

Several interventions are not discussed in the present guideline because they were not investigated by the NICE.

Nevertheless, some are promoted by the current media and/or used by clinicians. In clinical practice, caution is needed when choosing such a therapeutic option.

**Table4 – Interventions for low back pain and/or radicular pain management not included in the guideline**

Interventions	Background
<b>Oral methylprednisolone</b>	Oral methylprednisolone was suggested as an option by one GDG member in the treatment of low back pain (for example, in case of slight motor deficit), but it appeared it is not usual practice in Belgium and did not deserve an additional literature review.
<b>Andullation</b>	Advertising for andullation (massage mattresses) is frequently seen in magazines and free flyers. However, due to a lack of <i>peer-reviewed</i> literature, this guideline cannot support the use of this intervention.
<b>Shock waves</b>	Extracorporeal shock wave therapy is sometimes used in chronic low back pain but was not mentioned by NICE.
<b>Osteopathy</b>	Osteopathic techniques other than manual techniques were not considered in the NICE guideline. Belgian osteopaths who were involved in developing the current guideline did not deem it necessary to expand the study to include other techniques. A KCE report on osteopathy and its use in Belgium (published in 2011) can be found here: <a href="https://kce.fgov.be/nl/publication/report/stand-van-zaken-voor-de-osteopathie-en-de-chiropraxie-in-belgi%C3%AB#.WOIxVI6kLCA">https://kce.fgov.be/nl/publication/report/stand-van-zaken-voor-de-osteopathie-en-de-chiropraxie-in-belgi%C3%AB#.WOIxVI6kLCA</a>

## 10. IMPLEMENTATION

The recommendations of the current guideline are included in a Belgian pathway for the management of low back pain (available in fall 2017 on the KCE website).

The professional associations involved in KCE projects will be asked to support implementation of the guideline and the care pathway in Belgian clinical practice.



## 11. GLOSSARY

<b>Alexander technique</b>	A technique intended to rid people of several postural habits and unhealthy movements and teach them a better way of moving. The instructor helps the patient pay attention to sensory postural feedback and to neuromuscular mechanisms for determining the right posture or movement.
<b>Arthrodesis or spinal fusion</b>	An operation performed in order to bring about solid fusion between two or more vertebrae, with the intent to stabilise them. The bone tissue of either the patient him/herself or artificial transplants are used for this.
<b>Cognitive behavioural therapy</b>	A short, scientifically validated therapy aiming to replace harmful or negative beliefs and inappropriate behaviours (e.g. fear-avoidance) with mind-sets that correspond to reality.
<b>Epidural injections</b>	An injection in the epidural space in the spinal cord with corticosteroids (with or without anaesthetics) or with anti-TNF agents, used for their anti-inflammatory and immunosuppressive characteristics.
<b>Manual techniques</b>	Active or passive movements of the neuro-skeletal system (joints and soft tissue) in order to improve mobility and function and decrease pain. The manual techniques studied in the present guideline entail (a combination of) interventions on the soft tissue (such as massages), manual tractions, manipulations or mobilisations.
<b>Multidisciplinary rehabilitation programmes</b>	Interventions with a physical component (e.g. specific exercises, mobilisation, massage) and at least one other element of a biopsychosocial approach. This can be psychological, social, ergonomic or educational (an educational intervention such as information about anatomy, psychology, imaging, coping, medication, family and, professional and social life). These various components must be offered within an integrated programme by one or more health care providers who regularly consult each other. The multidisciplinary aspect concerns the interventions within the programme (across the disciplines), and less so the number of people or disciplines that ensure correct execution thereof.
<b>Non-epidural spinal injections</b>	The injection of various substances in different parts of the spinal column, ligaments, muscles or trigger points (the location where strong pressure in the muscles causes pain). The goal of these injections is to decrease inflammation in the tissue or to create inflammation in order to promote healthy tissue growth. This term entails a number of techniques, such as facet joint injections, medial branch block, intradiscal injections and prolotherapy.
<b>Postural therapies</b>	Postural therapies aim to prevent low back pain or alleviate it by correcting so-called sub-optimal posture, which is said to be harmful to the spine.
<b>Radiofrequency denervation</b>	Pain conduction in the nerve branch to the facet joint is interrupted by radiofrequency current. This percutaneous, minimally invasive procedure is carried out under local or light intravenous anaesthesia.
<b>Self-management</b>	An approach that should help people with low back pain and radicular pain resume their regular activities and manage their symptoms and treatment. The concept stresses the importance of an interactive process, with the patient and health care provider working together and the patient's autonomy being the goal. This approach entails advice (e.g. to remain active), educational and reassurance programmes by means of written information and encouragement to perform (unsupervised) exercises.
<b>Spinal decompression</b>	This intervention eliminates the pressure on the nerve structures of the spine. The current guideline entails the following procedures: laminectomy, discectomy, facetectomy, foraminotomy, fenestration, spinal decompression, sequestration and laminotomy.



## 12. QUESTIONNAIRES

### Text box 3 – The STarT Back Screening Tool

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Thinking about the **last 2 weeks** tick your response to the following questions:

		Disagree 0	Agree 1		
1	My back pain has <b>spread down my leg(s)</b> at some times in the last 2 weeks	<input type="checkbox"/>	<input type="checkbox"/>		
2	I have had pain in the <b>shoulder</b> or <b>neck</b> at some times in the last 2 weeks	<input type="checkbox"/>	<input type="checkbox"/>		
3	I have only <b>walked short distances</b> because of my back pain.	<input type="checkbox"/>	<input type="checkbox"/>		
4	In the last 2 weeks, I have <b>dressed more slowly</b> than usual because of back pain.	<input type="checkbox"/>	<input type="checkbox"/>		
5	It's not really safe for a person with a condition like mine to be physically active.	<input type="checkbox"/>	<input type="checkbox"/>		
6	<b>Worrying thoughts</b> have been going through my mind a lot of time.	<input type="checkbox"/>	<input type="checkbox"/>		
7	I feel that <b>my back pain is terrible</b> and <b>it's never going to get any better</b> .	<input type="checkbox"/>	<input type="checkbox"/>		
8	In general I have <b>not enjoyed</b> all the things I used to enjoy.	<input type="checkbox"/>	<input type="checkbox"/>		
9	Overall, how <b>bothersome</b> has your back pain been in the <b>last 2 weeks</b> ?				
	Not at all	Slightly	Moderately	Very much	Extremely
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	0	0	0	1	1

**Total score (all 9):** \_\_\_\_\_

≤3 = Low risk      ≥4= see sub-score

**Sub-score (Q5-9):** \_\_\_\_\_

≤3 = Medium risk      ≥4= High risk

Source: [https://www.keele.ac.uk/media/keeleuniversity/group/startback/translations/Dutch%20translation\\_STarT%20Back%20Tool.pdf](https://www.keele.ac.uk/media/keeleuniversity/group/startback/translations/Dutch%20translation_STarT%20Back%20Tool.pdf)

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**Text box 4 – The Örebro Musculoskeletal Pain Screening Questionnaire - Short Version**

Name: \_\_\_\_\_ Date: \_\_\_\_\_

*These questions apply to you if you have pain in your back, shoulder or neck. Please read and answer each question carefully. Do not wait too long to answer. It is important that you answer every question. Whatever your situation, you will always be able to choose one answer.*

**1. How long have you had your current pain problem?**

- 0-1 week                       2-3 weeks                       4-5 weeks                       6-7 weeks                       8-9 weeks
- 10-11 weeks                       12-23 weeks                       24-35 weeks                       36-52 weeks                       >52 weeks

**2. How would you rate the pain that you have had during the past week? Please circle a number.**

0	1	2	3	4	5	6	7	8	9	10
<i>No pain</i>										<i>Pain as bad as it could be</i>

**3. How much have you been bothered by feeling depressed in the past week? Please circle a number.**

0	1	2	3	4	5	6	7	8	9	10
<i>Not at all</i>										<i>Extremely</i>

**4. How tense or anxious have you felt in the past week? Please circle a number.**

0	1	2	3	4	5	6	7	8	9	10
<i>Absolutely calm and relaxed</i>										<i>As tense and anxious as I've ever felt</i>

**5. In your view, how large is the risk that your current pain may become persistent? Please circle a number.**

0	1	2	3	4	5	6	7	8	9	10
<i>No risk</i>										<i>Very large risk</i>

**6 In your estimation, what are the chances you will be working your normal duties (at home or work) in 3 months? Please circle a number.**

0	1	2	3	4	5	6	7	8	9	10
<i>No chance</i>										<i>Very large chance</i>



Below are a few things that other patients have said about their pain. For each item, circle a number between 0 and 10 to indicate the degree to which physical activities such as bending over, lifting something, walking or driving impact or could impact your back.

**7. An increased pain is an indication that I should stop what I am doing until the pain decreases. Please circle a number.**

0	1	2	3	4	5	6	7	8	9	10
Completely disagree										Completely agree

**8. I should not do my normal work (at work or home duties) with my present pain. Please circle a number.**

0	1	2	3	4	5	6	7	8	9	10
Completely disagree										Completely agree

**Circle the number that best describes your current ability to participate in each of the following activities.**

**9. I can do light work (or home duties) for an hour. Please circle a number.**

0	1	2	3	4	5	6	7	8	9	10
Not at all										Without any difficulty

**10. I can sleep at night. Please circle a number.**

0	1	2	3	4	5	6	7	8	9	10
Not at all										Without any difficulty

**Item 1.** The first category « 0-1 week » has a value of 1 and the last category « >52 weeks » has a value of 10. The category « 8-9 weeks » has a value of 5.

**Items 2, 3, 4, 5, 7 and 8.** The score is equal to the circled number.

**Items 6, 9 and 10.** The score is equal to 10 minus the circled number.

**Total =**

Score >49 = increased risk



## COLOPHON

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Acknowledgements:	Nicolas Fairon (KCE)



Particular acknowledgements:

The authors of this guideline wish to thank the National Institute for Health and Care Excellence (NICE) for the impressive work they have devoted to the preparation of a low back pain guideline, and their permission for the KCE and the Belgian health care workers to make use of this work

The original NICE (National Institute for Health and Care Excellence) guideline to which this document refers, was produced by the British National Collaborating Centre for Cancer in 2016. It is available from <http://www.nice.org.uk/guidance/ng2>. NICE guidance is prepared for the National Health Service in England and Wales and does not necessarily apply to Belgium. NICE has not been involved in the development or adaptation of any guidance for use in Belgium.

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Fees or other compensation for writing a publication or participating in its development: Luc Ailliet (grant for doctoral degree VU Amsterdam 2011 - 2015)

Participation in scientific or experimental research as an initiator, principal investigator or researcher: Luc Ailliet (doctoral degree VU Amsterdam 2011 – 2015 «*Rol van biopsychosociale factoren in het herstel van mensen met nekpijn en/of low back pain*»), Anne Berquin (validation French version of questionnaire Örebro (OMPSQ)), Mieke Dolphens (investigator IWT-TBM financed project «*A modern neuroscience approach to chronic spinal pain*» (1 nov. 2013 – 31 oct 2017), Lode Godderis (development of instruments for the evaluation of needs of disabled people (financed by FPS Social Security) ; development of questionnaire to evaluate the prognosis for resumption of work), Aline Ollevier (coordinator and principal investigator of «*eUlift*»), Veerle Stevens (manager of the programme «*Optimizing physical and psychosocial assessment in patients with non-specific chronic low back pain*»), Maurits Van Tulder (multiple scientific studies in the field of low back pain, financed by ZonMW ; principal investigator of studies about radiofrequency denervation for facet joint pain and sacro-iliacale joints, endoscopic transforaminal discectomy and epidural injections McKenzieplus ; investigator at NHMRC in Australia), Johan Vlaeyen (Methusalem programme «*From acute aversive sensations to chronic bodily symptoms*» (FNO)).

A grant, fees or funds for a member of staff or another form of compensation for the execution of research: Aline Ollevier (Erasmus + EPOS fund)



Consultancy or employment for a company, an association or an organisation that may gain or lose financially due to the results of this report: Lode Godderis (Knowlegde, Information and Development Manager at IDEWE), Virginie Fraselle (BPS), Martine Jeunehomme (Keep Moving; Commission Risk prevention)

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Publication date:

27 November 2017 (2nd edition; 1st edition: 19 May 2017)

Domain:

Good Clinical Practice (GCP)

MeSH:

Low back pain, sciatica, practice guideline

NLM Classification:

WE 755

Language:

English

Format:

Adobe® PDF™ (A4)





Legal depot:

D/2017/10.273/35

ISSN:

2466-6459

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How to refer to this document?

Van Wambeke P, Desomer A, Ailliet L, Berquin A, Demoulin C, Depreitere B, Dewachter J, Dolphens M, Forget P, Fraselle V, Hans G, Hoste D, Mahieu G, Michielsen J, Nielens H, Orban T, Parlevliet T, Simons E, Tobbackx Y, Van Schaeybroeck P, Van Zundert J, Vanderstraeten J, Vlaeyen J, Jonckheer P. Low Back Pain and radicular pain: assessment and management – Summary. Good Clinical Practice (GCP) Brussels: Belgian Health Care Knowledge Centre (KCE). 2017. KCE Reports 287Cs. D/2017/10.273/35.

How to refer to this document?

This document is available on the website of the Belgian Health Care Knowledge Centre.