de Fysiotherapeut

Royal Dutch Society for Physical Therapy

KNGF Guideline

Low back pain

In the context of international collaboration in guideline development, the Royal Dutch Society for Physical Therapy (Koninklijk Nederlands Genootschap voor Fysiotherapie, KNGF) has decided to translate its Clinical Practice Guidelines into English, to make the guidelines accessible to an international audience. International accessibility of clinical practice guidelines in physical therapy makes it possible for therapists to use such guidelines as a reference when treating their patients. In addition, it stimulates international collaboration in the process of developing and updating guidelines. At a national level, countries could endorse guidelines and adjust them to their local situation if necessary.

KNGF's objective is to create the right conditions to ensure that high-quality physical therapy is accessible to the whole of the Dutch population, and to promote recognition of the professional expertise of physical therapists. KNGF represents the professional, social and economic interests of over 20,000 members.

The guideline is summarized on a flowchart; the Practice Guidelines as well as the flowchart can be downloaded from www.fysionet.nl.

V-07/2013

Contents

Practice Guideline

J.B. Staal[I], E.J.M. Hendriks[II], M. Heijmans[III], H. Kiers[IV], A.M. Lutgers-Boomsma[V], G. Rutten[VI], M.W. van Tulder[VII], J. den Boer[VIII], R. Ostelo[IX], J.W.H. Custers[X]

A Introduction

This KNGF guideline describes the physical therapy and manual therapy interventions that can be used to treat patients with low back pain. The guideline is supplemented by a *Review of the Evidence*, which sets out and explains the choices made as regards the definition of the health problem at hand, its diagnostics and treatment, as well as offering background information to support the Practice Guideline. The guideline is summarized on a flow-chart.

The Dutch Association for Manual Therapy (NVMT) and KNGF have decided to merge the updates of their guidelines on low back pain for the two professions. The present update thus replaces the 2006 *KNGF guideline on manual therapy for low back pain* and the 2005 *KNGF practice guideline on low back pain*. Any manual therapist is also a physical therapist, and the two disciplines overlap to a considerable extent. Most of the recommendations presented in the present guideline for the diagnostics and treatment of non-specific low back pain are valid for both physical therapists and manual therapists. Any recommendations that are specifically aimed at manual therapists are indicated as such in the guideline.

A.1 Objective and target group

The *KNGF Guideline on Low Back Pain* is intended to guide the diagnostics and treatment of patients with non-specific low back pain by a physical therapist and/or manual therapist.

A.2 Scope of the Guideline

Low back pain is usually subdivided into specific and non-specific low back pain. In this guideline, the term 'low back pain' refers to 'non-specific low back pain', unless otherwise indicated.

- *Non-specific* low back pain is defined as low back pain for which no specific cause can be identified. This is the case in about 90% of all patients with low back pain.
  The most obvious symptom in these patients is pain in the lumbosacral region. The pain may also radiate to the gluteal region and the upper leg. It may be increased when the patient adopts a particular position, makes certain movements or lifts or moves heavy objects. The patient has no general symptoms of disease, such as fever or weight loss. The pain may be continuous or occur in episodes.
- *Specific* low back pain is divided into:
  - the lumbosacral radicular syndrome, a form of specific low back pain characterized by radicular pain in one leg, which may or may not be associated with neurological deficits;
  - back pain resulting from a possibly serious underlying specific disorder, such as (osteoporotic) vertebral fractures, malignities, ankylosing spondylitis, severe forms of vertebral canal stenosis, or severe forms of spondylolisthesis.

A.3 Prognosis and course

Acute low back often resolves spontaneously, although there is a risk of residual complaints or recurrence. Over 90% of people suffering an episode of low back pain do not stay off work. Of those who do, 75% usually resume work within 4 weeks. There is a smaller group, however, whose complaints persist, which may lead to prolonged absence from work and a low probability of full recovery.

Normal course of low back pain

A 'normal course' means that the patient's activity level and degree of participation gradually increase over time to the level present before the episode of low back pain. In many cases, the pain will also diminish. This does not mean that the low back pain always disappears completely, but that it no longer limits the patient's activities and participation in society.

Abnormal course of low back pain

The course of back pain is considered 'abnormal' if the patient's activity limitations and participation restrictions do not decrease over time but remain unchanged or even increase. An abnormal course with delayed recovery is defined as no clear increase in activity level and reduction in participation restrictions after 3 weeks.

I Bart Staal, PhD, physical therapist/epidemiologist, senior researcher, IQ Healthcare, Radboud University Nijmegen Medical Center, Nijmegen, The Netherlands.
II Erik Hendriks PhD, physical therapist/epidemiologist, senior researcher, Dept. of Epidemiology, Maastricht University, Maastricht, The Netherlands
III Marcel Heijmans, MSc, physical therapist/manual therapist, Dept. of Research and Development, Dutch Institute of Allied Health Care, Amersfoort, The Netherlands.
IV Henri Kiers, MSc, physical therapist/manual therapist, researcher at Utrecht University of Applied Sciences, representing NVMT, Amersfoort, The Netherlands.
V Marlene Lutgert-Boomsma, MSc, physical therapist/company physical therapist / Master of Stress Management and Reintegration, representing NVBF (association of Dutch occupational and company physical therapists) and College van Specialisten Verenigingen (Dutch college of associations of specialists).
VI Geert Rutten PhD, MPH, physical therapist/manual therapist, postdoc researcher at Dept. of Health Promotion, Maastricht University, Maastricht, The Netherlands.
VII Professor Maurits van Tulder, PhD, epidemiologist, Professor of Health Technology Assessment, Dept. of Health Sciences, Faculty of Earth and Life Sciences, VU University, and Dept. of Epidemiology & Biostatistics, VU University Medical Center, Amsterdam, The Netherlands.
VIII Jasper den Boer, PhD, physical therapist/senior researcher, Dept. of Rehabilitation, Radboud University Medical Center, Nijmegen, The Netherlands.
IX Prof. Raymond Ostelo, PhD, Professor of Evidence Based Physiotherapy, Faculty of Earth and Life Sciences, VU University and Dept. of Epidemiology & Biostatistics, VU University, Amsterdam, The Netherlands.
X Jan Custers, PhD, physical therapist, senior policy adviser, Dept. of Policy and Development, Royal Dutch Society for Physical Therapy, Amersfoort, The Netherlands (until August 2010); lecturer at Institute for Human Movement Studies, Utrecht University of Applied Sciences, Utrecht, The Netherlands.

A.4 Direct access to physical therapy

Any patient who presents to a physical therapist directly, i.e. without referral, will first have to undergo a screening procedure, which is intended to assess whether physical therapy treatment is indicated. The physical therapist must evaluate complaints and symptoms and check for any red flags. Red flags are patterns of signs or symptoms (warning signals) that may indicate more or less serious pathology, requiring further medical diagnostics.

Red flags

Red flags are signs or symptoms that might, individually or collectively, indicate a possible (serious) specific cause of the low back pain, which would require supplementary diagnostics.

There is consensus about the following red flags:

- Onset of the low back pain after age 50 years, continuous pain regardless of posture or movement, nocturnal pain, general malaise, history of malignancy, unexplained weight loss, elevated erythrocyte sedimentation rate (ESR) → malignity?
- Recent fracture (< 2 years ago), previous vertebral fracture, age over 60 years, low body weight (< 60 kg/ BMI < 20 kg/m2), older person with hip fracture, prolonged use of corticosteroids, local percussion pain, tenderness and axial pressure pain in the spinal column, marked height reduction, increased thoracic kyphosis → osteoporotic vertebral fracture?
- Onset of low back pain before age 20 years, male sex, iridocyclitis, history of unexplained peripheral arthritis or inflammatory bowel disease, pain mostly nocturnal, morning stiffness > 1 hour, less pain when lying down or exercising, good response to NSAIDs, elevated ESR → ankylosing spondylitis?
- Severe low back pain after trauma → vertebral fracture?
- Onset of low back pain before age 20 years, palpable misalignment of the processi spinosi at the L4-L5 level → severe spondylolisthesis?

If the red flags show a pattern that suggests serious pathology, or if there is no pattern at all, the therapist should inform the patient of this, and advise them to contact their family doctor.
There may be local arrangements for the communication between physical therapists and primary care physicians, which dictate the procedure to be followed in case a physical therapist notices any red flags.
The diagnostics and treatment of patients with potentially serious specific disorders and the treatment of the lumbosacral radicular syndrome are beyond the scope of the present guideline.

B Diagnostic process

If the patient was referred to physical therapy by their family doctor or specialist, the therapist will have to undertake a comprehensive intake procedure to assess whether there is indeed an indication for physical and/or manual therapy; he or she will obviously also have to check for any red flags. If the red flags show a pattern that suggests serious pathology, or if there is no pattern at all, the therapist should inform the patient of this, and advise them to contact their family doctor.
If physical or manual therapy is indicated, further information will have to be obtained.
The therapist will use history-taking to obtain the additional information required to identify the health problems that will eventually result in the formulation of the patient's presenting problem.

B.1 History-taking

Focal points in taking the history of patients with low back pain are:

- identifying the complaints;
- screening for 'red flags' (section A.4);
- assessing the patient's current status: severity and nature of the complaints (impairments of body functions, limitations of activity, restrictions of participation);
- identifying the onset of the complaints:
  - situation before the complaints began (level of activities, degree of participation);
  - time of onset and the way the complaints developed, possible influence of occupational circumstances;
- assessing the course of the complaints (normal or abnormal):
  - previous diagnostics and therapeutic interventions, and the outcome of this treatment;
  - previous information obtained (type and source of information);
  - presence of (psychosocial) factors impeding recovery (see Table 1);
- additional information:
  - comorbid conditions;
  - current treatment: medication/other types of treatment/ advice/medical aids;
  - social history regarding occupational, home and family situation;
- determining the patient's presenting problem.

The severity of the pain and other patient-specific complaints should be assessed using the Numeric Rating Scale (NRS, range 0-10 points, average pain over the past 24 hours) and the Patient-Specific Complaints instrument (PSC, range 0-10 points), while the functional status should be evaluated using the Quebec Back Pain Disability Scale (QBPDS). These instruments can also be used as a starting point for further history-taking.
The NRS, PSC and QBPDS should be administered at both the beginning and end of the treatment episode, while the NRS and PSC can also be administered in the course of the treatment, for instance every 3 weeks.
Cases of recurrent low back pain require extra attention to be given to the potential underlying causes of the recurrence (such as changes in work load, pressure of work or activities involving body movements) and the duration of the low back pain episode and pain-free periods in between episodes. The therapist should also ask about the implementation of any ergonomic recommendations, and the patient's compliance with therapy (does the patient comply with previously received recommendations, and if not, what are the reasons for non-compliance?).

Note Signs suggesting a lumbosacral radicular syndrome include:

- radicular pain radiating to the leg, and
- leg pain that is more prominent than low back pain.

Although questionnaires to identify psychosocial impeding factors may be used to support the diagnostic procedure, the present guideline does not recommend any specific questionnaires for this purpose. One reason for this is that administering some questionnaires requires specific skills, and that cut-off points have not been clearly defined for all questionnaires.

B.2 Examination

The aim of the examination (which involves inspection and physical examination) is to further evaluate the information obtained by history-taking. The examination is based on the impairments of body structure and function, the limitations of activities (like maintaining a sitting position, picking up an object from the floor or standing up from a lying position, etc.) and the restrictions of participation that the patient reported during the history-taking. The physical examination concerns the affected body region and its biomechanically and physiologically related joints, which may include, to varying degrees:

- examining the joints of the thoracic, lumbar and lumbosacral vertebral column, the pelvis and the hips, namely:
  - assessment of each musculoskeletal segment in terms of range of motion, direction of motion, resistance to movement and end feel;
  - evaluation of consistency and provocation of pain and radiation;
- muscle examination, namely:
  - assessing muscle length, elasticity, end feel, tenderness on contraction and stretching, muscle tone, coordination and strength;
- examination of the (paraspinal) skin, namely:
  - assessment of level of grasp, shift, pliability and end feel of the skin;
- performance of restricted activities.

Based on the findings of the physical examination, the physical therapist tries to identify the impairments of body functions in relation to the limitations of activities and restrictions of participation. If the history causes the therapist to suspect radicular radiation, he or she must check whether Lasègue's sign is positive, by performing a 'straight leg raising test'. In addition, he or she should examine the patient's muscle strength and determine the fingertip-to-floor distance when the patient bends forward (positive if > 25 cm).

B.3 Analysis

Based on the patient's medical history and the findings of the physical examination, though possibly even from the history alone, the therapist should estimate whether any 'red flags' are present that might suggest serious pathology. If there are indeed one or more red flags suggesting serious pathology, the therapist should communicate with the patient's family doctor, and/or refer the patient back to their family doctor.
If there are no red flags, nor any indications of a lumbosacral radicular syndrome, the therapist may assume that the patient has non-specific low back pain. The therapist will have used the history-taking to identify the course of the pain and the activity limitations and participation restrictions, and to estimate whether the course of the condition is normal or is characterized by delayed recovery.
If the therapist views the recovery as delayed, he or she should check for any factors that might explain the persistent nature of the back pain episode. Table 1 lists the factors that are known to be able to slow down recovery.

Based on the history-taking and the findings of the physical examination, the therapist assigns the patient to one of the following profiles:

Profile 1
Non-specific low back pain with normal course of recovery.

Profile 2
Non-specific low back pain with abnormal course, without dominant presence of psychosocial factors impeding recovery.

Profile 3
Non-specific low back pain with abnormal course, with dominant presence of psychosocial factors impeding recovery.

C Therapeutic process

C.1 Physical/manual therapy treatment

If physical/manual therapy is indicated, the therapist will draw up a treatment plan, in consultation with the patient and any relevant third parties (e.g. other disciplines or the patient's relatives or acquaintances).

Table 1. Factors that may slow down recovery from low back pain.

back pain-related factors	severe limitations of activities radiating pain widespread pain
personal factors	older age poor general health status
psychosocial factors	psychological and psychosocial stress pain-related fears / avoidance behavior somatization depressive complaints
occupational factors	unsatisfactory relationships with colleagues physically heavy tasks

The patient's back pain profile is the point of departure and guiding principle for the treatment plan.

The treatment plan encompasses:
- the final objectives plus the time schedule;
- the interventions to be applied;
- the schedule for evaluations and the form of evaluation;
- the expected number of treatment sessions (exceeding the expected number of sessions should prompt an evaluation and a possible change of profile).

C.1.1 Profile 1 – Normal course

A maximum of 3 sessions are used to provide education and advice, and to allow the patient to find that exercise has a favorable effect. The therapist should reassure the patient and explain that the course of low back pain is favorable in most patients, but also that there is a high likelihood that the pain will recur after it has resolved, but that this does not have to hamper their activities. The therapist should also explain that low back pain is not harmful and that an increase in this type of pain is not associated with damage to body structures. In short, the message should be that moderate and gradually increasing exercise promotes recovery. The therapist should encourage the patient to gradually extend their activities and explain the best way to increase the load imposed by their activities. If the patient is on sick leave, the therapist should encourage them to resume work as soon as possible, if necessary by temporarily adjusting the nature of their work.

Management strategy for normal course (profile 1)
- Reassure the patient.
- Explain that low back pain is not a serious condition, often resolves spontaneously, but may recur.
- Preferably do not recommend continuous bed rest. Recommend a maximum of 2 days of bed rest if that is the only way for the patient to sufficiently control the pain; explain that the bed rest should thereafter be gradually phased out.
- Avoid recommendations that encourage the patient to remain passive, and recommend a physically active lifestyle.
- Explain that increased activity will not damage any structures in the patient's back.
- Explain that (moderate and gradually increasing) exercise, gradually increasing activity levels, and continuing or resuming work (if necessary with temporarily adjusted workload) promotes recovery.
- Limit the number of treatments to 3 sessions.

C.1.2 Profile 2 – Abnormal course without dominant presence of psychosocial factors impeding recovery

The therapist has concluded from the history-taking and physical examination that there are no psychosocial factors impeding recovery.
The patient should be given the same education and advice as a patient whose low back pain follows a normal course. In addition, the therapist should prescribe a program of exercise therapy. Research into the effectiveness of such programs has not yielded a definitive conclusion as to what type of exercise works best. The guideline development team recommends offering patients an exercise therapy program that fits in with the patient's needs and the therapist's expertise and experience. The patient should be advised to exercise at home, increase their level of activity and, if applicable, return to work, if necessary with temporarily adjusted workload.
If the therapist suspects that the physical strain imposed by the patient's work is impeding recovery, he or she should contact the company doctor, the company physical therapist or the occupational health and safety service, to discuss the management strategy with regard to the patient's returning to work.
If the therapist suspects that the patient has certain impairments of body functions that could be related to the persistence of pain and limitations, the use of manual techniques like joint mobilization or manipulation (by a manual therapist) may be indicated. These techniques are also indicated in case of exacerbations. If this treatment is beyond the therapist's expertise, he or she can contact a manual therapist for further consultation, advice or referral. Thermal therapy and massage are indicated for patients with elevated muscle tone. The therapist should, however, limit the use of passive forms of treatment, as the objective of the treatment and counseling should be to improve the patient's self-efficacy. For the same reason, therapists should limit the use of electrotherapy, transcutaneous electrical nerve stimulation (TENS), ultra-shortwave, ulyrasound and laser therapy; in addition, there is insufficient evidence for the efficacy of these physical modalities.

Management strategy for non-specific low back pain with abnormal course, without dominant presence of psychosocial factors impeding recovery (profile 2)
- Avoid recommendations that encourage the patient to remain passive, and recommend a physically active lifestyle.
- Explain that an increase in pain is not associated with damage to structures in the patient's back.
- Encourage the patient to engage in (moderate and gradually increasing) exercise, gradually increase their activity levels, and continue or resume work (if necessary with temporarily adjusted workload).
- Design an exercise program that fits in with the patient's needs and your own expertise and experience as a therapist.
- In case of impaired joint functionality, consider:
  - joint mobilization or manipulation* and/or
  - massage or thermal therapy (limited duration) to reduce the pain.
- If the patient has been on sick leave for more than 4 weeks, ask them about any arrangements that have been made with the company doctor, and if necessary discuss the management strategy with the company doctor or company physical therapist.

** Patient may have to be referred to a manual therapist.*

The therapist should regularly evaluate both the content of the treatment and its results. This is primarily done by asking the patient.
If the treatment has had no effect after 3 weeks (in the sense of increased activity and participation levels), the therapist should contact the patient's family doctor. If applicable, the therapist

should also ask about any arrangements that have been made between the patient and their company doctor, and if necessary should contact the company doctor to discuss the further management options.

C.1.3 Profile 3 – Abnormal course with dominant presence of psychosocial factors impeding recovery

The therapist has concluded from the history-taking, physical examination and any questionnaires that have been administered that there are one or more factors that are impeding the patient's recovery. The therapist should inform the patient of the findings and explain the unfavorable influence of these psychosocial factors on the recovery process. The therapist should also reassure the patient.

The treatment for this category of patients is basically the same as for those with profiles 1 and 2, but there are some differences in emphasis: (a) more emphasis on information and advice; (b) possibly a greater need for multidisciplinary consultation or collaboration; and (c) a greater focus on behavioral principles in the exercise program. Some patients may, for instance, avoid movements that they think hamper the recovery process, or may have erroneous ideas about the origin and consequences of their back pain. In such cases, the therapist should explain to the patient that moderate and gradually increasing exercise actually promotes recovery. This message can be reinforced in the exercise program by gradually increasing the patient's exposure to these 'dangerous' movements.

If the patient suffers from depressive feelings or somatization that cannot be modified by physical or manual therapy, the therapist should contact the patient's family doctor, company doctor and/or psychologist to discuss further management options. Another option is to collaborate with, or ask advice from, a physical therapist specializing in psychosomatic problems. If the patient is overusing medical treatment (excessive medication use or 'physician shopping'), the therapist may contact their family doctor. If a patient's occupation involves physically heavy work, if the patient has been on sick leave for a long time, or if they are involved in a labor dispute, the therapist should contact the company doctor or the relevant occupational health and safety service to: (a) decide on the right management strategy, and (b) coordinate the management strategy proposed in the treatment plan with the strategies chosen by the other disciplines.

The therapist should preferably design a graded activity program for the resumption or gradual extension of activities. This implies a stepwise increase in the level of activities which is based on a predefined exercise load and time schedule, rather than on the pain level. The objective of a graded activity program is to shift the patient's focus of attention from the pain to activities. This does not mean that the therapist should ignore or trivialize the pain; the therapist should acknowledge the pain, but teach the patient not to allow the pain to dominate their functioning. As the activity level increases in the course of the treatment, the patient should also gradually expand their activities in their own environment, thus ensuring transfer of the treatment effects to the patient's everyday life. Such a graded activity program should preferably be embedded in the occupational medicine approach, if applicable, as this allows the therapist to link the exercise targets to the gradually increasing targets for work resumption. Such a program must obviously be implemented in consultation with the company doctor or occupational health and safety service. The exercises should preferably resemble the actions that the patient normally carries out at work and that they perceive as problematic.

The therapist should regularly evaluate the treatment. In addition, he or she should regularly discuss the influence of the impeding psychosocial factors with the patient, to check whether these factors have changed and whether their influence on the low back pain has diminished. If the treatment has had no effect after 3-6 weeks (in the sense of increased activity and participation levels), the therapist should contact the patient's family doctor or company doctor to discuss the further management options.

Management strategy for non-specific low back pain with abnormal course, with dominant presence of psychosocial factors impeding recovery (profile 3)

- Advise the patient to keep exercising and explain to them that movements are not harmful and even speed up the recovery process.
- Emphasize that the patient's psychosocial factors (depressive feelings, fear of movement, catastrophizing, etc) may have an adverse influence on their recovery.
- Recommend contacting the family doctor, company doctor and/or psychologist if serious or persistent psychosocial factors are hampering the recovery, and discuss the management options.
- Discuss the management options with the patient's company doctor, company physical therapist or the occupational health and safety service if the recovery process is being impeded by heavy physical work, prolonged sick leave or a labor dispute, or if collaboration is expected to promote the recovery.
- Encourage the patient to engage in (moderate and gradually increasing) exercise, gradually increase their activity levels, and continue or resume work (if necessary with temporarily adjusted workload).
- Prescribe a graded activities program.
- If the patient is on sick leave, try to match the targets of the exercise program to the targets for work resumption.
- Contact the patient's family doctor if the treatment has had no effect (in the sense of increased activity and participation levels) after 3-6 weeks, and terminate the treatment.

C.2 Multidisciplinary treatment

Patients with low back pain with an abnormal course and delayed recovery may, where applicable, be treated by a multidisciplinary team of care providers. This may imply treatment at a rehabilitation center or the involvement of a reintegration service. By and large, the therapist can follow the recommendations of the present guideline for these patients too.

C.3 Conclusion of treatment

The treatment is concluded as soon as its agreed objectives have been achieved. Even if the objectives have not been achieved, however, the treatment will have to be concluded at some stage. For instance, it is not useful to continue the treatment if no progress has been made after 3-6 weeks, as the chances of achieving progress after this period are small. This must be discussed explicitly with the patient before the final treatment session. The course

of the treatment must be evaluated during the final session, partly on the basis of the measurement instruments administered.

Finally, the therapist should provide the patient with the following information:

- The patient should try to remain physically active (for instance by joining a sports club), even if they have some residual pain.
- Physical activity promotes physical fitness and does not increase the risk of recurrence of the back pain.
- There is a risk of recurrent back pain, but despite the fact that such pain is troublesome, this should not deter the patient from maintaining an active lifestyle and continuing to work.

C.4 Reporting and record-keeping

The therapist should keep records during the entire treatment process, in accordance with the systematic steps described in the 2011 KNGF guideline on record-keeping in physical therapy (*KNGF-richtlijn Fysiotherapeutische Verslaglegging*). Any deviations from this guideline must be recorded, with the reasons for doing so, as well as any contraindications for further physical/manual therapy treatment.

Upon termination of the treatment, the therapist must report to the patient's family physician about the results; if the patient was referred by a specialist, the latter must also be informed. If applicable, details on aftercare (monitoring) must also be reported. The patient's family doctor must also be informed if the patient originally presented directly to the physical therapist.

Acknowledgments

A special debt of gratitude for their share in the development of this Guideline is owed to the members of the external advisory group ("Tweede Kring"), whose contributions to the guideline have been highly valuable. They are (in alphabetical order): Dr. D.J. Bruinvels on behalf of the Netherlands Society of Occupational medicine (NVAB); T. van Dongen on behalf of the Nederlandse Vereniging van Rugpatiënten 'de Wervelkolom' (NVVR, Dutch society of back pain patients), Dr. J. Geraets on behalf of the Dutch College of General Practitioners (NHG) and M. van Veelen on behalf of the Nederlandse Vereniging voor Fysiotherapie volgens de Psychosomatiek (NFP, Dutch society for psychosomatic physical therapy). The inclusion of the above persons as consultants does not imply that each of them agrees with every detail of the Guideline.

Supplements

Supplement 1 Summary of recommendations

Diagnostic process

1 Measurement instruments
The guideline development team recommends the following measurement instruments for the assessment of limitations of activities and restrictions of participation:
- Numeric Rating Scale for Pain (NRS Pain);
- Patient-Specific Complaints (PSC);
- Quebec Back Pain Disability Scale (QBPDS).

Note The team does not offer any recommendations for specific questionnaires that could be used to identify factors impeding recovery.

2 Clinical prediction rules
The value of clinical prediction rules for patients with low back pain has not yet been sufficiently proven. This guideline therefore does not recommend the use of such rules in therapy practice.

3 Lumbosacral radicular syndrome
The following findings suggest a lumbosacral radicular syndrome:
- Positive 'straight leg raising test' (Lasègue's sign)
- muscle weakness
- fingertip-floor distance > 25 cm when bending forward.

Therapeutic process

4 Management strategy for non-specific low back pain with normal course (profile 1)
- Reassure the patient.
- Explain that low back pain is not a serious condition, often resolves spontaneously, but may recur.
- Preferably do not recommend continuous bed rest. Recommend a maximum of 2 days of bed rest if that is the only way for the patient to sufficiently control the pain; explain that the bed rest should thereafter be gradually phased out.
- Avoid recommendations that encourage the patient to remain passive, and recommend a physically active lifestyle.
- Explain that increased activity will not damage any structures in the patient's back.
- Explain that (moderate and gradually increasing) exercise, gradually increasing activity levels, and continuing or resuming work (if necessary with temporarily adjusted workload) promote recovery.
- Limit the number of treatments to 3 sessions.

5 Management strategy for non-specific low back pain with abnormal course, without dominant presence of psychosocial factors impeding recovery (profile 2)
- Avoid recommendations that encourage the patient to remain passive, and recommend a physically active lifestyle.
- Explain that an increase in pain is not associated with damage to structures in the patient's back.
- Encourage the patient to engage in (moderate and gradually increasing) exercise, gradually increase their activity levels, and continue or resume work (if necessary with temporarily adjusted workload).
- Design an exercise program that fits in with the patient's needs and your own expertise and experience as a therapist.
- In case of impaired joint functionality, consider:
  - joint mobilization or manipulation and/or
  - massage or thermal therapy (of limited duration) to reduce the pain.
    if necessary refer patient to a manual therapist.
- If the patient has been on sick-leave for more than 4 weeks, ask about any arrangements that have been made with the company doctor, and if necessary discuss the management strategy with the company doctor or company physical therapist.

Note The guideline development team discourages the use of electrotherapy, TENS, ultra-shortwave, ultrasound and traction, in view of the lack of evidence.

6 Management strategy for non-specific low back pain with abnormal course, with dominant presence of psychosocial factors impeding recovery (profile 3)

- Advise the patient to keep exercising and explain to them that movements are not harmful and even speed up the recovery process.
- Emphasize that the patient's psychosocial factors (depressive feelings, fear of movement, catastrophizing, etc) may have an adverse influence on their recovery.
- Recommend contacting the family doctor, company doctor and/or psychologist if serious or persistent psychosocial factors are hampering the recovery, and discuss the management options.
- Discuss the management options with the patient's company doctor, company physical therapist or the occupational health and safety service if the recovery process is being impeded by heavy physical work, prolonged sick leave or a labor dispute, or if collaboration is expected to promote the recovery.
- Encourage the patient to engage in (moderate and gradually increasing) exercise, gradually increase their activity levels, and continue or resume work (if necessary with temporarily adjusted workload).
- Prescribe a graded activities program.
- If the patient is on sick leave, try to match the targets of the exercise program to the targets for work resumption.
- Contact the patient's family doctor if the treatment has had no effect (in the sense of increased activity and participation levels) after 3-6 weeks, and terminate the treatment.

de Fysiotherapeut

Royal Dutch Society for Physical Therapy

Postal address
PO Box 248, NL-3800 AE Amersfoort
The Netherlands

www.kngf.nl
www.fysionet.nl
info@kngf.nl

KNGF Guideline on Low Back pain
ISSN 1567-6137 · **Published** July 2013 · **No.** V-07/2013