KNGF Guideline on Low Back Pain and Lumbosacral Radicular Syndrome

SUMMARY

This is an overview of the most important recommendations of the KNGF/VvOCM Guideline for Low Back Pain and Lumbosacral Radicular Syndrome (KNGF, 2021). You can find the complete guideline on the KNGF knowledge platform.

Diagnostic process

Medical history taking and physical examination

Collect information about the following in the medical history taking and the physical examination:

Need for assistance	There is an indication for physical therapy or exercise therapy when: • a patient with low back pain sees the physical or exercise therapist with a need for assistance related to limitations in activities of daily living and/or social participation based on movement-related functioning and • the therapist sees no reason to refer the patient (back) to the general practitioner or referring specialist (see red flags).
Red flags	Assess whether there are signs that could indicate a fracture, infection, tumour or inflammatory condition, or a neurological emergency. Possible signs of a neurological emergency: urine retention, faecal or urinary incontinence, severe motor deficit (MCR score ≤ 3 out of 5) or widespread neurological symptoms (such as pyramidal signs).
Lumbosacral radicular syndrome (LRS)	LRS is characterised by pain in the buttocks and/or sciatica into the leg, accompnied by one ore more complaings or symptoms that are suggestie of a condigion of a specifica sumbosacral nerve root, such as tingling sensations (paraesthesia) and neurological loss of function (hypoesthesia/ hypalgesia, paresis, diminished reflexes).
Neurological examination	In the event of suspected LRS, for example with symptoms underneath the knee, perform a neurological examination on the patient: • examination of the pain distribution (connected or not connected to the dermatome), and • examination of the fingertips-to-floor distance when bending forward with straight knees (positive if the distance is > 25 cm), and • the Lasègue test (passive 'straight leg raise'), the crossed Lasègue test or the reversed Lasègue test, and • examination of the muscle strength ('Medical Research Council' of the key muscles), and • examination of the vital and gnostic sensibility (connected or not connected to the dermatome), and • examination of the reflexes (Achilles tendon, knee tendon, soles of the feet). Be alert to emergency indications in patients with LRS, in the form of signs of a serious neurological problem. Refer the patient with LRS and severe motor deficit (MRC score ≤ 3 out of 5), and/or severe pain (NPRS ≥ 8) to the general practitioner. Check other patients with LRS after two to four days and act according to the recommendations in this guideline.
Prognostic factors	Assess the following prognostic factors for persistent low back pain and LRS:

Factors related to back pain	Patient-related factors
• previous episodes of low back pain • a high degree of limitations in activities • pain in the leg • high intensity of pain	• bad general health status or quality of life
Work-related factors	**Psychosocial factors**
• high degree of physical load at work • bad relationships with colleagues • diminished job satisfaction	• psychological and psychosocial stress • pain-related fear of movement • feelings/symptoms of depression • passive coping style • negative expectations about recovery or catastrophisation

Indications and treatment profiles

Evaluate the risk of persistent complaints upon initial contact with the patient by assessing whether there are prognostic factors for persistent low back pain complaints. Then select among the following profiles:

Profile 1	**Low risk of persistent complaints** • There are no dominant prognostic factors for delayed recovery present. • Limit the treatment to a maximum of three sessions.
Profile 2	**Moderate risk of persistent low back pain** • There are some non-dominant prognostic factors for delayed recovery present.
Profile 3	**High risk of persistent low back pain** • There are dominant prognostic factors for delayed recovery present. Dominant/non-dominant: a dominant presence is when the factor greatly contributes to perpetuating the pain and/or limitations in physical functioning.

Based on the treatment profiles, consider offering simpler and less intensive support to people who are likely to recovery quickly and more complex and intensive support to people with a higher risk of persistent complaints.

StarT Back Screening Tool	Consider using the StarT Back Screening Tool (SBST) to support the evaluation of the risk of persistent complaints. Never base the evaluation solely on the SBST.
LRS	Because LRS is often associated with a high degree of limitations in activities, pain in the leg and high intensity of pain, these patients have a greater chance of being assigned to profile 3.

Therapeutic process

Information and advice and (pain) education

Profiles 1, 2 and 3	Give patients with low back pain in treatment profiles 1, 2 and 3 information and advice about: **The nature and diagnosis of the low back pain** • Explain that it is often unclear exactly how low back pain arises and that there is often a combination of factors present. • Explain that the vast majority of people with low back pain have no indications for an underlying rare condition. **The course and prognosis of low back pain** • Explain that low back pain occurs often and frequently returns, and that the extent of the low back pain can differ each time. • Explain that after three months about half of patients are pain-free and physical functioning has been recovered. **Inhibiting and facilitating factors (if applicable)** • Explain that recovery can be expedited by remaining active and limiting bed rest, self-management for recovery, active coping strategies, positive emotions and a healthy lifestyle. • Explain that the presence of the above-mentioned prognostic factors can cause the recovery to progress less rapidly.
LRS	• Explain that LRS is characterised by the stimulation of a nerve root in the back, usually due to a herniated intervertebral disc, and that this results in sciatica and sometimes also in sensory disorders and loss of strength in the area innervated by this nerve. Also explain that the herniated intervertebral disc retracts on its own in most cases. • Explain that LRS significantly recovers in most patients in the first three months, without requiring surgical intervention. • Explain to patients who need information about imaging diagnostics (X-ray or MRI) that the general practitioner in consultation with the medical specialist will decide whether or not the patient is eligible for this. • Explain that, in case of an LRS, the treatment is generally conservative during the first three months. ›

›	• Advise the patient to move guided by the pain and to gradually increase physical activity. • Explain that if the complaints have not sufficiently improved after six to eight weeks, a referral to the medical specialist/general practitioner will be provided. **Advise the patient with LRS to immediately contact the general practitioner in the event of:** • saddle numbness; • unintentional loss of urine or bowel movement or inability to urinate; • increasing loss of muscle strength in the legs.

Exercise therapy

Profile 1	• Consider giving instructions for exercise therapy to be done independently for patients with a low risk of persistent complaints.
Profiles 2 and 3	• Offer exercise therapy for patients with a moderate or high risk of persistent low back pain.
Type of exercise therapy	• Focus the exercise therapy on the patient's needs, preferences and capabilities as determined during the medical history taking and the physical examination. • Encourage the patient to resume or expand activities, preferably gradually and in a time-contingent manner.
Guidance	• If permissible, scale back the guidance during the treatment period. Do this in consultation with the patient. In this case, it is important to not decrease the exercise frequency and intensity; the focus will shift to independent exercising and physical activity.
LRS	• Consider exercise therapy if there is a need for assistance related to limitations in activities of daily living and/or social participation based on movement-related functioning. • Focus on pain alleviation in the presence of high responsiveness. In the presence of moderate responsiveness, increased pain of short duration (a part of a day) is acceptable. • If good progress is made, expand the activities to the prior level in 6 to 12 weeks.

Behaviour-oriented treatments

Profiles 1 and 2	• For profiles 1 and 2, a thorough explanation and focus on the biopsychosocial model are sufficient.
Profile 3	• Consider behaviour-oriented treatment in order to optimise physical activity and participation in patients with dominant (psychosocial) prognostic factors. • Consider personalising the behaviour-oriented treatment by aiming this specifically on the psychosocial prognostic factors.
Type	• Discuss the choice of behaviour-oriented treatment with the patient and align with the patient's needs, preferences and capabilities and your own knowledge and skills as a therapist.

Manipulations and mobilisations*, massage, TENS and interference

These non-exercise therapy interventions are outside the competency profile of the exercise therapist (Cesar/Mensendieck), unless the exercise therapist has been trained in the additional competencies.

Profile 1	Do not perform manipulations and mobilisations, massage, TENS or interference.
Profiles 2 and 3	For profiles 2 and 3, consider performing mobilisations and/or manipulations* on patients with low back pain as a supplement to exercise therapy if the problem is mechanical in nature due to disorders within the neuromusculoskeletal system. **Only apply massage:** • if you assess, in your capacity as a therapist, that there is a connection between the increased muscle tension and the complaints, and • if a decrease of the increased muscle tension is necessary in order to achieve an active approach, and • to create acceptance of an active approach and achieve exercise and self-reliance on the part of the patient, and ›

›	• if massage is a part of a more extensive approach, so in combination with active and/or behaviour-oriented treatment, and • if massage is only used for a brief period of time. Do not apply TENS or interference.
LRS	Do not apply massage, TENS or interference. Preferably do not perform manipulations and mobilisations.

* Mobilisations are understood to mean passive arthrogenic mobilisations. Manipulations are understood to mean 'high-velocity-thrust' techniques.

Evaluation and referral

If there is an inadequate alleviation of complaints, repeat the evaluation of the risk of persistent complaints*. Perform the re-evaluation at least after three weeks for profile 1, after three to six weeks for profile 2 and after six to 12 weeks for profile 3.

Profiles 1 and 2	• Consider adjusting the treatment profile (or the treatment) based on the re-evaluation. • If there is an inadequate alleviation of complaints, refer the patient to the general practitioner if the re-evaluation does not yield any new insights and you don't expect an adjustment of the treatment profile (or the treatment) to be sufficient.
Profile 3	• Contact the general practitioner if there is an inadequate alleviation of complaints after six weeks. • Refer the patient to the general practitioner if there is an inadequate alleviation of complaints after 12 weeks, and consult about the next phase in the gradual approach.
LRS	• Refer a patient with LRS to the general practitioner if there is doubt about whether the medication dosage is high enough. • Refer a patient with LRS to the general practitioner if the complaints persist from six to eight weeks and if there is insufficient alleviation of pain and/or decrease of loss of function.

* The patient, in consultation with the therapist, assesses whether there is an (in)adequate decrease of complaints; this can optionally be supported by measurement instruments.

Koninklijk Nederlands Genootschap voor Fysiotherapie
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Vereniging van Oefentherapeuten

KNGF Guideline for Low Back Pain and Lumbosacral Radicular Syndrome is a publication of the Royal Dutch Society for Physical Therapy (Koninklijk Nederlands Genootschap voor Fysiotherapie – KNGF) and the Association of Cesar and Mensendieck Exercise Therapists (Vereniging van Oefentherapeuten Cesar en Mensendieck – VvOCM).