

Non-Surgical Treatment of Recent Onset Low Back Pain or Lumbar Radiculopathy

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ABSTRACT

INTRODUCTION: *To summarise recommendations about 20 non-surgical interventions for recent onset (<12 weeks) non-specific low back pain (LBP) and lumbar radiculopathy (LR) based on two guidelines from the Danish Health Authority.*

METHODS: *Two multidisciplinary working groups formulated recommendations based on the GRADE approach.*

RESULTS: *Sixteen recommendations were based on evidence, and four on consensus. Management of LBP and LR should include information about prognosis, warning signs, and advise to remain active. If treatment is needed, the guidelines suggest using patient education, different types of supervised exercise, and manual therapy. The guidelines recommend against acupuncture, routine use of imaging, targeted treatment, extraforaminal glucocorticoid injection, paracetamol, NSAIDs, and opioids*

CONCLUSION: *Recommendations are based on low to moderate quality evidence or on consensus, but are well aligned with recommendations from international guidelines. The guideline working groups recommend that research efforts in relation to all aspects of management of LBP and LR be intensified.*

ANALYSIS

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Background Information

In 2012, the Danish Health Authority was commissioned to formulate evidence-based, national clinical guidelines related to areas with a high burden of disease, perceived variation in practice or uncertainty about which care was appropriate, including low back pain (LBP) and lumbar radiculopathy (LR) (1).

It is estimated that 15% of Danish people suffer from LBP at a given time, and the majority will experience LBP throughout their lifetime – not dissimilar from other regions around the world (2, 3). With or without radiculopathy, LBP is a leading cause of disability and has a major socioeconomic impact on society, accounting for 10% of visits to a general practitioner and 20% of sick days (2). The majority of those experiencing LBP will experience recurrence (4) and 1-10% will experience LR.

The purpose of this paper was to summarize the two national clinical guidelines (NCG) regarding recommendations based on clinical questions for LBP and LR.

SUMMARY:

- Of the 20 clinical questions, none could be answered using clinical guidelines or systematic reviews. Sixteen were answered based on RCTs and the remaining four were answered based on consensus.
- The recommendations from these two guidelines endorse patient enablement through information and education. They recommend advice to remain physically active and supervised exercise in addition to usual care.
- For pain relief, manual therapy – including joint mobilization and manipulation in addition to usual care was recommended.
- For patients with LBP, the expert group recommended using pain medication only in the form of paracetamol, NSAIDs and opioids in addition to usual care, only after careful consideration.
- The routine use of acupuncture was not endorsed for LBP or LR (lumbar radiculopathy).

- The authors recommended against the use of routine imaging (x-ray or MRI) in patients presenting with recent onset LBP and/or LR.
- The authors recommended against the use of extraforaminal glucocorticoid injections in addition to usual care in patients with LR.
- The authors recommended that patients with LR should be referred for surgical consultation within 12 weeks if severe and disabling pain persists despite non-surgical treatment.

CLINICAL APPLICATION & CONCLUSIONS:

The authors found a general lack of high quality evidence for non-surgical interventions for the management of recent onset LBP and LR in adults (symptoms less than 12 weeks). These guidelines are thus based on RCTs when possible, or alternatively on expert panel consensus.

The recommendations in this guideline which focus on education, information and exercise in addition to usual care correlate well to other recently published reviews of clinical practice guidelines for the non-surgical/non-invasive management of LBP with or without LR (5, 6). The same can be said for their recommendation for manual therapy (whether mobilization or manipulation) for pain management. Based on the evidence, it is reasonable to incorporate these interventions despite the paucity of evidence regarding specifics of integrating them. This highlights the importance of understanding patient preferences and incorporating clinical experience when providing evidence-based care.

STUDY METHODS:

- The guidelines were based on systematic reviews and meta-analyses. The authors balanced the evidence of clinical effects against the risk of harms and patient preferences to make recommendations (in accordance with international standards for clinical guidelines, based on the Grades of Recommendations, Assessment, Development, and Evaluation [GRADE] approach) (7, 8).
- Working groups were appointed from scientific societies, professional organisations and reference groups from the Danish healthcare system and patient organizations provided feedback on the recommendations. Drafts of the clinical guidelines were presented in a public hearing and feedback was considered for the final versions.
- Two authors independently screened titles and abstracts for inclusion.

- Each clinical guideline addressed up to 10 clinical questions structured according to the Population, Intervention, Comparison and Outcome (PICO) framework (8).
- *Patient Population:* patients above 16 years of age with non-specific LBP (no signs of LR), and patients above 18 years of age with LR. In both guidelines, symptoms must have been present for less than 12 weeks.
- *Interventions and Comparisons:* Both guidelines included only non-surgical interventions, and the clinical guideline on LR was restricted to non-pharmacological interventions. It was assumed that all patients would receive information and advice, this basic treatment was considered “usual care” and trials were eligible for inclusion when usual care was provided to both groups and an intervention was added to the intervention group.
- *Outcomes:* For most questions related to LBP, back pain intensity and back pain-related activity limitation were determined primary outcomes. For the LR questions, back pain intensity, leg pain intensity, back pain-related activity limitation and neurological deficits were primary outcomes. The working groups defined minimally clinically relevant effects as a difference of 15 mm on a 100 mm VAS, two points on an 11-point NRS and 10 points on a 100-point scale of back pain-related disability.
- The literature was systematically searched until December 2014 (LR) or March 2016 (LBP) using appropriate search terms for each database. Clinical guidelines, systematic reviews and randomized clinical trials (RCT) published in English, German, Norwegian, Swedish or Danish were included.
- The lead reviewer screened and retrieved titles and abstracts and potentially eligible papers were collected in full text.
- The lead reviewer and a member of the working group independently screened full text papers for inclusion. Scientific quality was assessed using the AGREE-II tool for clinical guidelines (9) the AMSTAR tool for systematic reviews (10) and the Cochrane risk of bias tool for RCTs (11).
- The quality of the evidence was graded from very low to high according to the GRADE definitions (12).
- Evidence was summarized into evidence tables and forest plots were constructed when meta-analyses were possible. Based on the evidence, strong or weak recommendations were made for or against an intervention. In the case where no evidence was available from RCTs, a good practice recommendation was made based on the consensus of the working group.

STUDY STRENGTHS / WEAKNESSES:

Strengths:

- Clearly defined research questions were addressed with a thorough and systematic search.
- Independent screening of full texts.
- Only those trials assessed as being of high quality were included.
- Assessment of risk of bias was performed with a validated set of criteria.
- In addition to methodological quality, clinical relevance was also assessed.
- Two authors independently extracted the data from the included articles.
- Working groups were composed of clinicians and researchers, in order to address both methodological quality and clinical relevance.
- The guidelines underwent thorough peer-review and revision.

Weaknesses:

- The primary limitation of this study relates more to the quality of the body of evidence than the methodology of the review itself.
- Given the paucity of high quality evidence, most recommendations were based on consensus of the working group.

Additional References:

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