



@physicaltherapyresearch

RAPID RESEARCH

January 2023

Inside This Week: Radiculopathy: Testing, Treatment, & Outcomes

- ✓ Accuracy of Clinical Exam in Diagnosing Lumbo-sacral Radiculopathy
- ✓ Manual Therapy for Cervical and Lumbar Radiculopathy
- ✓ Management of Cervical Spondylotic Radiculopathy

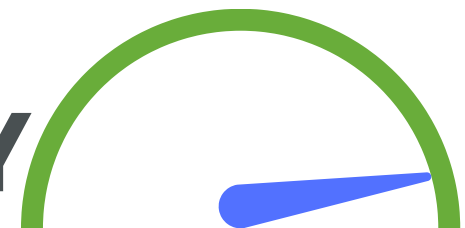


ACCURACY OF CLINICAL EXAM IN DIAGNOSING LUMBO-SACRAL RADICULOPATHY

JANUARY 2023

[Click for Full Text](#)
(Tawa et al. 2021)

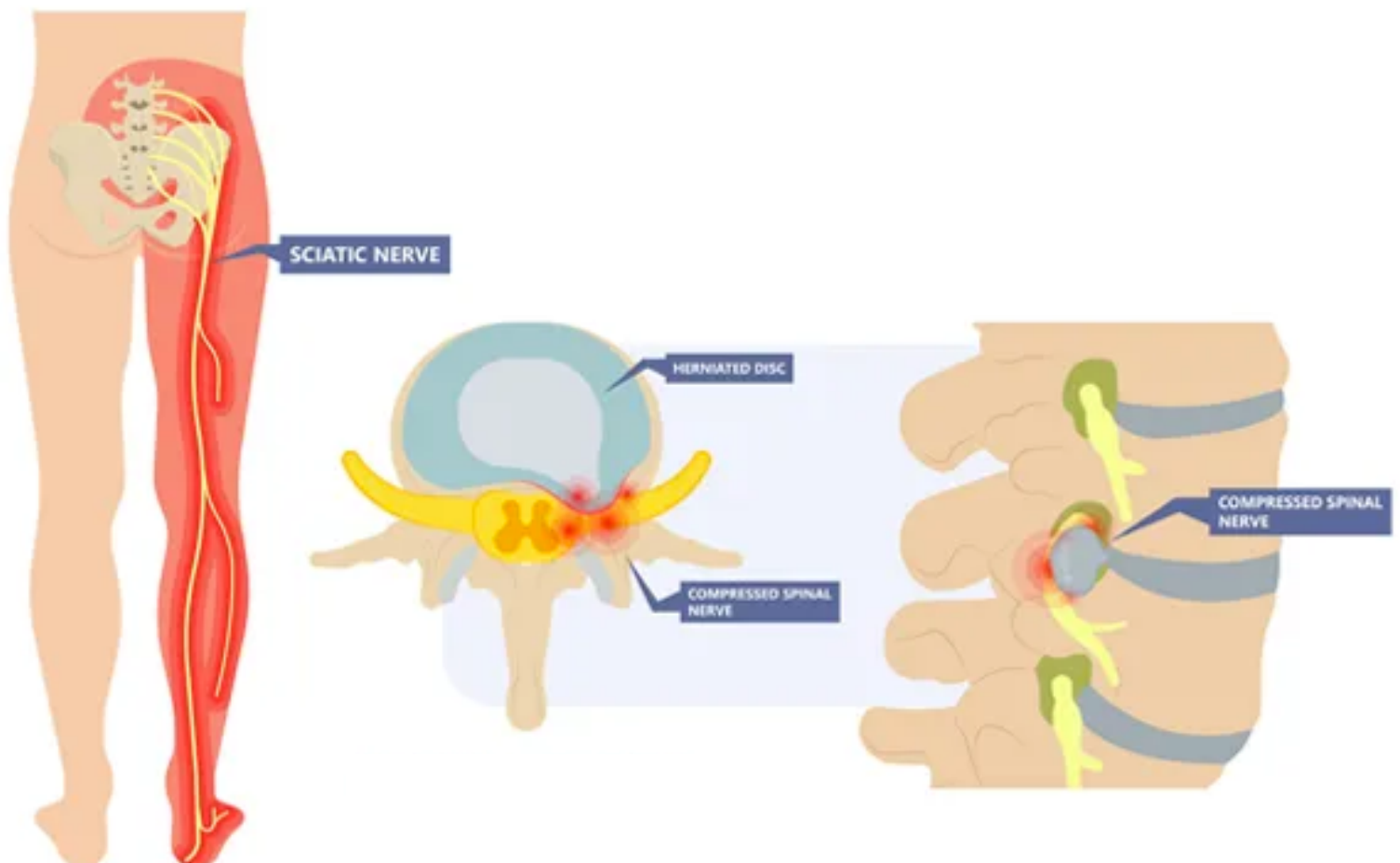
JBI 10/11 [90%]



✓ **Quality Check**

*see appx

This systematic review aimed to determine the accuracy of clinical neurological tests in diagnosing lumbo-sacral radiculopathy.



KEY FINDINGS

12 studies included.

Diagnostic Performance of Sensory Testing:

Sensitivity 61% | Specificity 63%

Motor Testing:

Sensitivity 13-61% (Best: Great toe extn for L5 nerve root)

Specificity 93% (Best: Dorsiflexion & Great toe extension)

Reflex Testing:

Sensitivity was 14-67% (Best: Patella for L4)

Specificity was 60% to 93% (Best: Achilles for L5/S1)

Femoral Nerve Stretch Test:

Sensitivity 100% | Specificity 83%

SLR Test:

Sensitivity 84% | Specificity 78%

MAIN TAKEAWAYS

Sensory testing has moderate sensitivity in the detection of lumbo-sacral radiculopathy.

There is an inconsistency in the execution of motor tests and grading of test results.

SLR test and Lassegue's sign have been used interchangeably with variation on the expected diagnostic outcome.

Deep tendon reflex tests are consistent and show good sensitivity.

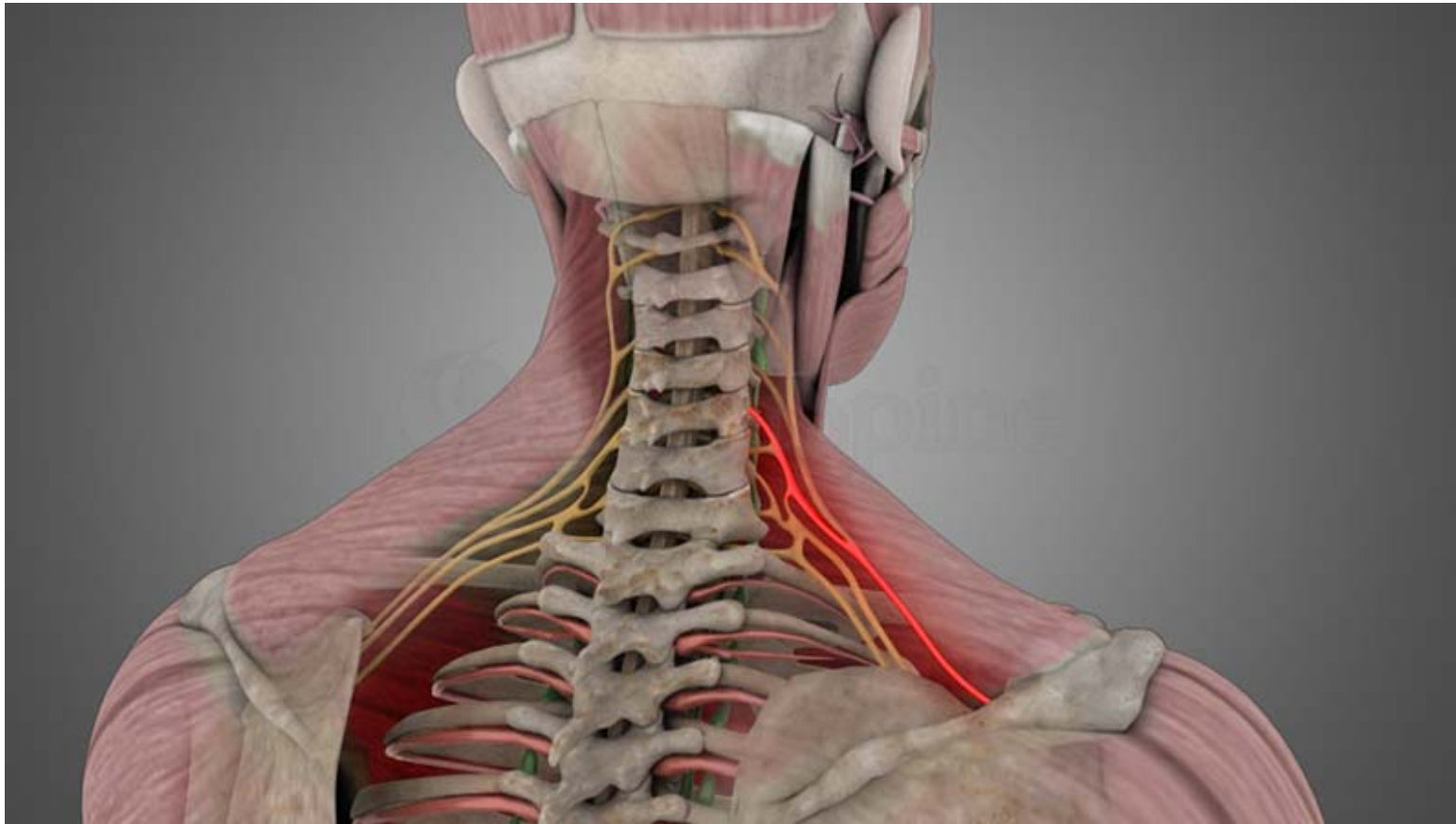
MANUAL THERAPY FOR CERVICAL & LUMBAR RADICULOPATHY

[Click for Full Text](#)
([Kuligowski et al. 2021](#))

JBIR 10/11 [90%]



This systematic review, (a) described and updated knowledge of manual therapy accuracy in treating cervical and lumbar radiculopathy; (b) identified the limitations of current studies; and (c) suggested areas for future research.



KEY FINDINGS

Studies included: Lumbar Radiculopathy [6], Cervical Radiculopathy [21]

Types of Treatment:

Manual therapy alone

Manual therapy + exercises & electrotherapy, hot packs, and ultrasounds.

Cervical traction

Mobilization & Manipulation

Quality of Studies:

PEDro scores on average CR [6.6] & LR [6.7].

Score 9-10 is excellent, **6-8 is good, 4-5 is fair, and 3 or below is poor quality*

Most Common & Effective Treatment(s):

CR: Traction-oriented techniques, improves pain and functional outcomes.

LR: Each study used a different form of manual therapy, making it challenging to summarize knowledge in this group.

MAIN TAKEAWAYS

Traction techniques are the most frequently chosen treatment form.

Mobilization techniques often lack information about the patient's examination before the baseline, which makes it challenging to evaluate its efficacy.

Exercise programs itself are efficient and improve patients' outcomes, but there is no standardization of specific activities.

A multi-modal approach with traction component is the most efficient for CR, and the multimodal approach with traction component, spinal mobilizations, and activation of core muscles for LR.

No single approach is effective for both CR and LR.

MANAGEMENT OF CERVICAL SPONDYLOTIC RADICULOPATHY

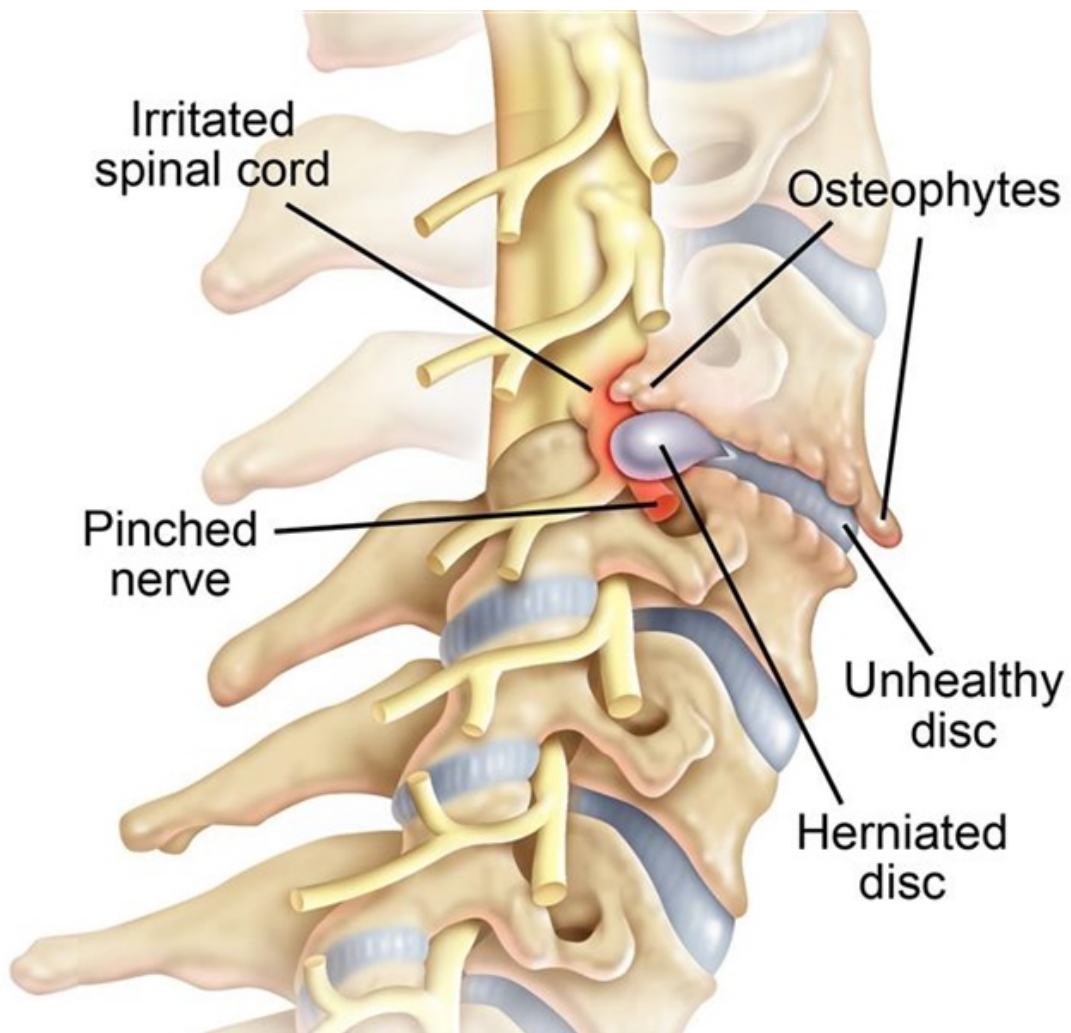
JANUARY 2023

[Click for Full Text](#)
(Luyao et al. 2022)

JBI 11/11 [100%]



This systematic review evaluated the effects of surgery and conservative treatments for cervical spondylotic radiculopathy and provided reference for choosing the time and method of treatment.



6 studies included; 464 participants.

Conservative Treatment vs. Surgical Treatment:

Surgery was more effective in lowering:

Neck-VAS [1-3 mos, ~30%], [3-6 mos, ~20%], [6 mos, ~13%], [12 mos, ~15%].

Arm-VAS [1-3 mos, ~34%], [3-6 mos, ~21%], [6 mos, ~18%], [12 mos, ~22%].

NDI [1-3 mos, ~9%], [6 mos, ~5%]

No significant difference was observed in:

NDI at 12-month time point

ROM

Mental Health

MAIN TAKEAWAYS

This study provides high-quality evidence for surgical and conservative treatment of cervical spondylotic radiculopathy.

Surgical treatment is better than conservative treatment in terms of VAS score and NDI score, in follow-ups less than one year.

There was no evidence of a difference between surgical and conservative care in ROM and mental health.

Conservative treatment, 1-2x/wk for 3 months is beneficial in the long term and avoids the risks of surgery.

Surgery is not necessary for patients who do not need rapid pain relief, as conservative treatment is effective, but slower.

GIVE US YOUR FEEDBACK!

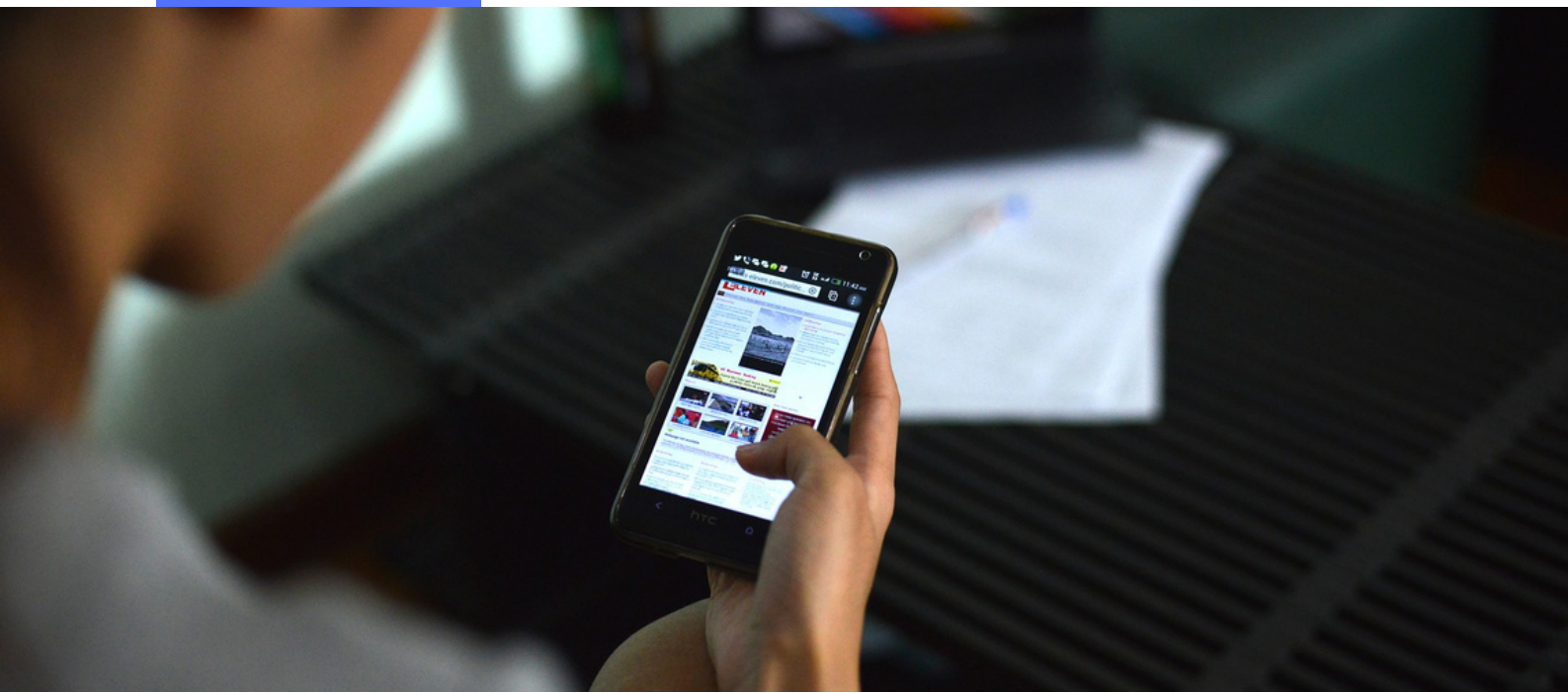
MEMBERS

We are on a mission to make research more accessible, easier to interpret, and quicker to implement.

Help us by giving 1 minute of your time to leave feedback for us.

We would greatly appreciate any feedback you have, as it helps us continually improve!

[Leave Review](#)



JBI CRITICAL APPRAISAL CHECKLIST FOR SYSTEMATIC REVIEWS AND RESEARCH SYNTHESSES

Author: Kuligowski et al. Year: 2021

| | Yes | No | Unclear | Not applicable |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. Is the review question clearly and explicitly stated? | + | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Were the inclusion criteria appropriate for the review question? | + | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Was the search strategy appropriate? | + | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Were the sources and resources used to search for studies adequate? | + | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Were the criteria for appraising studies appropriate? | + | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Was critical appraisal conducted by two or more reviewers independently? | + | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Were there methods to minimize errors in data extraction? | + | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Were the methods used to combine studies appropriate? | + | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Was the likelihood of publication bias assessed? | <input type="checkbox"/> | X | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Were recommendations for policy and/or practice supported by the reported data? | + | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Were the specific directives for new research appropriate? | + | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Overall appraisal: 10/11 (90%)

LIMITATIONS:

Search did not include a grey literature search, which could limit the generalizability of obtained results.

A small number of LR clinical trials was also a significant barrier in unifying treatment methods for this pathology.

Poor quality of most of the available publications.

JBICRITICAL APPRAISAL CHECKLIST FOR SYSTEMATIC REVIEWS AND RESEARCH SYNTHESSES

Author: Tawa et al. Year: 2017

| | Yes | No | Unclear | Not applicable |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. Is the review question clearly and explicitly stated? | + | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
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Overall appraisal: 10/11 (90%)

LIMITATIONS:

MRI embraces the patho-anatomical model yet radiculopathy is not always mechanically mediated by IVD nerve root compression.

There is not an acceptable gold standard diagnostic tool to which MRI can be compared.

JBI CRITICAL APPRAISAL CHECKLIST FOR SYSTEMATIC REVIEWS AND RESEARCH SYNTHESSES

Author: Luyao et al. Year: 2022

| | Yes | No | Unclear | Not applicable |
|---|-----|--|--------------------------|--------------------------|
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Overall appraisal: 11/11 (100%)

LIMITATIONS:

Only published English literature were retrieved, which may lead to publication bias.

Surgical methods and conservative treatment methods were not exactly the same between each of the included studies, and the follow-up times were different.

Some of the included studies showed poor methodological quality.
