RAPID RESEARCH

@physicaltherapyresearch

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Inside This Week:

Lumbar Nerve Testing

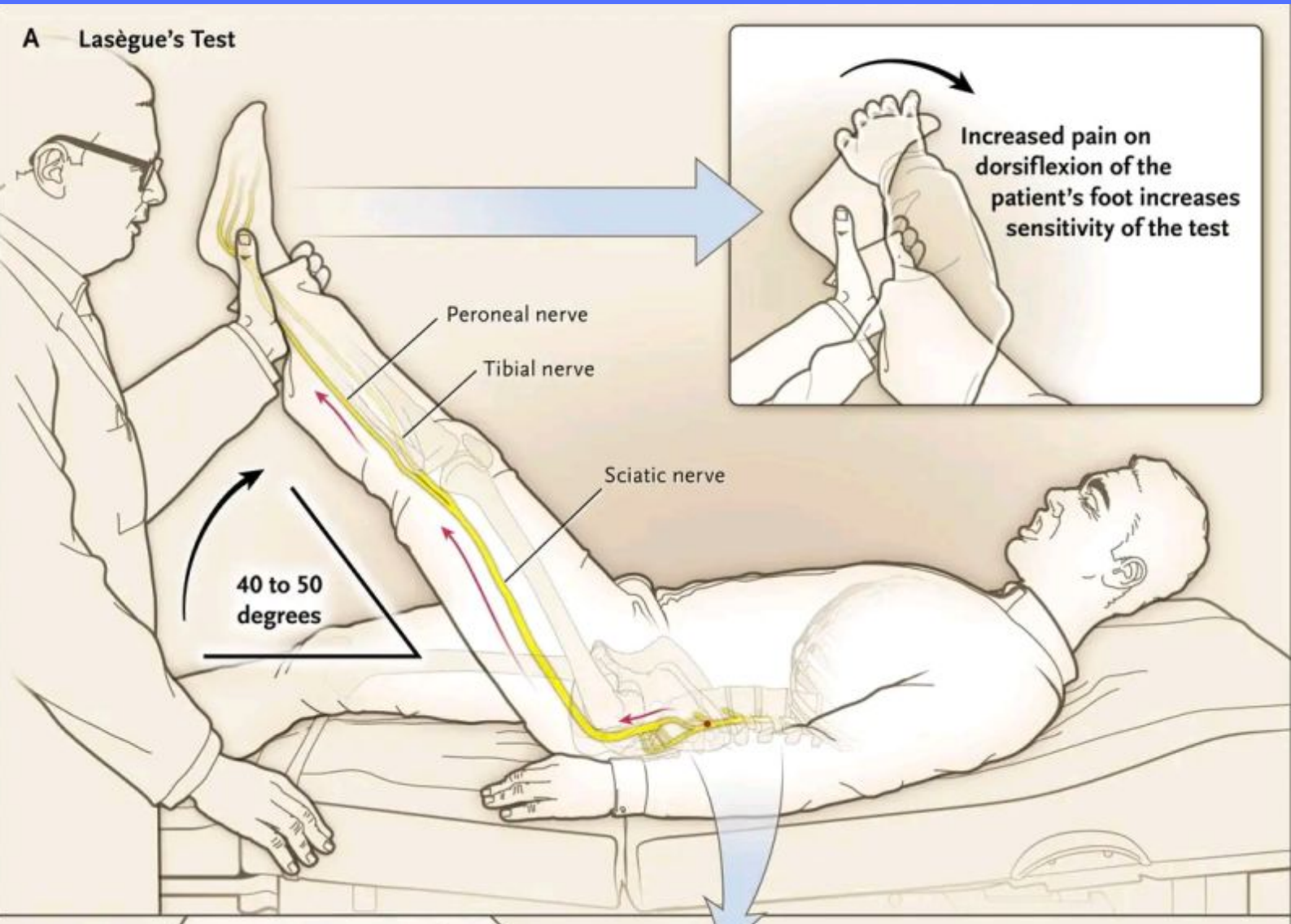
- ✅ Accuracy of the Straight Leg Raise Test
- ✅ Accuracy of the Straight Leg Raise Test via MRI
- ✅ Accuracy of Neuro Exam to Diagnose Lumbar Radiculopathy

ACCURACY OF THE STRAIGHT LEG RAISE TEST

DECEMBER 2023

Click for Full Text (Pesonen et al. 2021)

This study tested ESLR's interrater reliability to ascertain if hip internal rotation and ankle dorsiflexion would produce consistent responses in patients with LBP, with and without sciatica.



KEY FINDINGS

40 subjects included, 20 to each sciatica and control groups.

Avg ESLR angle:
Sciatic group [60 ± 19°]
Control group]84° ± 8°]

Interrater Agreement:
ESLR [85%]
SLR [50-54%]
ESLR vs traditional SLR [75%]

MAIN TAKEAWAYS

The extended SLR adds hip internal rotation or ankle dorsiflexion to apply more tension to the neural tissues than the SLR.

The ESLR produces constant results in patients with LBP with or without sciatica, and may improve diagnostic ability for detection of a likely neural element.

ACCURACY OF THE STRAIGHT LEG RAISE TEST VIA MRI

DECEMBER 2023

Click for Full Text (Pesonen et al. 2021)

This study investigated whether a 'positive' ESLR finding is associated with pathology seen on MRI.

KEY FINDINGS

40 subjects included, 20 to each sciatica and control groups.
After the ESLR, each subject's lumbar MRI was evaluated.

Of Sciatic (ESLR+) Patients:

85% had Lumbar Disc Herniation (LDH) in the MRI.
75% Nerve Compression (NC) in the MRI.
MRI had a very high incidence of 'false-positives' with ESLR negative group.

ESLR Accuracy:

LDH

Sensitivity [85%] Specificity [45%]

NC

Sensitivity [75%] Specificity [50%]

MAIN TAKEAWAYS

The ESLR shows high validity in detecting neural symptoms and is strongly associated with pathology seen in the MRI when judged positive.

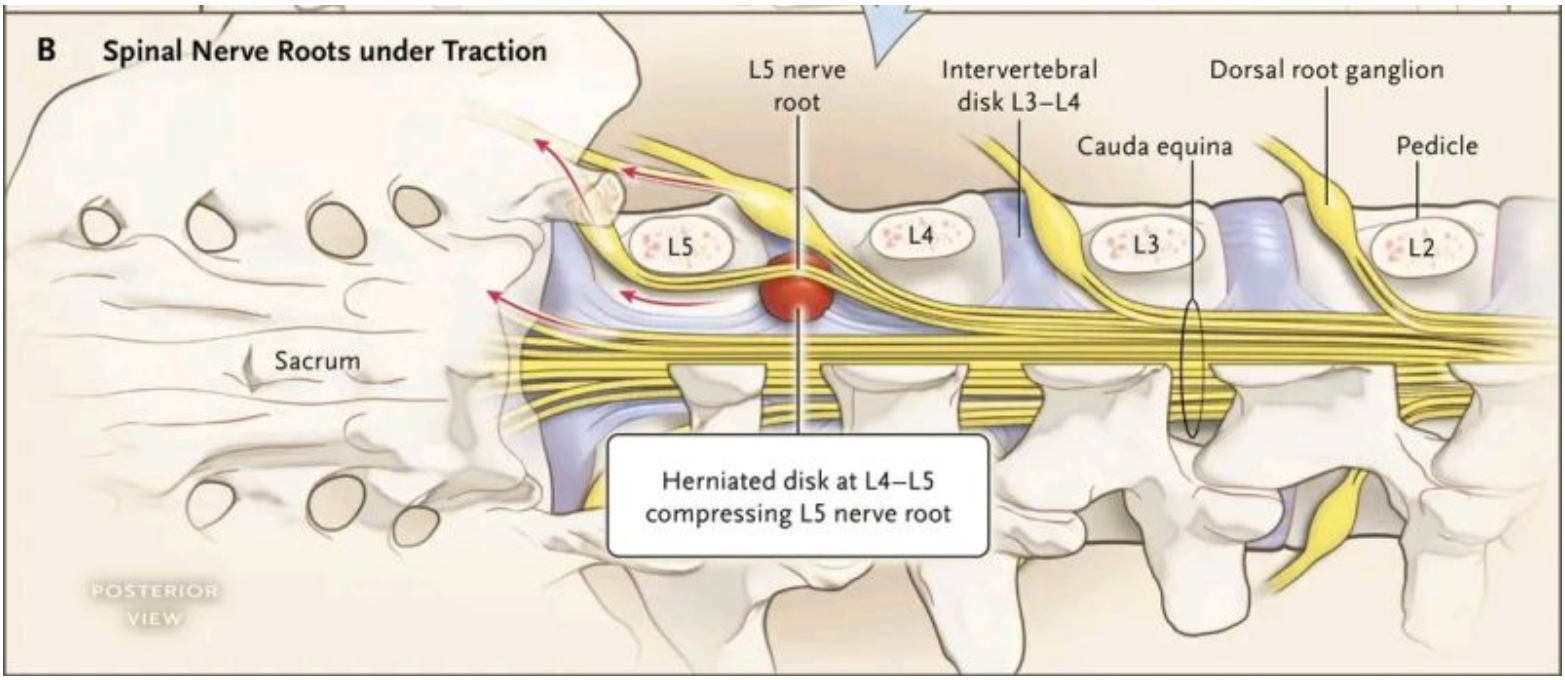
We suggest the use of ESLR in clinical practice as a part of clinical examination, where it may prove to be a valuable tool in detecting patients with sciatic symptoms

ACCURACY OF NEURO EXAM TO DIAGNOSE LUMBAR RADICULOPATHY

DECEMBER 2023

Click for Full Text (Tawa et al. 2017)

This study evaluated the performance of various individual and grouped clinical neurological tests in detecting nerve root impingement, as established in the current literature.



KEY FINDINGS

12 primary diagnostic accuracy studies.

Sensory Testing (MR imaging as a reference):
Sensitivity 61%
Specificity 63%
Motor Testing (MR imaging as a reference):
Sensitivity 13-61%
Reflex Testing:
Sensitivity 14-67%
Specificity 60-93%
Femoral Nerve Stretch Test:
Sensitivity 100%
Specificity 83%
SLR Test:
Sensitivity 84%
Specificity 78%

MAIN TAKEAWAYS

There is a scarcity of studies on the diagnostic accuracy of clinical neurological examination testing.

Furthermore there seem to be a disconnect among researchers regarding the diagnostic utility of lower limb neurodynamic tests which include the Straight Leg Raise and Femoral Nerve tests for sciatic and femoral nerve respectively.

Whether these tests are able to detect the presence of disc herniation and subsequent nerve root compression or hyper-sensitivity of the sacral and femoral plexus due to mechanical irritation still remains debatable.

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