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RAPID RESEARCH

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Inside This Week: Tests for Low Back Nerve Pain

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 - ✓ Accuracy of Tests to Determine Lumbar Nerve Radiculopathy



LASEGUE SIGN: TESTING FOR NERVE ROOT IRRITATION

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\(Das & Nadi, 2021\)](#)

Das and Nadi (2021), reviewed the Lasegue sign or Straight Leg Raise Test (SLRT), explaining the anatomy, use, and findings, to assess for nerve root irritation.



KEY FINDINGS

Lasegue sign or SLRT assesses for nerve root irritation in the low back.

The lumbar nerve roots have an excursion ~4 to 6 mm with lower leg movement, however when compressed, this diminishes, and can be irritable with movement.

Causes of Positive SLRT

1. Nerve root irritation - Intervertebral disc prolapse most commonly
2. Intraspinous tumor
3. Inflammatory radiculopathy

True positive SLRT

1. Radicular leg pain should occur (radiating below the knee).
2. Pain occurs when the leg is between 30 and 60 or 70 degrees from horizontal.

What findings should not qualify as a positive SLRT?

1. Pain occurring in the low back or posterior thigh alone.
2. Pain occurring at an angle less than 30 degrees or more than 70 degrees.
3. Pain occurs in a normal person at an angle of 80 to 90 degrees.

MAIN TAKEAWAYS

Sensitivity is 72 to 97%

Specificity is 11 to 66%

Interpretation of SLRT

Pain radiating down the buttock to the lateral thigh and medial calf - **L4 nerve root irritation.**

Pain radiating down the buttock to the posterior thigh and lateral calf - **L5 nerve root irritation.**

Pain radiating down the buttock to the posterior thigh and calf, and lateral foot - **S1 nerve root irritation.**

TENSION TESTS TO DIAGNOSE LUMBAR RADICULOPATHY

[Click for Full Text](#)
([Monteros et al.](#)
[2020](#))

This research aimed to estimate the diagnostic validity of commonly used orthopedic stress tests and/or neurodynamic tests (performed individually, in combination and in parallel).



KEY FINDINGS

Tests evaluated:

Straight Leg Raise (SLR), Bragard, Fajersztajn, Sicard, Passive Neck Flexion (PNFT), Kernig, Slump, and Dejerine's triad (DT).

Only 2 tests performed independently had **external validity, but neither had reliability or precision.**

The Straight Leg Raise test and the Bragard tests:

High sensitivity (97% & 40%)

High negative predictive value (PV- 96% & 64%)

External validity (Likelihood Ratio- 0.05).

The combined test of the **Slump test and the Dejerine's triad** had internal and external validity.

MAIN TAKEAWAYS

Only Slump test combined with the Dejerine's triad & the SLR and Bragard tests had diagnostic validity (internal and external).

Both tests can be considered as appropriate to diagnose lumbar or lumbosacral radiculopathy.

These tests are low cost, simple & quick to perform in clinical practice.

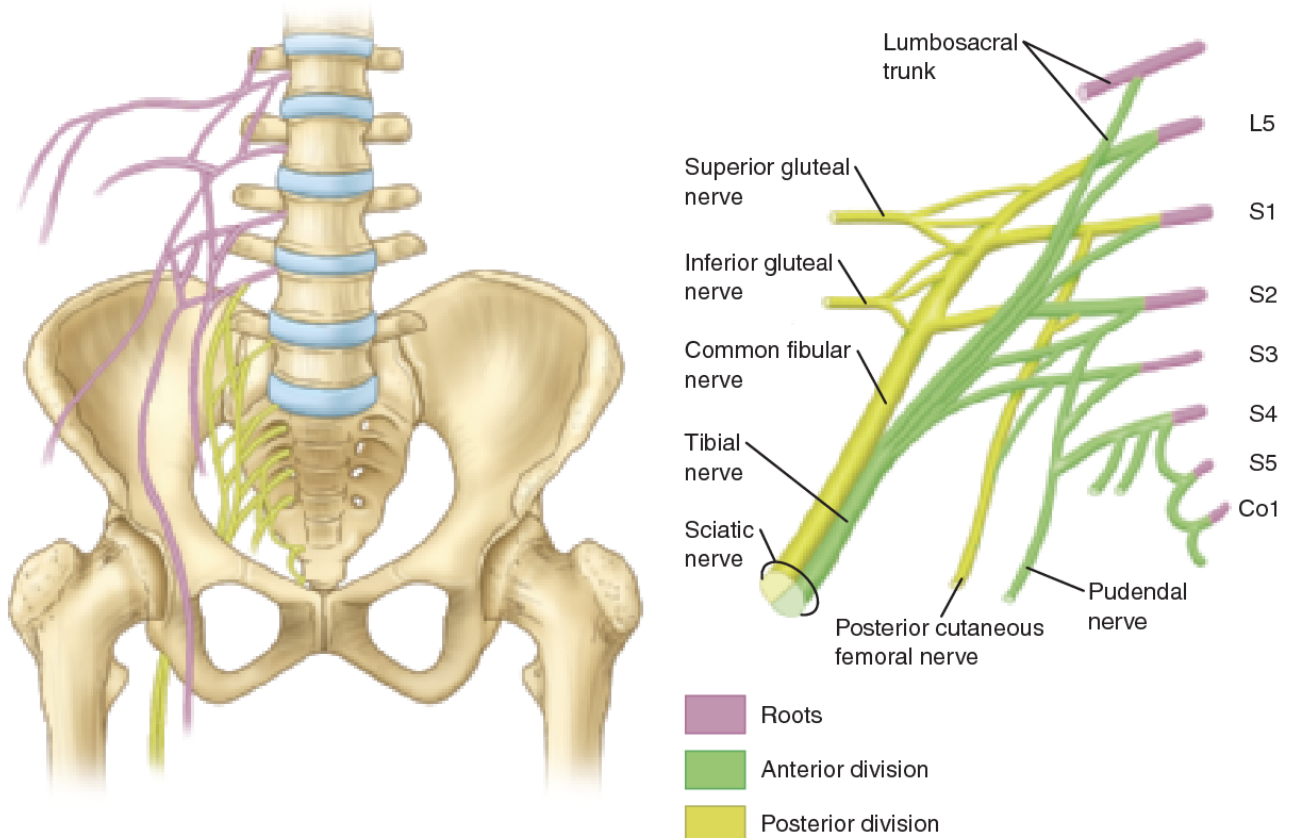
Based on the results, tests with no clinical utility when performed individually, include:

The Passive Neck Flexion test, the Dejerine's triad, the Straight Leg Raise test, the Bragard test, the Fajersztajn test, the Slump test, the Sicard test and the Kernig test.

ACCURACY OF TESTS TO DETERMINE LUMBAR NERVE RADICULOPATHY

[Click for Full Text](#)
([Suri et al. 2011](#))

This research examined the sensitivities, specificities and Likelihood Ratios (LR) of clinical tests to predict the presence or absence of lumbar nerve root impingement.



LRs ≥ 5.0 indicate **moderate to large changes from pre-test to post-test probability** of nerve root impingement

Mid-lumbar impingement tests with LRs ≥ 5.0 :

Femoral stretch test (**FST**).

Crossed femoral stretch test.

Medial ankle pinprick sensation.

Patellar reflex testing (**PRT**)

Combination of FST and either **PRT (LR 7.0)** or **Sit-to-stand test**.

Low lumbar impingement tests with LRs ≥ 5.0 :

Achilles reflex test; **Combinations did not increase LRs.**

Diagnosing level-specific impingement; LRs ≥ 5.0 :

Anterior thigh sensation at L2 (LR of 13)

FST at L3 (LR of 5.7)

Patellar reflex testing (LR of 7.7)

Medial ankle sensation (LR ∞)

CFST at L4 (LR of 13)

Hip abductor strength at L5 (LR of 11)

MAIN TAKEAWAYS

Physical exam can be useful to diagnose:

Mid-lumbar nerve root impingement.

Low lumbar nerve root impingement.

Level-specific nerve root impingement on MRI.

Optimizing the accuracy of the physical examination is a goal worthy of further study, in order to improve the array of cost-effective diagnostic tools available in specialty spine care.

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