

CAT → Paresis, absent reflexes, & decreased trunk forward flexion AROM are the best tests to rule-in lumbosacral radiculopathy.

Clinical Bottom Line(s):

- 1. To rule-in L5-S1 radiculopathy, paresis and absent reflexes are the best diagnostic tests.**
- 2. To rule-out L5-S1 radiculopathy, back pain > leg pain and non-dermatomal distribution of pain symptoms are the best diagnostic tests.**

Citations(s): Vroomen P, de Krom M, Wilmink J, Kester A, Knottnerus J. Diagnostic value of history and physical examination in patients suspected of lumbosacral nerve root compression. *Journal of Neural Neurosurgery Psychiatry*. 2002;72:630-634.

Three/four part clinical question: In a patient with a suspected S1 radiculopathy, what are the best diagnostic tests to rule-in the condition?

The study: Prospective diagnostic test study..

The study patients: 337 patients were screened. 247 patients were included, ages 14-81 (avg 46), referred to the neurology department with a new episode of pain radiating into the leg below the gluteal fold. Inclusion criteria: radiating pain sufficiently severe to justify further action. Exclusion criteria: previous spinal surgery, pregnancy, severe co-morbidity, or contraindication to MRI.

“Gold” standard: MR imaging positive for nerve root compression. 56% of patients were positive for nerve root compression visible on MRI.

The evidence:

History	Sn	Sp	+LR	-LR	Post-test Probability
Leg pain > Back pain	0.82	0.54	1.74	0.33	negative test = 20% probability of radiculopathy
Dermatomal Distribution	0.89	0.31	1.3	0.34	negative test = 20% probability of radiculopathy
Physical Exam	Sn	Sp	+LR	-LR	Post-test Probability
Paresis	0.27	0.93	4.11	0.78	positive test = 82% probability of radiculopathy
Absent AJ/KJ reflexes	0.14	0.93	2.21	0.91	positive test = 77% probability of radiculopathy
Finger-to-Floor > 25cm	0.45	0.74	1.71	0.75	positive test = 70% probability of radiculopathy

Comments:

1. Historical items were generally better to rule out radiculopathy while physical exam items were better for ruling in.
2. As expected, sensation is the least specific item included in the orthopedic neuro screen.
3. SLR had poor diagnostic test properties: Sn 0.64, Sp 0.57.
3. Weakness was the author’s choice of a “gold” standard. Many patients with significant findings on MRI are asymptomatic and because of this the patient’s symptoms may or may not be related to MRI findings.