

Pretest Probability of Lumbar Spinal Stenosis for the following populations: ¹⁴²

Primary lumbar stenosis =	9%
Asymptomatic individuals with LSS findings on imaging =	20%
Specialty spine centers =	42%
Neurogenic claudication =	62%

Predictor Variables

Physical Exam ^{142,163}

Y N

- Best Posture in Sitting (-LR = 0.28)
- Worst Posture is Standing/Walking (-LR = 0.33)
- Older age (>50yo)
- Directional preference for flexion
- No pain when seated (+LR 6.6)
- Walks with flexed spine (+LR 6.4)
- Level treadmill walking provokes symptoms earlier than inclined (+LR = 4.1)
- Longer recovery after level TM walking vs. inclined (-LR = 0.26)

Diagnostic Imaging ^{142,163}

Y N

- Lumbar Myelography (-LR = 0.31)
- Lumbar Myelography (+LR = 3.3)

- Lumbar CT scan (-LR = 0.15-0.28)
- Lumbar CT scan (+LR = 4.4)

- Lumbar MRI (-LR = 0.03-0.19)
- Lumbar MRI (+LR = 8.1-16.2)

McGee's rule for interpreting likelihood ratios ^{140,143}

+LR	-LR	Estimated probability shift
2	$\frac{1}{2} = 0.5$	+/- 15%
5	$\frac{1}{5} = 0.2$	+/- 30%
10	$\frac{1}{10} = 0.1$	+/- 45%

Posttest Probability of Spinal Stenosis = Pretest Prob. + Est. Probability Shift

With some disease states, like pneumonia, the individual likelihood ratios can be summed sequentially. The assumption is that each variable is independent of the others. That is, a separate disease process is causing positive test findings.

In spinal stenosis, there is not usually a separate disease state causing positive test findings. Therefore, the variables are not independent. We should choose the variable with the largest potential shift and test for the presence or absence of that finding.