

DIAGNOSTIC TEST UNIT

Diagnosis of Lumbar Spine Stenosis

Objective:

To enhance skills in assessing articles relating to diagnostic tests in terms of

- i) their validity and
- ii) applying their results to clinical care.

Problem Based Educational Package:

Please work through the package on the diagnosis of iron deficiency anemia. The package includes a scenario, journal article presenting the results of a study of electrodiagnostic testing, reference to the a diagnostic test methodology article in the Users' Guide, and a worksheet.

Clinical Scenario:

A 65-year-old woman reports low back pain of 1 year's duration that is brought on by prolonged standing or walking. She also develops dull, aching right posterior thigh pain after several minutes of walking, as well as mild tingling on the soles of both feet. Her pain is typically relieved when she bends forward while standing. On examination, no abnormalities are found on sensory nerve, motor nerve, reflex, or balance testing.

A 74-year-old man with no major medical problems reports right-sided low back and right calf pain that are worse with prolonged sitting and standing. Walking neither improves nor worsens his leg pain, and no particular position provides relief. On examination, the patient has no change in pain with bending forward or backward, excellent peripheral pulses, and a positive right straight leg raise. The neuromuscular examination findings are otherwise normal.

Given that the characteristic signs and symptoms of lumbar spinal stenosis are common, the primary care clinician is left with the question: "Which patients with lower extremity and back pain have the clinical syndrome of LSS, and which do not?" You have been advised that electrodiagnostic testing may provide additional clarity to help establish your diagnosis for each patient.

Using PubMed and Clinical Queries you use the search terms "lumbar spine stenosis" and "electrodiagnostic testing" and restrict your search to "diagnosis". You identify the following study which you decide to explore further:

The sensitivity and specificity of electrodiagnostic testing for the clinical syndrome of lumbar spinal stenosis. Spine. 2005; 30(23): 2667-76. Haig AJ, et al.

The abstract indicates it is relevant to your patients and you decide to critically appraise this paper using the “Users’ Guides” for a Diagnosis paper.

After critically appraising this paper, will you recommend electrodiagnostic testing for either patient?

Assignment:

Consider the article: The sensitivity and specificity of electrodiagnostic testing for the clinical syndrome of lumbar spinal stenosis. Spine. 2005; 30(23): 2667-76. Haig AJ, et al.

Review the articles, complete the work sheet, and consider the following.

What is your best guess as to the probability of lumbar spinal stenosis in the two patients presented? Using the "any abnormality" evidence from Table 2, calculate post-test probabilities for the two patients given a positive test, and given a negative test.

Enclosed Materials:

1. Haig et. al. The sensitivity and specificity of electrodiagnostic testing for the clinical syndrome of lumbar spine stenosis. Spine 2005; 30(23):2667–2676
2. Worksheet for the evaluation of an article on Diagnostic Test.