

Journal Review II

By Ron Feise, DC

Spinal Stenosis & High Tech: #1

Haig AJ, Tong HC, Yamakawa KS, Quint DJ, Hoff JT, Chiodo A, et al. Spinal stenosis, back pain, or no symptoms at all? A masked study comparing radiologic and electrodiagnostic diagnoses to the clinical impression. *Arch Phys Med Rehabil* 2006;87:897-903.

Synopsis. This study was a prospective, masked, double-controlled trial. The research team aimed to assess the relationship between clinically recognized lumbar spinal stenosis and the conclusions of masked radiologists and electrodiagnosticians. The radiologists viewed magnetic resonance imaging (MRI), and the electrodiagnosticians analyzed the results of monopolar needle electromyography. One hundred fifty persons 55 to 80 years old with or without back pain participated.

The sensitivity (true positive) of the radiologists for the clinical diagnosis of lumbar stenosis was 59.2%, and specificity (true negative) was 40.9%. The sensitivity of the electrodiagnosticians was 70.0%, and the specificity was 46.9%. Combining MRI and electromyography findings did not improve these tests' validity.* In addition, comparing the diagnostic findings of spine surgeons with those of physiatrists yielded a disappointingly low correlation.

* **Note.** The cutoff point for reasonable discriminant validity for sensitivity and specificity both should be > 80%.

Research Quality. Reasonable.

Quality Details. This study used the following: 1) a prospective cross-sectional design, 2) an adequate sample size, 3) tests measured independently and blindly, 4) an acceptable reference standard, 5) reference test applied independently, 6) tests measured independently of clinical information, 7) reference test measured before any interventions, 8) appropriate spectrum of disease and non-

disease subjects, 9) description of the setting and examiners, and 10) information provided about procedures.

Conclusion. The view obtained from an MRI or electrodiagnostic examination does not assist in the diagnostic process of patients with lumbar stenosis.

Clinical Implications. *Lumbar spinal stenosis is common in the elderly, and will be increasingly experienced as the population ages. Practitioners who diagnose stenosis as a departure from the average size of the spinal canal, regardless of symptoms, place the patient at risk. Practitioners should be aware of the classic presentation: an older patient with neurogenic claudication—pain in the back or legs with slow-paced ambulating and walking.*

The inability of a radiologist or electrodiagnostician to differentiate asymptomatic and back-pain patients from clinical stenosis patients is hard to ignore. The conclusion is that practitioners should define the need for intervention using clinical criteria and avoiding the temptation to treat based on invalid tests.

Spinal Stenosis & High Tech: #2

Lohman CM, Tallroth K, Kettunen JA, Lindgren KA. Comparison of radiologic signs and clinical symptoms of spinal stenosis. *Spine* 2006;31:1834-40.

Synopsis. This was a prospective study to examine the correlation between computerized tomography (CT) findings and clinical symptoms of spinal stenosis. In addition, the research team surveyed changes in the narrowness of the spinal canal without and with axial loading (mimicking the condition of standing). One hundred seventeen patients and 351 intervertebral levels were tested.

There was no correlation found between the severity of the clinical symptoms of spinal stenosis and CT

results. Neither did axial loading improve the correlation.

Research Quality. Reasonable.

Quality Details. This study used the following: 1) a prospective cross-sectional design, 2) an adequate sample size, 3) tests measured independently and blindly, 4) an acceptable reference standard, 5) reference test applied independently, 6) reference test measured before any interventions, 7) appropriate spectrum of disease subjects, 8) description of the setting, and 9) information provided about procedures.

Conclusion. Avoid CT as a diagnostic tool for patients with symptoms of spinal stenosis.

Clinical Implications. *This is yet another study suggesting that practitioners should avoid treating the photo. ■*

These reviews are excerpts from Direction of the Evidence, published by the Institute of Evidence-Based Chiropractic, whose aim is the integration of science into chiropractic practice. Dr. Feise can be reached at rjf@chiroevidence.com.