

***JMPT* Abstracts for March/April 1990**

Editorial Staff

Stress X-Rays and the Low Back Pain Patient

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This study was undertaken to determine if demographic, historical and/or clinical information would be helpful in predicting the presence of abnormal motion depicted on a stress radiograph (flexion, extension and lateral bending views). A total of 72 patients were divided into "normals" and "abnormals" based on the presence of abnormal sequential intersegmental vertebral motion as demonstrated on the stress radiographs.

Demographically and historically, the "normal" and "abnormal" groups were essentially the same. Clinical data also failed to show any statistically significant differences between the two groups. Other radiographic findings (scoliosis, degenerative disease, and foraminal encroachment) did not show any significant differences.

The value of demographic, historical and/or clinical information as input into the formulation of a protocol for stress radiography is questioned. Suggestions for further research are given.

The Sensitivity and Specificity of Seven Lumbo-Pelvic Orthopedic Tests and the Arm-Fossa Test

Charlotte Leboeuf, D.C.

Twenty-nine lumbosacral asymptomatic and 39 symptomatic patients who attended a chiropractic clinic were examined by a practitioner who was blinded to their symptoms. Seven lumbosacral orthopedic tests, along with the arm-fossa test, were scrutinized for sensitivity, specificity and diagnostic competency values. Only the arm-fossa test and heel-buttock tests had a significantly higher percentage of positive findings in symptomatic than asymptomatic cases. These same tests were the only ones which could be considered to have an acceptable diagnostic value, when both the sensitivity and specificity were taken into consideration in Youden's index. The number of positive tests was unrelated to the presence of lumbosacral symptoms. Orthopedic tests which appeared to strain several adjacent anatomical structures were most commonly positive. No particular combination of tests could predict if the patient was symptomatic or asymptomatic. Only the heel-buttock test had some predictive value. It appears that these tests were of limited value in differentiating between the symptomatic and asymptomatic subjects who attended the study clinic.

Inter-Examiner Reliability of the Electromagnetic Radiation Receiver for Determining Lumbar Spinal Joint Dysfunction in Subjects with Low Back Pain

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Heng, D.C.

Twenty subjects (6 male, 14 female) with low back pain (LBP) were examined by two experienced and licensed chiropractic doctors (E1 and E2). Both examiners examined the patients using a Toftness Electromagnetic Radiation Receiver (EMR) and by manual palpation (MP) of the spinous processes. Inter-examiner reliability was calculated at three sites (L3, L4, L5) for the following combinations: 1) E1, MP - E2, MP. 2) E1, EMR - E2, EMR. 3) E1, MP - E2, EMR. 4) E2, MP - E1, EMR and intra-examiner reliability was calculated for the following variables: 1) E1, MP - E1, EMR. 2) E2, MP - E2, EMR.

Results of a Kappa coefficient analysis for inter-examiner reliability of the stated combinations and at the specific sites were: 1) -.017, .400, .200. 2) -.013, .100, -.120. 3) .286, .300, .200. 4) -.081, .000, .048. These results predominantly indicate a poor to fair inter-examiner reliability. The results of a Kappa coefficient analysis for intra-examiner reliability of the stated combinations were: 1) .111, .400, .737. 2) .000, .100, .368. These results indicate a poor to fair reliability.

It was concluded that in subjects with LBP, the EMR may not be a reliable indicator of spinal joint dysfunction.

A Survey of Recently Graduated Chiropractors in Australia

Charlotte Leboeuf, D.C.; and Michael N. Webb, Dip App.Sc. (Human Biology), B.App.Sc. (Chiro), Grad.Dip.Ed. (Tertiary)

A survey was performed in Australia with the intent to study recently graduated chiropractors. Five general themes were investigated: 1) personal and professional demographic profile; 2) personal and professional attitudes; 3) referral patterns; 4) diagnostic procedures; and 5) therapeutic procedures. Consideration is given to the possible development of the chiropractic profession in Australia.

A Chiropractic Perspective on Atlantoaxial Instability in Down's Syndrome

Marie E. La Francis-Wright, D.C.

The purpose of this paper is to review the current information on atlantoaxial instability in Down's syndrome. There are potentially fatal consequences to performing adjustive manipulation to the cervical spine of the Down's patient. Atlantoaxial subluxation can cause death; up to 50% of those suffering from this condition have atlantoaxial instability due to anomalous axis formation and/or agenesis, or laxity of the transverse ligament. Trauma or progressive anterior displacement of atlas may cause serious neurological complications.

The standard treatment for atlantoaxial instability is surgical fusion of the upper cervical spine. Conservative chiropractic care is suggested as a possible alternative in some cases. Standards for adjusting patients suffering from Down's syndrome have not been established. However, guidelines reviewed in this paper may indicate when adjusting may be hazardous. Potential protocol for the evaluation and diagnosis of atlantoaxial instability are suggested.

The Use of Imaging Procedures in the Diagnosis of Metastatic Disease of the Lumbar Spine

William D. Defoyd, M.A., D.C.

Metastatic disease of the lumbar spine is a relatively common but catastrophic cause of low back pain. Because of their increasing role as primary care providers for back pain patients, it is essential that chiropractors keep this possibility in mind. Careful consideration of the patient's history, physical and laboratory findings, and the use of imaging procedures are helpful in establishing a correct diagnosis in those cases where metastasis is suspected.

Brucellosis: A Rare Cause of the Unstable Spine

Donald D. Aspegren, D.C.

Brucellosis infection in humans is very rare in the United States. Occasional cases are primarily identified in individuals who have been exposed to an animal's raw dairy products. Presented is a rare case of human brucellosis involving the cervical spine. Of interest is how the case unfolds, reminding the practitioner of the need for thorough clinical practice. A review of clinical features and findings is offered

Posteroanterior Versus Anteroposterior Lumbar Spine Radiology

Michael M. Tsuno, R.T., D.C.; and Gang Jian Shu, Ph.D.

The posteroanterior view of the lumbar spine has important features including radiation protection and image quality; these have been studied by various investigators. Investigators showed that sensitive biological tissues receive less radiation dosage in the posteroanterior view of the spine for scoliosis screening and intracranial tomography without altering the image quality. This paper emphasizes the importance of the radiation safety aspect of the posteroanterior view and shows the improvement in shape distortion in the lumbar vertebrae.

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