

# THE ACADEMY OF CHIROPRACTIC ORTHOPEDISTS



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## *e-Journal*

Quarterly Journal of ACO - December 2006 -

## Original Articles

Editorial Comments by Warren Jahn, DC, FACO

### Lateral Epicondylitis

As a chiropractic orthopedist, we know that lateral epicondylitis (tennis elbow) is a common condition that affects the outer part of the elbow; commonly, it is a result of a specific strain, overuse, or directly hitting the area. The area becomes painful and tender, and sometimes no specific cause is found. Researchers from Australia are looking for alternative therapies for tennis elbow that don't involve regular injections.

In a study designed to evaluate the differences between a wait-and-see approach, physiotherapy and corticosteroid injections, 198 men and women between the ages of 18 and 65, and who had not received any other active treatment by a health care practitioner in the previous six months, were split into three groups: wait and see, eight sessions of physiotherapy, or up to two corticosteroid injections within the first six weeks. Participants were measured for global improvement, grip force, and assessor's rating of severity at baseline, six weeks and 52 weeks.

Corticosteroid injection effectively relieved symptoms at six weeks, but there were high recurrence rates thereafter (47 of the 65 patients regressed). There were significantly inferior outcomes in the long term compared with physiotherapy. The physiotherapy sessions were superior to the wait-and-see approach in the short term, but no difference was seen at 52 weeks, when most participants in both groups reported a successful outcome.

Patients in the physiotherapy group required less additional treatment, such as nonsteroidal anti-inflammatory drugs, than the other two groups.

**Results:** The combination of elbow manipulation and exercise had a superior advantage to wait and see in the **first six weeks** and to corticosteroid injections **after six weeks**. The researchers suggest this might be a reasonable alternative to injections, since the short-term benefits of corticosteroid injection were reversed after the initial six weeks.

Bisset L, Beller E, Jull G, et al. Mobilisation with movement and exercise, corticosteroid injection, or wait and see for tennis elbow: randomised trial. *BMJ* (online first), Sept. 29, 2006.

# Reprints & Abstracts

ScienceDirect - The Spine Journal

Are first-time episodes of serious LBP associated with new MRI findings?

Abstract

Background

Magnetic resonance (MR) imaging is frequently used to evaluate first-time episodes of serious low back pain (LBP). Common degenerative findings are often interpreted as recent developments and the probable anatomic cause of the new symptoms. To date no prospective study has established a baseline MR status of the lumbar spine in subjects without significant LBP problems and prospectively surveyed these subjects for acute changes shortly after new and serious LBP episodes. This method can identify new versus old MR findings possibly associated with the acute symptomatic episode.

Purpose

To determine if new and serious episodes of LBP are associated with new and relevant findings on MRI.

Study design

Prospective observational study with baseline and post-LBP MRI monitoring of 200 subjects over 5 years.

Outcome measures

Clinical outcomes: LBP intensity (visual analogue scale), Oswestry Disability Index, and work loss. MRI outcomes: disc degeneration, herniation, annular fissures, end plate changes, facet arthrosis, canal stenosis, spondylolisthesis, and root impingement.

Methods

200 subjects with a lifetime history of no significant LBP problems, and a high risk for new LBP episodes were studied at baseline with physical examination, plain radiographs, and MR imaging. Subjects were followed every 6 months for 5 years with a detailed telephone interview. Subjects with a new severe LBP episode (>1 week) were assessed for new diagnostic tests. New MR imaging, taken within 6 to 12 weeks of the start of a new LBP episode, was compared with baseline (asymptomatic) images. Two independent and blinded readers evaluated each baseline and follow-up study.

Results

During the 5-year observation period of 200 subjects, 51 (25%) subjects were evaluated with a lumbar MRI for clinically serious LBP episodes, and 3/51(6%) had a primary radicular complaint. These 51 subjects had 67 MR scans. Of 51 subjects, 43 (84%) had either unchanged MR or showed regression of baseline changes. The most common progressive findings were disc signal loss (10%), progressive facet arthrosis (10%), or increased end plate changes (4%). Only two subjects, both with primary radicular complaints, had new findings of probable clinical significance (4%). Subjects having another MR were more likely to have had chronic pain at baseline (odds ratio [OR]=3.19; 95% confidence interval [CI]), to smoke (OR=5.81; 95% CI), have baseline psychological distress (OR 2.27; 95% CI), and have previous disputed compensation claims (OR=2.35; 95% CI). Subjects involved in current compensation claims were also more likely to have an MR scan to evaluate the

LBP episode (risk ratio=4.75,  $p<.001$ ), but were unlikely to have significant new findings. New findings were not more frequent in subjects with LBP episodes developing after minor trauma than when LBP developed spontaneously.

This study should confirm the chiropractic orthopedist's opinion that repeat MRI's are not essential to the evaluation of the patient/examinee/claimant without a radicular component (new, recurrent or status post-surgical). Findings on MR imaging within 12 weeks of serious LBP inception are highly unlikely to represent any new structural change. Most new changes (loss of disc signal, facet arthrosis, and end plate signal changes) represent progressive age changes not associated with acute events. Primary radicular syndromes may have new root compression findings associated with root irritation.

Submitted by Warren Jahn DC, FACO

### Systolic Blood Pressure Predictive of Stroke

Careful measurement of blood pressure, using ambulatory blood pressure monitoring, can provide informative to assess stroke risk. Of four different measures evaluated, systolic blood pressure appears to be the strongest predictor, Japanese researchers report in the November issue of Hypertension.

Ambulatory blood pressure monitoring of systolic and diastolic blood pressure, mean blood pressure and pulse pressure were the four measurements evaluated to assess stroke risk in 1271 subjects by Dr. Ryusuke Inoue and others at Tohoku University Graduate School of Pharmaceutical Science and Medicine in Sendai.

The youngest age in the population-based cohort was 40 years, the mean age was 61 years and the mean follow-up was 11 years. During follow-up, 113 strokes occurred.

Systolic blood pressure and mean blood pressure were the most constant predictors of stroke through various analyses, followed by diastolic blood pressure.

Pulse pressure was a weak predictor of stroke, except when age was removed from the calculations, when it became more important than diastolic and mean blood pressure as a predictor of stroke. "It is...possible that pulse pressure may be more influenced by aging than other blood pressure indices," the investigators suggest.

The findings indicate that ambulatory blood pressure monitoring and casual blood pressure screening should be used to assess the risk of coronary artery disease and other cardiovascular diseases.

*Hypertension* 2006;48:877-882.

Submitted by Warren Jahn, DC, FACO

## Case History

### Clinical Pearl

By Loren Miller

Lateral Epicondylitis / with the Physiotherapy don't forget to redistribute the musculotendonous pull at the lateral elbow by the muscles that are commonly involved in that mechanism of movement: the Extensor Carpii Radialis brevis and less often the Extensor Carpii Radialis longus mm are primarily involved in the etiology of this condition. Apply a chopat support distal to the elbow. Also treat with passive stretch to these mm. following application of heat for 10 - 15 minutes with mild stripping massage from distal to proximal - ending with ice application for 10 - 15 minutes will enhance the healing process. Cross - Fiber friction massage to the involved tendon(s) facilitate healing as well. Remember, we are chiropractors: the manual or instrument (including the speeder board) manipulation / adjustment of the elbow joint as well as adjacent abnormally functioning joints must be addressed.

A good review of treatment options is discussed in Dr. Warren Hammer's text: 'FUNCTIONAL SOFT TISSUE EXAMINATION AND TREATMENT BY MANUAL METHODS.'

By Jim Demetrious

A 53-year old female patient presented cervical spine and radicular arm pain following trauma. What clues do you see on the MRI that suggest chronicity or a new event?



Modic Type 2 changes on T1WI. Increased signal intensity is noted at C2, C3 and C5/6.



Modic Type 2 Changes on T2WI. Increased signal intensity is noted at C2, C3 and C5/6.

Modic Classification Type 2 change refers to increased signal intensity on T1-weighted images and isointense or increased signal intensity on T2-weighted images, indicating replacement of normal bone marrow by fat. The images and clinical history depicted highlight chronic degenerative changes with bone marrow edema associated with acute or sub-acute inflammatory changes. (Images submitted by James Demetrious, DC, FACO.)

## Review of the Literature

## Current Events

### **President's Message**

American College of Chiropractic Orthopedists (ACCO Spring Convention will be held at the Wigwam Resort in Phoenix, Arizona April 27-29, 2007. This is a call for papers to be presented. Details are on the website.

## Attribution

Ed Payne, FCER