Dynamic Chiropractic



# Research around the World

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The World Federation of Chiropractic just held its 5th Biennial Congress in beautiful New Zealand. (*Editor's note:* See the report on the WFC Congress on the front page of this issue.)

Attended by well over 400 people, the meeting was notable for its quality, breadth and depth. Held every other year, the Congress has become one of the premier venues for the presentation of chiropractic related research. This year was no exception, with major presentations in a number of distinct areas. There is no doubt that the international spread of chiropractic has generated an admirable increase in chiropractic research. No longer can North America claim to be the sole source of new chiropractic research information.

There is not enough space in this column to do justice to each of the 99 peer reviewed papers that were presented. Rather, this is a personal impression of those nuggets of information that may have important implications for the profession and practice of chiropractic.

In terms of basic science, most presentations were in the area of vascular function, neurophysiology and biomechanics. There were several papers describing painstaking efforts to develop an animal model of the subluxation. Notably, this is a collaborative study with investigators from the Palmer Center for Chiropractic Research, National College of Chiropractic and the University of Iowa. The model allows the scientists to impose and remove a spinal fixation in several different alignments under controlled conditions, thus providing a precise means of evaluating the anatomical, biomechanical, neurological and biochemical effects of one component of the clinical subluxation complex. Other investigators are quantifying biomechanical treatment forces or investigating the anatomical relations and neurophysiological connections in the thoracic spine and the neck. An interesting paper from the relatively new chiropractic college in New Zealand described an apparent increase in cortical activity as a function of an upper cervical adjustment.

Clinical management papers covered a broad territory. One small study, if replicated, could have important repercussions on the issue of testing for the risk of cervical manipulation. Essentially, Licht and Christensen found no value to a standard premanipulative test for cervical vascular insufficiency. They had chiropractors refer 20 patients with positive tests (indicating a possible risk of cervical manipulation) for a sophisticated duplex sonography examination to measure blood flow velocities in both vertebral arteries. Five of the 20 patients could not reproduce the positive test on the day of sonography examination. In none of the remaining 15 was there any significant vascular flow difference in any head position relative to the neck as measured by sonography. These results do not support the validity of a standard clinical premanipulative vascular test, calling into question its value for ruling out patients that might suffer a vascular accident due to manipulation. Eight of the 15 patients with an initial positive test and subsequent negative vascular sonograms were treated with manipulation and experienced good clinical outcomes.

It was imperative that at least a dozen papers presented results using a randomized clinical trial design. Since randomized trials are difficult to design and effectively implement, this growing number indicates increasing experimental sophistication in the chiropractic research community.

Readers are cautioned to wait for the full reports to be published in peer-reviewed journals before drawing final conclusions, but as a group, results were highly intriguing. The following represents some of the conclusions that are being discussed.

• There is no apparent difference in outcomes comparing cervical adjusting, full spine adjusting, or a combination of the two for chronic back pain patients.

• Manipulation compared to manipulation with cervical traction may be more effective for tension-type headaches.

• Back school was more cost-effective than joint manipulation, myofascial therapy, or myofascial therapy with joint manipulation for subacute low back pain.

• Spinal adjustments appear more effective than a placebo for infantile colic.

• Direction of the adjustive thrust in patients with sacroiliac syndrome (as indicated by pelvic x-ray listings vs. the opposite listing) makes no difference in clinical outcome.

• Thoracic adjustments may be more effective than placebo ultrasound for thoracic spine pain, but may not last beyond the treatment phase.

• A regimen of chiropractic adjustments may be more effective than a control treatment for migraine sufferers, but it is difficult to predict which individuals will respond vs. those who won't.

• Both manual adjustments and instrument-assisted adjustments may equally be effective for cervical spine dysfunction.

The first prize-winning paper went to "Effects of Sacroiliac Joint Manipulation on Quadriceps Inhibition in Patients with Anterior Knee Pain: A Randomized Clinical Trial" by Suter et al. from the University of Calgary. In this elegant double-blinded study, 28 patients with anterior knee pain and high values of anterior muscle inhibition (MI) as measured by stimulation of the femoral nerve received an SI joint adjustment on the involved side, or simply an assessment (the control group). Following manipulation, MI decreased significantly in the involved legs of the treatment group, while MI in the contralateral legs of the treatment group and both legs of the control group did not. The result might have implications for the treatment of patients with anterior knee pain and sacroiliac dysfunction because muscle inhibition is associated with knee pain. It is also interesting to speculate on the various possible pathways by which the adjustment seems to have its effects, and this may lead to additional experiments to sort it out.

Diagnostic-oriented research was also well represented with papers. For example, on the measurement of facet joints by MRI, the interexaminer reliability of various chiropractic procedures, and the complexities of coupled motions in the cervical spine. Special interest papers ranged from those involving international health services research, to epidemiological studies on back pain and immunizations, to chiropractic education, to the development of various experimental methods.

All in all, the WFC Congress was a very satisfying research experience. For someone who has been professionally and personally involved in the development of chiropractic science for almost two decades, it was wonderful to see this growing and committed group of young chiropractic scientists take on some of the highly complex and controversial issues facing the chiropractic profession. It was also very gratifying to see the newly developing chiropractic institutions around the world live up to their scholarly responsibility to support chiropractic research. Even though much more remains to be accomplished, each year brings new evidence that our chiropractic science is

evolving to a higher and higher state.

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