

SUBLUXATION – MURPHY

continued from page 8

tebral muscle tension.

D. Abnormal or blocked joint play and end-feel.

E. Sensorimotor changes in the upper extremity.

[I recall the teachings of Richard Stonebrink, DC, in the orthopedic diplomate program 25 years ago, the importance of "always documenting (in our daily records) the evidence that the patient had a manipulatable spinal lesion (subluxation)." His evidence was identical to these. Dr. Stonebrink would stress that such documentation would "always make the case unique to chiropractic" and consequently make the chiropractor the only expert in the case.]

11. High velocity, low amplitude thrust spinal manipulation with the head held in lateral flexion, with slight rotation and slight extension "is a standard manipulative technique used by manipulative physicians, physiotherapists and chiropractors." [This is important because this is the type of spinal adjusting that many chiropractors perform on cervical vertebrae. This article indicates such adjustments are "standard."]

12. High-velocity manipulation causes significant cortical SEP amplitude attenuation in at least the frontal and parietal cortexes.

13. Passive head movements do not cause changes in cortical firing.

14. "A single session of spinal manipulation of dysfunctional joints resulted in attenuated cortical (parietal and frontal) evoked responses." These changes "most likely reflect central changes." [Very Important]

15. The cortical function of different individuals responded differently to spinal adjusting. [This indicates that variables other than the adjustment itself can influence the cortical responses in a given individual]

16. The significantly decreased somatosensory cortical SEP occurred in all post-manipulation measurements, indicating "enhanced active inhibition" because the "cervical manipulations could have altered the afferent information originating from the cervical spine (from joints, muscles, etc.)"

17. "The passive head movement SEP experiment demonstrated that no significant changes occurred following a simple movement of the subject's head. Our results are therefore not simply due to altered input from vestibular, muscle or cutaneous

afferents as a result of the chiropractor's touch or due to the actual movement of the subject's head. This therefore suggests that the results in this study are specific to the delivery of the high-velocity, low-amplitude thrust to dysfunctional joints." [Extremely Important]

18. "Displacement of vertebrae is signaled to the central nervous system by afferent nerves arising from deep intervertebral muscles," and this is improved with adjusting the adjacent dysfunctional joint.

19. "Joint dysfunction leads to bombardment of the central nervous system with Ia afferent signaling from surrounding intervertebral muscles." Spinal manipulation reduces excessive afferent signals from adjacent intervertebral muscles which improves altered afferent input to the central nervous system. This changes the way the central nervous system "responds to any subsequent input."

20. Episodes of acute pain following injury induce plastic changes in the sensorimotor system, prolonging the episode of pain and playing a role in establishing chronic neck pain conditions. [Very Important] "The reduced cortical SEP amplitudes observed in this study following spinal manipulation may reflect a normalization of such injury/pain-induced central plastic changes, which may reflect one mechanism for the improvement of functional ability reported following spinal manipulation." [Extremely Important]

21. "Spinal manipulation of dysfunctional joints may modify transmission of neuronal circuitries not only at a spinal level but at a cortical level, and possibly also deeper brain structures such as the basal ganglia." [Very Important]

22. Cervical spine manipulation alters cortical [brain] somatosensory processing and sensorimotor integration.

23. These findings may help to elucidate the mechanisms responsible

COLLEGE ROUND-UP

continued from page 19

anywhere in the world," said Dr. Mark Ziegler, Northwestern President. "Additionally, the new Integrity Management Student, Alumni and Career Services Center will provide students and alumni with the resources they need to start and continue a successful career."

The next phase will be the construction of the new building which will include 48,000 square feet of space on three floors. After it is completed, renovations to the existing building will begin, including construction of a new tiered classroom that can be divided into two separate classrooms. Other projects include a centralized entry point and an updated foyer and cafeteria.

With the Integrity Management donation, total giving to Northwestern's "Imagine Our Future" campaign tops \$3.1 million, including a \$1 million donation from Foot Levelers Inc., \$1 million for Northwestern alumnus Dr. David Stussy; \$500,000 from Dr. William Harris; and a \$100,000 from Dr. Jack and Joan Holtz.

for the effective relief of pain and restoration of functional ability documented following spinal manipulation treatment.

A Model For Chiropractors

by Dan Murphy, DC

Tissue
Macro-injury, Micro-injury,
Hypomobility, Hypermobility,
Chronic Stress

↓
Inflammation

↓
Connective Tissue Fibrosis

↓
Abnormal Mechanical AND
Nociceptive Afferent Input Into
The Central Nervous System

↓
Altered Motor Patterns

↓
Abnormal Tissue Stress

↓
More
Abnormal Mechanical AND
Nociceptive Afferent Input Into
The Central Nervous System
AND Fibrosis

↓
Chiropractic
Specific Adjusting
Tissue Work

↓
Rehabilitation AND
Anti-Inflammatory Protocols

↓
Remodeling Of
Connective Tissue Fibrosis

↓
Improvement Of Tissue
Mechanical Function
AND Improvement Of

↓
Mechanical and Nociceptive
Neurological Afferentation Into
The Central Nervous System

References

1. Lynton G. F. Giles, DC, PhD; Reinhold Muller, PhD; Chronic Spinal Pain: A Randomized Clinical Trial Comparing Medication, Acupuncture, and Spinal Manipulation; *Spine*, July 15, 2003; 28(14):1490-1502.
2. Reinhold Muller, PhD, Lynton G. F. Giles, DC, PhD; Long-Term Follow-up of a Randomized Clinical Trial Assessing the Efficacy of Medication, Acupuncture, and Spinal Manipulation for Chronic Mechanical Spinal Pain Syndromes; *Journal of Manipulative and Physiological Therapeutics*, January 2005, Volume 28, Number 1.
3. Manohar M. Panjabi; A hypothesis of chronic back pain: ligament subfailure injuries lead to muscle control dysfunction; *European Spine Journal*, July 27, 2005.
4. Helene M. Langevin and Karen J. Sherman; Pathophysiological Model for Chronic Low Back Pain: Integrating Connective Tissue and Nervous System Mechanisms; *Medical Hypotheses*, January 2007, Volume 68, Issue 1, pp. 74-80.
5. Haavik-Taylor H, Murphy B; Cervical spine manipulation alters sensorimotor integration: A somatosensory evoked potential study; *Clinical Neurophysiology*, February 2007, Vol. 118, No. 2, pp. 391-402.

DAN MURPHY, D.C., D.A.B.C.O. is the vice president of the International Chiropractors Association (ICA). He graduated magna cum laude from Western States Chiropractic College in 1978 and received his Diplomate in Chiropractic Orthopedics in 1978. Internationally recognized for his excellent lectures, Dr. Murphy has been on the faculty of Life Chiropractic College West for more than 25 years. He has been named "Postgraduate Educator of the Year" by different national organizations several times including the ICA. Very much in demand as a speaker, Dr. Murphy has presented more than 2,000 seminars all over the world.

Send Us Your Best!

You know what they need to succeed.



Dr. Elizabeth Sordyl of Los Gatos, California.

"I knew exactly where to send Andrea where she would find the professional guidance she deserved..."



Andrea Friese

"Life West is everything Dr. Sordyl said it was: friendly, with solid philosophy and technique."

LIFE CHIROPRACTIC COLLEGE WEST

800.788.4476

www.lifewest.edu

25001 Industrial Blvd., Hayward, California 94545

The doctor of chiropractic degree program of Life West is accredited by the Commission on Accreditation of the Council on Chiropractic Education, Scottsdale AZ.