Exciting Chiropractic Research

1.)Schmahmann. The Cerebellum and Cognition. Int Rev Neurobiology Vol 41
"A close relationship between the **cerebellum** and the autonomic nervous system ('vegetative phenomenon') was established early on."
"Increased somatomotor activity, as indicated by increased proprioceptive input into the cerebellum nuclei, may be relayed directly to the hypothalamus (the primary visceral center of the brain), alerting these cell groups to impending demands on the visceral motor system. Through its many afferent pathways, the hypothalamus elicits immediate visceral motor responses."
"He (Snider) saw the **cerebellum** as 'the great modulator of neurological function' and predicted for it a role not only in the field of neurology but also in psychiatry. Later work on connections linking the cerebellum with locus ceruleus and limbic structures, hippocampus, septum, and amygdala (Maiti and Snider, 1975, 1976; Mitra and Snider, 1975; Snider and Maiti, 1975, 1976) and on the fracturing of somatosensory representation in the cerebellar cortex (Welker, 1987) further supported his contention that notions of cerebellar function needed to be revised."
****Your cerebellum is positively fired off with every chiropractic adjustment you receive.**

2.) Jensen, E. 2000 Brain-Based Learning: The new science of teaching and training.
"Today we recognize that this subsection of the brain (the cerebellum), long known for its role in posture, coordination, balance, and movement, may be our brain's sleeping giant."
"Peter Strick, phD. (1995) at the Veteran Affairs Medical Center of Syracuse, New York established another important link. His staff traced a pathway from the cerebellum back to parts of the brain involved in memory, attention, and spatial perception. Amazingly, the part of the brain that processes movement is the same part of the brain that processes learning."
"At a recent Society for Neuroscience Conference in San Diego W.T. Thatch Jr. phD. Chair of the symposium entitled 'The role of the cerebellum in cognition,' cited eight studies that suggest strong links between the cerebellum and memory, spatial perception, language, attention, emotion, nonverbal clues, and even decision-making."
****The same area of the brain (cerebellum) fired off with every chiropractic adjustment also coordinates memory, learning, attention, language, emotion, spatial perception and non verbal clues, and even helps decision making Wow!**

3.) Jensen, E. 2000 learning with the body in mind.
"What the developing brain needs for successful movement and cognitive growth is sufficient activation of this motor-cerebellar-vestibular system. Without it, problems learning can arise, which include intentional deficits, reading problems, emotional disregulation, weak memory skills, slow reflexes, lack of impulse control, and impaired or delayed writing skills.
"Researchers are also exploring a possible link between lack of infant stimulation and movement and violent tendencies later in life(Karr-Morse and Wiley 1977).Infants…

Chiropractic Research Continued…

3 cont… deprived of stimulation from touch and physical activity may not develop the movement pleasure link in the brain. When fewer connections are made between the cerellum and the brain's pleasure centers, a child may grow up unable to experience pleasure through usual channels of pleasurable activity. As a result, the need for intense states, one of which is violence, may develop"

**** The brain of babies and children require chiropractic adjustments to develop properly.**

4.)Seaman, D.R. Dysafferentation: a novel term to describe the neuropatho physiological effects of joint complex dysfunction.

A look at likely mechanisms of symptom generation. JMPT 1998; 21 (4)

The cerebellum runs the brain and mechanoreception runs the cerebellum! Chiropractic adjustments stimulate and normalize mechanoreception!!!

"Afferents from spinal structures end in the cerebellar vermis, whereas afferents from the extremities end in the intermediate cortex, which is also referred to as the paravermal region."

"The **vermis** functions to control equilibrium, posture, muscle tone and locomotion."

"Heath demonstrated that efferent pathways from the **vermis/ fastigial** nucleus could **stimulate pleasure centers** located in the septal nuclei of the **hypothalamus** and corticomedial **amygdala**, and simultaneously **inhibit aversive emotion centers** located in the hippocampus and **dorsolateral amygdala.**"

5.) 9th International Conference on Spinal Manipulation October 5, 2002 Toronto- Reported in FCER Advance 23 (2)

"In addition, patients undergoing spinal manipulation (adjustments) displayed **dramatic decreases of cortisol** through the post-treatment period, suggesting that there were physiological consequences to their manipulative (adjustment) treatments **reflecting increased immunological capacities…"**

"The gain in the immunological capacity achieved with the simultaneous loss of the immunosuppressant cortisol and the increase of the immunoglobulin IgA following spinal manipulation would be expected to reduce the incidence and severity of pathogenic invasion of the airways.

**** Chiropractic adjustments lower stress hormones and improve immune system function.**

6.) Seleno, Pfleger, Grostic et al., The effects of specific upper cervical adjustments on the CD 4 Counts of HIV positive patients. CRJ 3 (1)

- Control group (not adjusted) experienced a 7.96% decrease in CD4 cell levels and adjusted groups experienced a 48% increase in CD4 cell levels.
- All patients also on AZT.
- Funding and patients pulled from follow up study- i.e. patients no longer made available to chiropractor

****Chiropractic adjustments had amazing results on improving the immune system of HIV patients.**

**** Dr. Tocci's Comments**