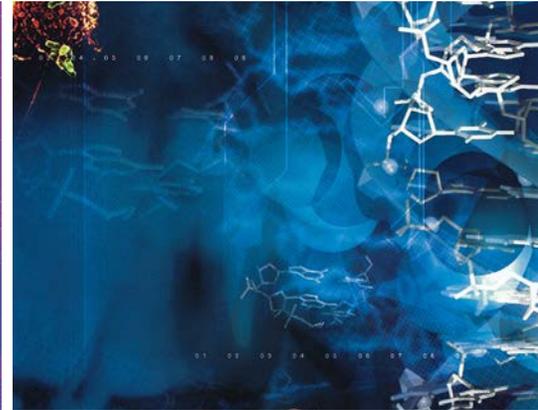
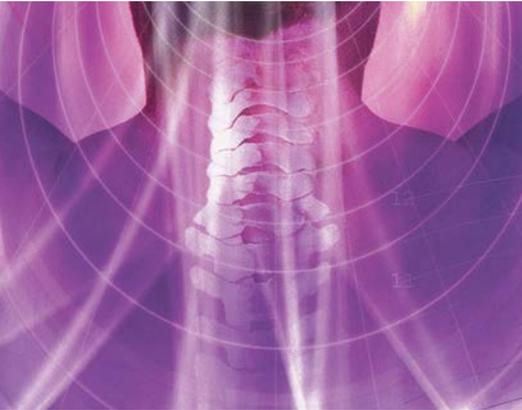


NUCCA NEWS

Fall 2013

NEWSLETTER OF THE NATIONAL UPPER CERVICAL CHIROPRACTIC ASSOCIATION - NUCCA



President's Letter

THE FALL CONFERENCE in Newport Beach is just around the corner. We are heading for a record conference on a number of levels. Our registrations are well ahead of previous conferences for this date. DR. PACKER has created a stellar program and we are celebrating our mentoring doctors. The doctors who not only take on the awesome responsibility of taking in a doctor under their wing but invest in their future by bringing them to the NUCCA conferences. We are recognizing these esteemed members of our organization by honoring them at our fall conferences and giving each of them a free ticket to the President's reception Friday evening for each associate they bring to the conference.

Having associates is much like having kids. It can at times be an incredibly rewarding investment of your time and resources, and at other times a totally thankless endeavor. The fact that you have built a practice large enough to support a doctor beyond

yourself speaks volumes on its own. That in addition you would offer yourself as a resource to encourage them to become a first rate NUCCA practitioner is an act from the heart, and we as an organization want to recognize and appreciate you.

DIGITAL X-RAY: Most of you have heard by now that the cost of x-ray film has doubled and we can expect this to continue as the demand diminishes each passing year. This effectively doubles the cost of my x-ray department to \$16K/year. At this rate I can pay for a digital system easily in a couple of years. In an effort to put together a guide for our membership on the current DR/CR market, I sent out a survey to a list of our docs who have gone digital. Regrettably, I only received a response from 3 docs not really giving me a broad overview of the market. I have done a lot of research myself and have decided what direction I have chosen to take. At some point,

[continued on pg. 2](#)

inside this issue:

- 2 - 5 > Fall Research Update

- 6 - 11 > The Report of Findings

- 11 > Fall NUCCA Conference

- 12 > Fusion Recap
> Small Steps

- 13-14 > Patient Spotlight



National Upper Cervical
Chiropractic Association

www.nucca.org

President's Letter / cont. from page 1

if I can get a more extensive response to the survey, I may well put together an article for our membership. I would like to thank Drs. Rumsey, Johnson and Kuhn for their responses; they were very helpful to me. If anyone wishes to discuss what I found please call me I would be glad to speak with you. I know that I am pretty unavailable at the conferences so a call or e-mail would probably work best. We are attempting to set up a demonstration of 3 DR units and the quality of images they produce at a location away from the conference, for the NUCCA digital committee. This is so that the organization may be able to make a recommendation as to which system produces the best images and at the best price.

GREGORY CIRCLE members and their guest will be eligible for free tickets to the Saturday night boat cruise and I would like to thank DR. GLENN CRIPE for making this possible once again!

SMALL STEPS was a resounding success last year and a close race led to the USA clearly winning for the first time ever! We American offices can now let the Canadians win this year, confirming to all that this was an accident, a statistical blip, or we can once again establish the awesome commitment of our American team and win for the second time in history! I should point out that the average collected per office was still won by the Canadians, and for this they deserve all the credit in the world. But this is our national pride on the line.

COME JOIN US IN NEWPORT BEACH



Lee G Yardley, D.C.

*President, NUCCA Board of Directors
Board Certified Instructor, Co-Chair, Educational
Committee Director, UCRF*

2013 FALL RESEARCH UPDATE

by Dr. Charles Woodfield and Dr. Gordon Hasick

Calgary Phase Contrast Migraine Study

The project continues to progress in a most favorable and exciting way. Delving further into the project data, we realize we are navigating very new territory. This study looks at correlation of quality-of-life measures, physiological changes as measured from the PC-MRI (dynamic) evaluation, pre and post correction NUCCA x-ray evaluations, including GSA measured postural changes. Whereas many studies have a lot of patients with a few specific outcome measures, this pilot study has a few patients and a lot of data to scrutinize for any linked associations.

Thus far, the data analysis has presented a phenomenal amount of information with stunning results. Actually, the amount of data generated proved a bit overwhelming. Our amazing and very skilled research team continues to work diligently completing the task of analyzing all variability among the data.

Some preliminary evaluations of quality-of-life measures, headache frequency, and intensity show profound improvement. One researcher from the Foothills Hospital Headache Clinic commented that, "if NUCCA were a drug, it would have been FDA approved yesterday."

As we continue to gather more information for manuscript

preparation and submission, we will be able to choose the most appropriate journal to publish this groundbreaking study. We will have some very amazing animations of CSF flow changes at C2 to present at the 2013 Fall Conference in Newport Beach, CA. Just another reason to make plans and register now!

Victoria, BC Presentation, May 23, 2013

Dr. Charles Woodfield traveled to Victoria B.C. Canada in May to present: Understanding the Latest Research Involving Cerebrospinal Fluid (CSF) Flow Dynamics in Relation to Cranio-Cervical Junction (CCJ) Biomechanics.

This Victoria presentation successfully promoted NUCCA, again, to the National CCSVI Society (NCS) and the MS community, including several physicians from the University at Victoria. Dr. Barbara Dyble specializes in functional medicine with an interest in mild traumatic



*Dr. Woodfield
in Victoria, BC*

[continued on page 3](#)

2013 FALL RESEARCH UPDATE / cont. from page 2

brain injury. She regularly refers patients to Dr. Ankur Tayal. Approximately 60 people were in attendance.

Dr. Woodfield met Dr. Clayton Campbell, developer of the Thiol Test for DNA repair that Dr. Dickholtz, Sr. has been using. We discussed several research scenarios, then agreed funding must be secured before realizing such possibilities.

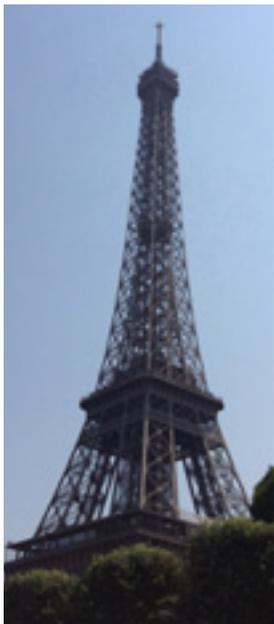
2013 International Congress on Naturopathic Medicine (ICNM) Congress, July 2013, Paris, France



A brief Report from Dr. Heidi Grant:

"The ICNM was a bit of a mixed bag. Participants, speakers and researchers were either naturopaths or worked for labs/supplement/herbal remedy companies.

Most participants were either American or French; there were a few from Canada and New Zealand as well. Everyone I spoke to about NUCCA seemed genuinely interested in it. It is definitely an untapped market, as no



one I encountered had ever heard of us. Having the posters in an electronic format, however, wasn't terribly effective, and I told the organizers so. The computer system actually broke down for most of one morning of the conference. People downloaded our presentation after hearing about it the old-fashioned way--networking, talking to people, chatting over coffee, etc. The abstract was printed in the program.

Overall, I think it was worthwhile to have a presence there, as it was a non-chiropractic environment with a huge American and international audience. I would refrain again from participating in a conference with an e-poster

format; I think the traditional form is best and far more effective for getting our message across."

Many thanks to Dr. Heidi Grant for representing the NUCCA organization at this prominent International Conference.



Research Methods Class for UC Diplomate Program, July 13, 2013

Dr. Woodfield presented an introduction to research methods to over thirty highly motivated UC Diplomate candidates. Research Methods requires more class time than originally determined with a planned return at the beginning of 2014, bringing everyone up to the same level. This enables candidates to draft the required manuscript for successful completion of the ICA's UC Diplomate Program. Topics discussed included: a history of chiropractic research, review of pertinent statistics, critical reading the scientific literature, and introduction to searching Pub Med.



Dr. Woodfield sharing his knowledge with the ICA UC Diplomate Candidates

NUCCA Radiograph Inter-examiner Reliability Study

The first 100 film sets data were sent to the biostatistician for initial analysis. Examiners agreed on the side of laterality 100% of the time with Atlas rotation agreement at 72%. The average difference in laterality measurement was 0.06 degrees. While there is perfect agreement in laterality, the ICC is 0.76, below the needed 0.90. Therefore the complete sample size of 254 sets of pre films must be analyzed to hopefully realize the needed statistical significance.

Many thanks to the Board Certified Doctors for taking the time to make a difference. This research is made possible through the generosity of the Dao Foundation, Gregory Circle members and those doctors participating in the yearly campaign of Small Steps to Success program.

continued on page 4

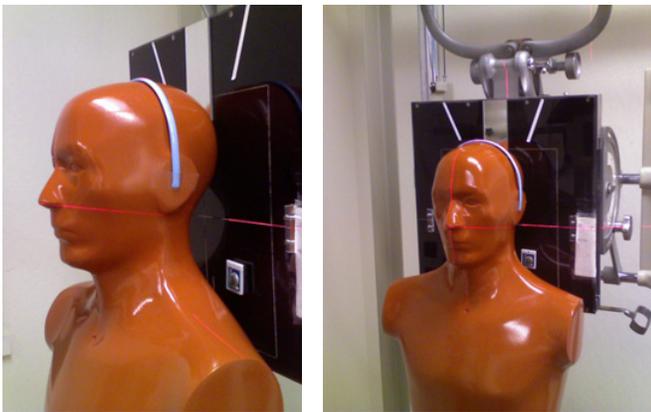
2013 FALL RESEARCH UPDATE / cont. from page 3

Radiographic Animation Study (RAS) Analysis Project

This study's objective is to measure positional differences of skeletal landmarks between pre and post nasium and vertex films. The study surveys the intra-rater (examiner) reliability of a proprietary digital-manual method used to quantify the precision of post to pre patient radiographic positioning. Alignment of a pre-post film-pair to a common anatomic reference mark allows the evaluation of changes in the position of a skeletal image. A small or no measured change reveals excellent post to pre-positioning.

Dr. David Vasquez is working with LCCW, scanning study-films sent in by NUCCA Doctors. Many thanks to these dedicated doctors taking the time to hand-pick films and send them to LCCW. Your film sets will be returned once scanning is complete. The DACBR is finishing up scanning and randomization of the films, allowing Dr. Vasquez to analyze positioning accuracy. Once the first analysis is completed, films are re-randomized, then analyzed again. All data is sent to the biostatistician to determine the intra-examiner (rater) reliability of the RAS analysis of these film sets. This study has a meaningful sample size to demonstrate statistical significance from the analysis.

This is just one step in the development of the Precision Alignment Device for Radiographic Animation Studies (PADRAS) system designed to assure exact patient post to pre-positioning.



Precision Alignment Device for Radiographic Animation Studies (PADRAS)

2013 ICA Upper Cervical Fusion – August 18, 2013, Chicago, IL



Dr. Dickholtz Jr.'s NUCCA Certification Program presentation was well accepted. Several attendees came up afterward to express they wished their procedures had such a rigorous, prestigious certification program. Current UCRF research projects were highlighted with a grand finale; a video summary presentation of Dr. Dickholtz Sr.'s research. Dr. Dickholtz Sr. provided a packet of material for each attendee including the presentation and copies of all his published research papers.

The daylong conference highlighted the research of the Upper Cervical procedures in attendance. Dr. Guy Riekeman concluded the day with a motivating keynote address.

Up and Coming: Keep watching for a full report next update!



2013 International Chronic Disease Conference

www.chronicdiseaseresearchfoundation.org

September 6-8, 2013, Seattle Pacific University, Seattle, WA

The inaugural "2013 International Chronic Disease Conference" (ICDC) will investigate potential root causes of chronic diseases (Immune Disorders, Cancer, Diabetes, Autism, Lyme, Parkinson's, Heart Disease, etc.) from multiple research and clinical perspectives. Dr. Lee Yardley will speak of the important role NUCCA care can play, inviting Dr. Woodfield to present a research update of the latest UCRF projects. Opportunities like this come rarely to get in on the ground floor for an International Conference in educating health care practitioners about the benefits of NUCCA care.

continued on page 5

2013 FALL RESEARCH UPDATE / cont. from page 4

2013 IRAPS - International Research and Philosophy Symposium, October 19-20, Sherman College of Chiropractic, Spartanburg, SC www.sherman.edu/continuing-education/iraps.asp



Philip R. Schalow, BM, MM, AS, D.C., one of our own, in the ICA's UC Diplomate program, is a featured presenter of "Chiropractic Management of Overuse Syndrome in a Violist". Congratulations to Dr. Schalow's persistence in crafting an

acceptable abstract for the last subluxation-based research conference existing in the profession. Dr. Woodfield is presenting "Detecting an Atlas Subluxation through Pulse Oximetry" resulting from brainstorming with Dr. John Hart and preliminary data collected by Dr. Heidi Grant.



The new online version of the Upper Cervical Monograph is coming. The website will bridge the gap of content between research and practice. It is being designed to help validate and support NUCCA practitioners' clinical work.

The five central topics include:

1. NUCCA Procedures/Protocol - Defining NUCCA Standards of Care
2. Physiology
3. NUCCA Past, Present and Future
4. Supporting Safe Practice
5. Other Supportive Research

Keep watching for the launch date!

MYCONDITION.info

Practice Based Research

Kudos to Dr. Mikaël Reney and Dr. Jeff Scholten in preparing the latest update of the Practice Based Research Web platform to include patient reported outcomes assessments: Rand-36, Oswestry, Neck Disability Index, Headache Disability Index, HIT-6 and MIDAS for use in measuring your patient's progress in NUCCA care. This update is a result of the proposal funded by IN-CAM. After data is collected for one month, a telephone interview of the patient will

help determine the accuracy of their online answers. The anonymous nature of web based form can create some embellishment in the answers. It will be interesting to see if this occurs and how often.



Want to do Research?

Good news, many are interested in conducting a NUCCA research project. If you have an excellent idea, connection to a University or possible donor for a project, please go to the UCRF website and complete the application for consideration by the UCRF Board.

The UCRF Board then considers the request in terms of available resources that include time, money and personnel. This is to ensure the proposed project fits into the realm of the UCRF Board's vision for advancing the NUCCA procedure.

Projects involving reliability and validity of the NUCCA assessments have priority. Projects that aid in development of a working physiologic mechanism of the Atlas misalignment and its correction are important.

Thank you for your interest in completing successful and meaningful research projects to further support the NUCCA procedure!

CORRECTION:

The research update for the Spring newsletter included the following sentence:

"Garo Yepremian, two-time NFL Super Bowl Champion with the Miami Dolphins was a patient of Dr. Rosa's with miracle like results from his atlas correction. The images shown by Dr. Rosa were astounding in showing the reversal of aberrant CSF flow and cerebral 'white' plaqueing. His presenting "dementia like state" also resolved after the correction of his upper cervical spine."

This statement is incorrect. Dr. Scott Rosa has never seen or treated Garo Yepremian as a patient in his office. This is a misunderstanding that deserves my public apology to Dr. Rosa for any problems that may have occurred as a result of this incorrect statement.

Dr. Chuck Woodfield
Director of Research UCRF

Report of Findings by Dr. Steven MacDonald

LEARNING DISABILITIES, UPPER CERVICAL CORRECTION AND LLI



I would like to introduce Ms. Lisa Kline's special education master's thesis submitted this year on how decreased blood flow to the brainstem and leg length inequality can play a role in learning development in special education students.

Ms. Kline suffered a traumatic brain injury over 40 years ago. Her health was restored through NUCCA care. In her own words, she explains the purpose of her study. "In 1972, the researcher sustained a serious brain injury, and in 1986 began a treatment which resulted in lessening the sensation of gravitational pull on physical movement ability through assessing LLI; ultimately demonstrating a profound physical and mental improvement, including memory and speech. For the researcher, many classical SLD (Specific Learning Disabilities), symptoms became no longer apparent in the course of treatment."

Ms. Kline's thesis was accepted for her master's degree in education with an emphasis in special education in December 2012. I think that doctors who are interested in helping Learning Disabilities (LD) through upper cervical correction will find her research discoveries fascinating. The following are excerpts (and summary) from her master's thesis:

Used with permission by Lisa Kline from:

Kline, L.B. (2012). Investigating the applicability of the neurodevelopmental framework to enhance learning for all students, especially those with mild to moderate disabilities. Unpublished Master's thesis, California State University, Monterey Bay.

Upper Cervical; Correction

Upper cervical research has been connected to brainstem responses. It is suggested that positive effects from chiropractic care for individuals with dyslexia, speech disorder, learning disabilities, and correcting vertebral subluxation have improved cognitive functioning (Lerner & Lerner, 2009; Pauli, 2007).

Since the 1940s, investigators have used physics and mathematical measurements in increments of degrees to examine the upper cervical placement of the atlas bone, or 1st cervical vertebra (Eriksen, 2004). The atlas encircles the spinal cord under the medulla, the lowest part of the brain stem (Martin, 1996). The atlas, in its central position, relative to the gravitational vertical, orients the central axis, balance and weight of the skull, including the spine,

shoulders, and pelvis below. The atlas relies on soft tissue for support, so it can be displaced or subluxated from its central position, as the head tilts and the brain stem becomes compressed (Bakris, et al., 2007). "Persistent tilt of the head is abnormal at any age" (Rabe, 1969, p. 70). The visceral sense is located in the brain stem for regulating blood flow (Ayres, 2005; Edwards, et al., 2007; Knutson, 2001). Martin (1996) described that "occlusion of the vertebral artery can produce discrete set of limb and sensory motor signs" (p. 401). According to Kendall, et al. (2005), "Pelvic rotation or lateral tilt will change the relationship of the pelvis to the extremities enough to make a considerable difference in measurement" (p. 438).

There are some that support the fact that contracted reflex muscles occurring on one side of the body for an atlas displacement are associated with a rotated or torqued atlas activating the asymmetrical tonic neck reflex (ATNR) (Knutson, 1997; Knutson & Owens, 2005); influencing differences in lateral awareness and reduced blood flow. Bakris, et al. (2007) stated, "Anatomical abnormalities of the cervical spine at the level of the atlas vertebra are associated with relative ischaemia of the brainstem circulation and increased blood pressure. Manual correction of this malalignment has been associated with reduced arterial pressure" (p. 1). Presently, there has been investigation showing good interexaminer reliability in discriminating LLI for upper cervical structural instability (Woodfield, et. al, 2011; C. Woodfield, personal communications, October 15, October 16, November 5, November 19, November 25, November 29, 2009, January 16, October 25, November 25, and December 20, 2010).

Bakris, et al. (2007) proposed that correcting misalignment of the atlas, reduces and maintains lower blood pressure, increases blood flow, and lengthens a functional short leg; by assessing alignment of the pelvic iliac crests with a heel position comparison for leg length disparity (Gregory, 1979). Bakris, et al. examined 50 patients (26 drug naïve, and 24 with washed out systems) who were: a) between 21 and 75 years; b) positive for a preliminary screening of atlas misalignment (with comprehensive X-ray analysis determining head tilt [based on three dimensional physics and mathematical calculations relative to the center of gravity axis of the skull; S.N. MacDonald, personal communication, November 12, 2009]), and a supine

[continued on page 7](#)

Report of Findings / cont. from page 6

contracted leg length check (comparing heel positions when patients turned their heads to the far right and left); and c) documented with a history of Stage 1 hypertension. Participants were excluded if there was: a) no evidence of atlas subluxation; b) stage 2 or higher hypertension, and/or with prescription for two or more antihypertensive medications; c) not with the capacity or willingness to suspend anti-hypertension treatments for the duration of the screening; d) with a second or third degree heart block; and e) with history of a recent stroke or cardiovascular surgery in the last 12 months. The selection process was random, and double blind with a placebo controlled group. Participants took part in an official blood pressure check, and NUCCA [including UCRF] X-ray analysis, and all 50 finished the study.

The participants were manually adjusted for a difference in both a rotational and lateral central atlas positioning on a low adjusting table. For 8 weeks, patients showed the atlas holding position, and a reduction in blood pressure with no detrimental effects. The conclusion indicated that the restoration of an atlas misalignment related to substantial and ongoing reductions of blood pressure; similar to using a two-drug combination therapy (Bakris, et al., 2007).

The atlas, in its central position, relative to the gravitational vertical, orients the central axis, balance and weight of the skull, including the spine, shoulders, and pelvis below. McKnight and DeBoer (1988) found evidence for blood pressure changes, and Scott, Kaufman, and Dengal (2007) for blood flow, with chiropractic manipulations of the atlas. Knutson (2001) studied the effect of a vectored atlas correction affecting an abrupt drop in blood pressure, perhaps due to a cervico-sympathetic reflex stimulation, relaxing muscle tone, and the releasing of pressor reflex effects.

Ahmetoğlu, et al. (2003) investigated the effects of an antihypertensive drug for extraocular muscles in patients with hypertension. "These findings suggest that blood flow in the extraocular vessels decreased due to increased peripheral resistance in hypertensive patients" (Ahmetoğlu, et al., 2003, p. 182). Relieving hypertension might coordinate peripheral vision for extraocular muscles.

Relaxing lateral muscles typically result in lengthening the shorter leg of a LLI. Aligning the skeletal system might have beneficial effects by reducing brainstem compression for improved sensory organization, and increasing blood flow for strengthening the vulnerability of postural and eye movement systems for reading.

Summary

The U.S. civil rights history in the past fifty years was influential for upholding important basic human rights for individuals with disabilities, with the idea of addressing special needs by formulating special education law (Friend & Bursuck, 2002). The medical and educational fields were initially consulted in the beginning efforts to identify LD, and even though the medical field identified children with LD as having minimal neurological dysfunction or MBD, special education law was formulated according to the recommendations by educators to base identification of individuals with LD on functional educational diagnostic information, as a heterogeneous group, and without considerations regarding neurological conditions (Haring & Bateman, 1969). Visser (2003) stated, "In later years, the terminology used to describe these children changed from MBD into 'Deficits in Attention, Motor Control and Perception' (DAMP)" (p. 486), attributable to brain dysfunction involving an "automatization deficit" (p. 489).

Historically, varied disciplines have outlined neurological symptoms for individuals with LD or reading difficulties (Ayres, 1980; Brodney & Kehoe, 2006; Bruininks, 1978; Decker, 2008; de Quirós, 1976; Godfrey & Kephart, 1969; Habib, 2000; Johnson, et al. 1996; Kephart, 1964; MBD Compendium, 1974; Menghini, et al. 2010; Miles & Segel, 1929; Morrison, 1985; Nicholson & Fawcett, 2009; Orbrzut et al., 1983; Punt, et al., 2010; Rider, 1972; Roach & Kephart, 1966; Silver, 1952; Strauss, 1943). Motor coordination deficits are sometimes misinterpreted to mean that a child is not trying hard enough. "Often parents think their child is being naughty or lazy, and this increases the pressures he is already under" (Baker, 1981, p. 356).

To compound the confusion for LD, it has been demonstrated that so far there are no sufficiently reliable academic assessments tools that determine identification for individuals with LD (Reynolds & Shaywitz, 2009; Stuebing, et al., 2009). Current LD identification does not reflect the developmental continuum, by examining the developmental step progression of the lower CNS influencing the higher CNS corticle structures. By now the perspective of the medical community has been reflected into the fields of physical education and APE (Horvat, et al., 2011; Kovar, et al., 2007; Winnick, 2005). Evidence shows common physical symptoms for children with LD and

[continued on page 8](#)

Report of Findings / cont. from page 7

DCD according to insufficiencies occurring during atypical neurological motor development; persistent primitive reflexes with hypo- or hyper-sensory responsivity affecting poor muscle tone, lateral disparities, balance deficits, postural instability, and eye muscle weakness (Cheatum & Hammond, 2000; Horvat, et al., 2011; Rabe, 1969; Seaman, et al., 2007). Levine and Kliebhan (1981) described, "The posture and movement problems of children with neuromotor handicaps affect their social, perceptual, cognitive, verbal, linguistic, and emotional development" (p. 209).

Pearson (1951) recognized the importance of early intervention: "Problems of structural [postural] nature, serious but not producing symptoms...suggest the need for routine structural examination... during the preschool years or during the first year of school" (p. 166). Cherng (2007) emphasized that poor balance control for children with DCD is "more likely due to a deficit in sensory organization than compromised effectiveness in individual sensory systems.

It is important that such deficits be identified at an early stage in a child's development" (p. 925). Horvat, et al. (2011) described the importance of addressing "soft neurological signs" for children in a timely manner, so that neuroplasticity can be utilized for learning: The most important thing to remember about neurological dysfunction, or soft neurological signs, is that some damage has occurred to the brain. If teachers can address the specific problem area early in the child's development, other areas of the brain may take over impaired functions before the process of myelinization takes place. (p. 138) Understanding the physiology of movement plays an important role for the outcomes of appropriate educational planning (Levine & Kliebhan, 1981). Any therapeutic program to improve balance control should implement a multisensory approach with repeated opportunities for the child to incorporate and refine vestibular and proprioceptive information (Williams & Castro, 1997).

Extensive, regular, and systematic opportunities of carefully designed therapeutic activities to strengthen distal muscle control should be given to children with DCD (Williams & Castro, 1997, p. 52; M. Karwas, personal communication, September 15, 2011), including varying "levels of force production (e.g., minimal, mild, moderate, maximal)" (Williams & Castro, 1997, p. 52). Levine and Kliebhan (1981) formulated a prescription to be used

to identify developmental motor disparities, including assessing for: 1) postural tone; 2) movement patterns; and 3) primitive, postural, and abnormal qualities for reflexes and reactions (pp. 209 - 210). Additionally, they addressed the significance of recognizing persistent reflexes: "when accompanied by increases in tone and seen in an exaggerated, obligatory form...[they] are again useful for diagnosis" (p. 210).

The importance of motor function deficits are now recognized as "pervasive across diagnoses, thus, a cardinal feature of ASD" (Fournier, Haas, Naik, Lodha, & Cauraugh, 2010, p. 1227), being relevant for psychologists diagnosing autism (Dowd, Rinehart, & McGinley, 2010), and with the strong need for interventions (Bhat, Landa, & Galloway, 2011). Reed (2007) suggested the importance of early detection of persistent primary reflexes for Autism Spectrum Conditions: If persistent Primary Reflexes [including ATNR] that predict the possible development of ASC-related behaviors, and ASC itself, could be inhibited by approaches that are known to help with the removal of Persistent Primary Reflexes, this might allow the development of a preventative intervention for some aspects of ASC that could be taken long before the typical point of diagnosis of ASC. That is, the potential precursors of ASC problems may be remediated long before they impede typical development. (p. 22) It is important to acknowledge the integral learning processes of reading with writing (Cecil, 2003). Assessment for developmental dysgraphia has been investigated (Gubbay, 1995). Impairment to a child's fine motor control would be influenced by lower CNS structures including, balance disorders and delays in gross motor development (Baker, 1981; Johnson & Williams, 1988).

Baker (1981) indicated that children with gross motor disparities might have difficulty copying postures that might translate to "higher perceptual processes of space and form relationships," including poor ability for copying letters (p. 360). Cermak and Larkin (2002) recognized muscle tone and weak pencil grip for problems with handwriting for children with DCD, "despite meeting early intervention goals in foundation motor skills, most children with DCD encounter serious problems with writing" (p. 257). Johnson and Williams (1988) explained that hand use might be distracted by postural responses: A child with inadequate postural control may...have difficulty producing

continued on page 9

Report of Findings / cont. from page 8

the additional muscular activity needed to maintain a stable sitting posture and also use the hands to perform a task skillfully. For such children, sitting unsupported may require conscious attention or even use of the hands to maintain balance. Thus, minimal energy may be available for controlled activity of the distal musculature. (p. 25) Lee, Yoo, and Lee (2010) studied treatment to improve the ATNR influence on muscle weakness in dominant-hand grip strength, while Ocklenburg, et al. (2010) evaluated detected head tilt for infants, and supported that "increased visual control of the hand during early childhood seems to modulate handedness" (p. 447).

Much emphasis in the academic field has to do with awareness of the quality of articulating sound for the beginning reader (Shaywitz, et al., 2007).

Dyslexia has been explored according to brainstem responses affecting central auditory function (Banai, et al., 2009; Banai, Nicol, Zecker, & Kraus, 2005; Billiet & Bellis, 2011). It is possible that "these findings are among the first to establish a direct relationship between subcortical sensory function and a specific cognitive skill (reading)... this cortical-subcortical link could contribute to the phonological processing deficits experienced by poor readers" (Banai, et al., 2009, p. 2699). Roth, Muchnik, Shabtai, Hildesheimer, and Henkin (2012) found first evidence of atypical auditory brainstem responses "already apparent in young children with suspected ASD and language delay" (p. 23). Relieving brainstem compression would be important to investigate for delayed speech-motor articulation; possibly connected to poor muscle tone.

Eye movement disparities have been the focus of research for dyslexia (Biscaldi, 1998; DeLuca, et al., 2002; Facoetti, et al., 2000; Facoetti, et al. 2001), and for autism regarding deficiencies in "broadening the spread of visual attention" (Mann & Walker, 2003). Vogel (1995) presented a review of theory, testing, and therapy for eye saccades by evaluating eye-tracking for reading disabilities and academic success, with suggestions for successful eye muscle strengthening techniques. Brodney and Kehoe (2006) investigated assessing eye movement vulnerabilities with dyslexia, and showed significant potential for elementary school teachers "to identify children at-risk for related vision problems" (p. 13).

Physical fitness has been linked to the prefrontal and parietal cortices brain regions for inhibitory functioning

and spatial selection (Colcombe, et al., 2004). Motor development and cognitive development have been correlated with activation of the prefrontal cortex and the cerebellum (Diamond, 2000).

Some studies have investigated the possible relationship of physical exercise on cognitive thinking, but positive results have varied (Hill, et al., 2010; Hillman, et al., 2008; Reynolds & Nicolson, 2007; Tomporowski, et al., 2008; Zagrodnik & Horvat, 2009). Exercise treatments have shown gains for phonology, speech/language fluency, working memory, motor skill, and "highly significant reduction in the incidence of symptoms of inattention" related to DD (Reynolds & Nicholson, 2007, p. 78). Students with ADHD and autism have seen significantly improved focusing ability by implementing movement and other intense sensory experiences (Sousa, 2006).

There have been critics regarding sensory integration through perceptual-motor movement techniques for individuals with LD (Hoehn & Baumeister, 1994; Kavale & Mattson, 1983; Stephenson, Carter, & Wheldall, 2007). Doubt exists regarding some study assessments that might be comparing items that are unrelated. According to Tomporowski, et al. (2008): A plausible explanation for researchers' failure to detect the effects of exercise on children's intelligence is that IQ tests provide only global measures of functioning, which may not be sensitive enough to detect subtle changes in specific aspects of cognitive functioning brought about by exercise training. (p. 117) Additionally, there are cross-disciplinary criteria for understanding cognition. "Comprehensive theories have yet to be formulated that address numerous contextual and psycho-social factors that may moderate or mediate the relation between exercise and children's cognitive function." (Tomporowski, et al., 2008, p. 126).

Zagrodnik and Horvat (2009) stated that there is a lack of research investigating exercise and cognition for students with developmental disabilities, perhaps due to the lack of control for exercise frequency, type, intensity and duration, and pre-determined heart rate level. "Developing studies where the intensity of exercise is known throughout the intervention is critical" (Zagrodnik & Horvat, 2009, p. 280), and continued on to address the concern that comorbidity among populations of individuals with disabilities are "major roadblocks for the generalizability of the research

continued on page 10

Report of Findings / cont. from page 9

findings on, not only the impact of exercise on cognition, but any investigation in these populations" (Zagrodnik & Horvat, 2009, p. 282).

Furthermore, Zagrodnik and Horvat (2009) advocated utilizing the influences of nutrition and exercise for understanding the impact of developmental movement on cognition, and the necessity for using double blind studies in the future.

Although there is evidence of pediatric musculoskeletal examination to include LLI (Jandial & Foster, 2007), presently, LLI is not a procedural pediatric assessment (B. Bannon, personal communication, November 7, 2009; Stanford Pediatrics, Los Gatos, California, personal communication, November, 2009), nor for occupational therapy (T. Ammon, personal communication, October 22, 2009). In physical therapy there is LLI assessment measuring from the umbilicus to the medial malleoli (Kendall, et al., 2005; E. Folkins, personal communication, September 23, 2009; R. Croce, personal communications, October 8 and 12, 2010). Aligning the medial malleoli, as a marker for determining functional LLI, has been investigated for the NUCCA/UCRF SLC procedure (S.N. MacDonald, personal communications, November 12, 21, & December 21, 2009, January 18, August 8, & October 8, 2010).

There is evidence to support that a functional LLI is specifically due to an atlas displacement (Bakris, et al., 2007; Eriksen, 2004; Thomas, 1991; Woodfield, et al. 2011) possibly influencing an ATNR (Knutson, 1997, 2005), with this evidence showing that brain stem responses are closely linked to eye movements (Kulkarni, et al, 2001), and eye movement strength (Ayres, 2005; Cheatum & Hammond, 2000; Horvat, et al., 2011; Seaman, et al. 2007).

Presently, there is evidence that the most influential vestibular sense relies on leg position (Grasso, et al., 2011). "It may well be that somatosensory leg afferents act at the cerebellar level by tuning the neuronal responses to vestibular stimulation" (Grasso, et al., 2011, p. 312). It seems plausible that correcting LLI might improve the most influential vestibular response.

Martin (1996) described investigation regarding the influence of the upper cervical nervous system pathways on the legs, and a possible influence for LLI: "Animal experiments...have shown that propriospinal neurons located in the upper cervical spinal cord can transmit control signals from the medial pathways to more caudal

levels...thus, pathways terminating in the cervical cord may also influence trunk and lower limbs muscles" (p. 260). Additionally, Martin (1996) stated the importance of lessening the obstruction of cerebral blood flow: "occlusion of the vascular supply to the midbrain produces a complex set of neurological deficits that disrupts eye movement control, facial muscle function, and limb movements" (p. 412).

Brownlee, Flatt and Miller (2004) found that "Intraocular pressure was significantly reduced, and pulsatile ocular blood flow was significantly increased, following moderately intense exercise" (p. 44). Areas of "brain blood flow abnormalities" (Burroni, et al., 2008, p. 155) have been apparent for children with autism, especially relating to language and understanding sounds and music (p. 150). The suggestion of a left-hemisphere blood flow anomaly for adults who had DD as children (Flowers, Wood, & Naylor, 1991) might be connected to head tilt associated with an atlas displacement.

Presently, speech and language therapist services have been cut from budgets, so students are not receiving adequate time allotted for sufficient movement outcomes (retired Veteran Speech and Language Pathologist, personal communication, December 20, 2011). Currently, the educational system is not set up to assess for LLI or an atlas displacement, and if an LLI condition were recognized, it would be necessary to be designated on an IEP; ultimately school districts would be responsible for treatment costs. Most likely it will be a long time into the future before X-ray technology, or a safer alternative, is incorporated into educational assessment, but in the meantime it is relevant to acknowledge the effects of head tilt, pelvic, shoulder and hip imbalances, possibly associated with an atlas displacement.

Early LLI screening might provide opportunities for referrals to treatment for an atlas displacement. Perhaps, if LLI were incorporated into the framework for developmental educational screening assessments, classroom learning environments might ultimately reflect the importance of movement by incorporating persistent primitive reflexes into more sophisticated developmental movement patterns, and the overall affects on strengthened muscle tone and increased cerebral blood flow might become more evident.

continued on page 11

Report of Findings / cont. from page 10

Developmental movement activities for the classroom (Cheatum & Hammond, 2000; Colvin, Markos, & Walker, 2008; Horvat, et al., 2011; Kovar, et al., 2007; Seaman, et al., 2007) might be regularly incorporated into classroom teachers' lesson plans via identifying LLI.

In the future, educational support teams and parents might be trained to assess the relationship between a persistent ATNR and LLI, as a screening tool for reading success. Perhaps, collecting LLI data eventually might be able to easily document and distinguish relevant neurological patterns for individual struggling readers, eventually resulting in reducing school district costs by averting more expensive and time-intensive identification processes and treatments. Addressing the importance of a sound visual system might reflect a better understanding for more immediate benefits for all students' reading abilities, and ultimately for their quality of a functionally independent life.

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Investigating the applicability of the neurodevelopmental framework to enhance learning for all students, especially those with mild to moderate disabilities [electronic resource] / by Lisa B. Kline.

2012

SAVE THE DATE!

The 2014 NUCCA Spring Conference will be held April 24 - 26, 2014 in Minneapolis, MN.

2013 Fall NUCCA Conference

Investing in the Future: Mentoring the Next Generation

Planning is underway, and the fall conference is shaping up to be a good one! Bring your associate/colleague and meet us at the Radisson Hotel Newport Beach, October 10-12, 2013 for this year's fall conference!

As always, Dr. Packer has arranged a fantastic class schedule, for students and experienced doctors alike! David Klein, CPC, CHC will teach a session on Thursday about audits and Medicare requirements – good information for all practicing doctors!

Some important events at the conference:

- Complimentary Wine & Cheese Event on Thursday at 6 p.m.
- Job Fair on Friday from 12 – 1 p.m.
(only \$75 to have a table, free to attend)
- President's Reception on Friday at 7 p.m.
- Research Update on Saturday at 9 a.m.
(some exciting updates!)
- NUCCA Jeopardy on Saturday at 5 p.m.

Tickets for the President's Reception are \$65 and can be purchased with your conference registration or on-site at the conference on Thursday. Space is limited, so purchase your tickets today!

Don't forget to reserve your hotel room! Call the hotel at 949-833-0570 or toll-free at 1-800-333-3333 to reserve your room – make sure you reference the NUCCA group! If you prefer, you can reserve your room online. All conference information is on our website www.nucca.org.

Students are encouraged to write an essay focusing on the conference theme for a chance to win free conference registration. Essays can be submitted to Dr. Stanley Dombroski by September 30th via email to: DrStan@MyAmazingSpine.com or they can be mailed to Dr. Dombroski at:

Balanced Health Chiropractic Center

300 S. State Street Suite 4
Zeeland, MI 49464

Note the new membership policy in reference to conferences: As of January 2014, in order to maintain your listing in the directory you must have attended a NUCCA conference in the past two years. If you did not attend a conference in 2012 or 2013, you will have until spring of 2014 to meet this requirement.

2013 Fusion Recap by Dr. Marshall Dickholtz Jr.

I am happy to say that I had the honor and opportunity to attend and represent NUCCA / UCRF at this year's Fusion conference held in Chicago on August 16th. The theme was "Research" and with 8 of the top doctors from all the major upper cervical techniques reporting on their latest research projects, it was a great experience to see what incredible paradigm-shifting research is coming out of the upper cervical world. Dr. Woodfield was present to help answer questions and prepped me with a PowerPoint presentation that highlighted UCRF's research on the Finite Element study, preliminary results from the X-ray Reliability study, A Method for Characterizing Patient-Placement Precision project (in participation with David Vazquez) and the Calgary Migraine / Blood Flow study headed up by Dr. Gordon Hasick. While my time to present our research was limited, I gave an overview of NUCCA Standards and we snuck in an 18 minute video produced by Dr. Dickholtz Sr. highlighting past-published NUCCA research projects.

I was told from three different technique heads that they would all benefit from adopting the NUCCA standards to improve the training and consistency within their techniques. With that said, my key take-away from the

experience is how much all the upper cervical techniques have in common. Thanks to conferences like Fusion and Practice Innovation, the division between the different upper cervical techniques is getting smaller. The question came up during a panel discussion, "which one is better"? I kept my opinion to myself at that time, but it brought to mind a slightly different scenario. I believe a critical component is that we continue to concentrate on providing our own doctors with the best education possible. This insures the larger mass of providers can give effective and consistent health care from office to office wherever patients seek to receive upper cervical care (for our purposes a NUCCA spinal correction).

If it is possible for you to attend next year's Fusion, I recommend that you go for it! I am sure you will come away with a valuable experience.



An outstanding group of Upper Cervical Doctors, leading the way into the future.



2013 Small Steps

Last year Small Steps was a Big Success! The US team, led by Dr. Denton, narrowly squeezed out a victory over the Canadian Team, led by Dr. Hasick. The Canadians are planning on a comeback this year; so be afraid, be very afraid.

All of the materials you will need to start your Small Steps Campaign will be available at the conference in Newport

Beach. At the conference you will receive a research update from UCRF which will surely energize and inspire your practice. The Small Steps 2013 campaign will run from November 1 to November 30. If you are interested in participating you can sign up at the Fall Conference or email the NUCCA office at info@nucca.org.



**SMALL STEPS
TO SUCCESS**

**2013 NUCCA
Fundraising Campaign**

Patient Spotlight by Dr. Zachary Ward

How can something that seems so gentle and insignificant do so much? Skeptics about gentle upper cervical chiropractic care often have a hard time understanding how one procedure could change the quality of life for so many different kinds of people, experiencing a wide variety of symptoms. In this issue's Patient Spotlight, we have included three different healing stories of three very different NUCCA patients with three different histories. May they bring hope and healing to your community!

Amanda Stevenson's Knee Pain



Amanda Stevenson decided to get healthy and that running was going to be her way to do it. But when a common leg injury reared its head, she discovered getting her own head on straight with Dr. Nathan Wheat was key to getting her back on track.

"I ran in high school, and running was the only thing I knew," she told the NUCCA News. "I worked up from walking to running 30 minutes without stopping. Then I started entering races."

Six months into regular workouts and race training, Amanda ran into a common problem for distance athletes. "I developed a typical case of runner's knee," she said. "It hurt so bad that it hurt even when I wasn't running. I was told that I needed to rest, that I needed to take a break from running."

With just six weeks until an upcoming 20K race, Amanda did not think she was going to be able to run. But her stride and her pain would quickly change after a visit to NUCCA chiropractor, Dr. Nathan Wheat, in Ames, Iowa.

"I went in [for care] and honestly I didn't know if it was going to work," Amanda said. "But after my first few adjustments, I felt an immediate difference. I could tell that the biomechanics of my running had changed. That my knee had changed."

Not only was Amanda amazed that she could return to running so quickly, she was amazed to successfully complete her 20K race without any problems in her knee.

"I ran my race with no pain. I was certain even after I saw the improvements that the pain was going to show up again. I thought it was too simple. It has to be more complicated than that. But I ran my race and I finished a lot faster than I expected."

As Amanda continued her care under Dr. Wheat, she noticed she started achieving faster running times. For

interval trainings her miles now come in under 7:30, four minutes faster than when she first began running.

Amanda is now training for a marathon, and is convinced that her upper cervical care is an important part of her performance, not just in the healing of pain. "I know that having my body in alignment has made me faster."

Liz Hyer's Hearing Loss and Meniere's Disease



Liz Hyer had been managing her Meniere's Disease symptoms well, until she began to take a turn for the worst. A chance reference to NUCCA on an online-support page for Meniere's introduced her to Dr. Keith Denton. It was the first step to finally finding the full help she needed.

"Ever since I can remember," Liz Hyer told the NUCCA News, "I have had aural fullness [feeling of fullness in the ear], tinnitus [ringing in the ear], balance problems and double vision. Six years ago I was diagnosed with bi-lateral Meniere's disease." Gradual hearing loss in both of her ears led to the diagnosis from her medical physician.

Meniere's is a complex and confusing disease that affects the brainstem, creating hearing and balance disturbances. Within current medical thinking, there is little that can be done for Meniere's patients, especially the hearing loss.

Liz says that her Meniere's episodes were mild. Though they left her tired, with ringing in her ears, and room spinning for days at a time, they only happened every few months.

Two years ago her condition worsened. Perhaps the most noticeable change was the severe attacks of double vision. "It was to the point where I had to drive with one eye closed in order to be able to see to drive to work. It was not an ideal situation for safe driving," Liz said. Her doctor referred her to an ENT specialist who diagnosed her with another disease, known as Brown's syndrome.

January 2013 was her first visit to the NUCCA doctor. "I noticed when I was having a flare up of symptoms, I would get an adjustment from my regular chiropractor and my hearing would improve somewhat," Liz said. "I did some extensive research online about Meniere's...people were reporting that NUCCA chiropractic had helped relieve their symptoms. By the grace of God I found Dr. Keith Denton."

What happened after her first NUCCA correction? "I went home and laid down. At that point I had severe brain fog and double vision. I couldn't think. I couldn't see. I couldn't

[continued on page 12](#)

Patient Spotlight / cont. from page 13

hear. It felt like there was a rainforest in my head. It was like fluid running.”

A week later, Liz went back to her physician, who repeated her hearing test. Liz was found to have regained her normal hearing after one adjustment. Now, nine months later, her hearing has not declined. But that was just the beginning of her healing story.

Based on recent findings in upper cervical chiropractic research, and Liz’s symptoms, Dr. Denton thought that Liz might be experiencing something known as Arnold Chiari Malformation, where the lower portion of the brain is pulled downward into her spinal canal. He suggested Liz get an upright MRI so she would have a complete understanding of what she was facing. When she approached her neurologist, he told her that she did not have Arnold Chiari—and that there was no such thing as an upright MRI.

Several months later, Liz tracked down an upright MRI unit in Illinois (they do exist!), and discovered that she did indeed have Arnold Chiari. “Having the hearing back, I have my confidence restored, and it gives me hope that the rest will follow with time.”

Just after her interview, Liz wrote the following to the NUCCA News:

“One thing I forgot to mention during the interview was that I have had years of chronic lower back pain. This has melted away along with my hearing issue since being adjusted by Dr. Denton. I have been under regular chiropractic care since I was 18, and at least twice a month for the past 11 years, without a sign of relief for my back. In just one upper cervical adjustment, years of excruciating back pain was but a memory.”

Mike Tyler’s 16 Years of Chronic Pain



Without any true answer on why his body hurt so much, Mike Tyler had learned to make chronic, debilitating pain a lifestyle. He even continued playing golf. Though he was skeptical about NUCCA, Mike was game to try anything to get his pain down and his swing back. Would his visit to Dr. Cecilia Yu deliver the miracle he desired?

“When a friend told me about Dr. Yu and NUCCA, I was, of course, very skeptical. I thought I had tried everything and researched everything and had not heard of NUCCA. I thought there was no way NUCCA could help me.”

So writes Mike Tyler in an article he wrote about his experience with Dr. Cecilia Yu, a NUCCA chiropractor

in Dallas. Mike went through such an incredible transformation with his care, that he put the experience into words, which he shared with the NUCCA News.

Before finding help through NUCCA, Mike had lived with chronic pain for 16 years. “I was diagnosed with a lot of things. I had everything...every x-ray,” said Mike. “There was nothing I did not try: chiropractors, massages, stretching, tens units, hanging upside down, acupuncture, ice, heat, medication and supplements. Some of these items would provide temporary relief but would never last any length of time. I went through every possible scenario to stop the pain and be able to play golf.”

Mike is a lover of golf. “I have played competitive golf all of my life in the Dallas area,” he told the NUCCA News. But Mike’s pain was so unbearable that he had to use a golf club to lift himself off the green anytime he bent over. “I couldn’t bend over to tee up a golf ball.” And that was on his good days.

What were his bad days like? He wrote this: “My pain was quite severe. It was painful to sit, stand, walk, or even get in and out of a car. When you live in constant pain, you need to have a plan before each movement. My pain was from my head to my toes with hourly back spasms, cramps and daily headaches. Pain became the norm for me to the point where I could not even remember ever being without pain. A good day was when I had steady consistent pain where I would know my limitations on those days. Bad days were when the level of pain would fluctuate along with migraines and muscle cramps.”

“I went to Dr. Yu’s office with significant doubts,” he told the NUCCA News. “She went through her process, and figured out how badly I was misaligned. She put my head in a cradle, and very gently touched my neck.”

And then, like many NUCCA chiropractic patients, there was no immediate change. In fact, things seemed to get worse for a time.

“I went through several days of increased pain. Even an old broken finger hurt. It was that bad.”

Several nights after his first correction, Mike slept through the night for the first time in years and awoke to find that his pain had significantly diminished. It would quickly fade away and never return.

“Three days after the initial adjustment and I could bend over and touch my shoes. Because I was so flexible, had no pain, and was experiencing so much energy, I started painting my house...NUCCA truly works without any harmful drugs or procedures.”