

Upper Cervical Care and the Pediatric Patient

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Upper cervical technique is not new to the chiropractic profession. It started with the toggle (HIO) technique, developed by Dr. B.J. Palmer, followed by other upper cervical techniques, such as Grostic, NUCCA, orthospinology and atlas orthogonal. In preparing this article, I interviewed Dr. Julie Mayer Hunt, a second-generation upper cervical chiropractor who is board certified in orthospinology and has earned diplomate status in chiropractic pediatrics. She is currently a board member of the Society of Chiropractic Orthospinology and the Academy of Upper Cervical Chiropractic Organizations (AUCCO).

According to Dr. Mayer Hunt, "The upper cervical spine is one of the most vulnerable areas of the spine and is a critical area to keep free from nerve interference." She cites a study published in the *Journal of Clinical Chiropractic Pediatrics* that identified approximately 58 articles regarding

chiropractic care of the pediatric patient.¹ All of the literature reviewed involved upper cervical adjustments (UCA) and reported the overall level of improvement as a result of rendering specific chiropractic care. Many of the studies involved cases in which any of a myriad of conditions frequently affecting children was resolved completely. Moreover, the response time of a UCA often was seen within one to three treatments. The conditions cited included infantile colic, glaucoma, irritability, head trauma, hemiparesis, projectile vomiting, tonsillitis, sinusitis, bronchitis, nocturnal enuresis, allergies, sleep disorders curvature of the spine, fever, otitis media, asthma, ADHD, headaches, torticollis and seizures. The *JCCP* study summarized studies involving more than 1,000 children under chiropractic care; the findings suggested the focal area of care involved the upper cervical spine.

Dr. Kirk Eriksen best describes the upper cervical biomechanics as *not moving in only one plane of motion*. During normal cervical movement, coupled motion occurs. Coupling is defined as motion in which rotation or translation of a rigid body about or along one axis is consistently associated with simultaneous rotation or translation about or along another axis. During normal range of movement, coupled motion helps reduce tension on the nervous system. This is accomplished by offsetting pure lateral flexion or rotation, with small amounts of movements in the X, Y or Z axes.²

One feature of an upper cervical subluxation is that the occipito-atlanto-axial articulations have misaligned in an uncoupled fashion. This condition is measured radiographically in a neutral posture, with the spine at rest. The body must continually adapt, from a biomechanical and neurological standpoint, to this type of subluxation.²

The birth process alone can contribute to upper cervical trauma and instability. Abraham Towbin, MD, reported the results of a study on newborn spinal cord/brainstem injuries that he conducted at the Harvard Department of Neuropathology.³ He performed autopsies on more than 2,000 newborns that died shortly after birth. In his report, *Latent Spinal Cord and Brain Stem Injuries in Newborn Infants*, Dr. Towbin stated: "Spinal cord and brain stem injuries often occur during the process of birth, but

frequently escape diagnosis. Respiratory distress is a cardinal sign of such injury."³

A study by H. Biedermann, published in the *Journal of Manual Medicine*, highlights the importance of checking the newborn following delivery. In his evaluation of 1,000 newborns, he discovered that 119 cases revealed kinematic imbalances of the suboccipital spine. The finding of suboccipital strain equated to approximately 12 percent of the population group.⁴

Upper cervical techniques traditionally use the supine leg-length evaluation to determine necessity for adjusting the atlas. When evaluating the pediatric patient with the supine leg check, a leg-length difference is often readily apparent, usually half an inch or greater. Dr. K. Eriksen notes the following hypothesis regarding the short leg findings:

"The spinocerebellar tracts are located along the lateral edge of the spinal cord and are located at the most probable site of maximal mechanical irritation via the dentate ligaments. These proprioceptive tracts are primary pathways for regulating muscle tone and joint position sense. The spinocerebellar tracts are arranged in a laminar fashion (although somewhat angulated) with the most lateral fibers innervating the most caudal structures (i.e., legssacrallumbarthoracic cervical [very limited]). Irritation of these tracts could lead to muscle tone imbalance of the pelvic girdle resulting in a functional short leg."⁵

Upper cervical chiropractors also note postural corrections as a byproduct of specific upper cervical adjustments. These doctors advocate that one of the benefits of chiropractic care for the pediatric population is eliminating spinal stress (weight of the head centered and structurally/neurologically balanced) on the child's developing spine.

A resource regarding upper cervical techniques for both pediatric and general practice is Dr. Erikson's book, *Upper Cervical Subluxation Complex: A Review of the Chiropractic and Medical Literature*. The book reviews the anatomy and kinematics of the upper cervical spine, and explains how impaired biomechanics causes neurological dysfunction and physiological concomitants.⁵ This textbook is not intended to be about chiropractic technique; rather, the text provides the "why" as opposed to the "how" of upper cervical chiropractic care. A follow-up book providing specifics on upper cervical techniques including pediatric care is scheduled to be released in spring 2007.

To learn more regarding specific upper cervical techniques for pediatrics, access the following resources:

- orthospinology: www.orthospinology.org
- atlas orthogonal: www.atlasorthogonality.com
- NUCCA: www.nucca.org

It should be noted that Dr. Mayer Hunt has published several pediatric case studies on irregular bowel function, cystic hygroma and asthma,⁶⁻⁸ which illustrate functional improvement of these nonmuscular disorders when the subluxation was corrected by specific upper cervical adjustments.

References

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