

Cranial Controversy

A controversial manipulative therapy approach for humans has been making headway into the treatment of animals. At the time of its “discovery” in the early 20th century by William Garner Sutherland, DO, craniosacral manipulation “was generally regarded as the dream of an erratic”.¹ Over time, the approach made inroads into the osteopathic profession and in 1947, students of Sutherland formed The Cranial Academy whose membership comprised physicians and dentists dedicated to the research and promotion of osteopathy in the cranial field. The popularity of craniosacral therapy widened considerably after John E. Upledger, DO, broke with osteopathic tradition and began teaching the technique to non-physicians. According to the Upledger Institute, Inc, craniosacral therapy treats traumatic brain and spinal cord injuries, orthopedic problems, “motor-coordination impairments”, chronic back pain, colic, neurovascular and immune disorders, and “post-surgical dysfunction”. For several years, the Institute has been offering courses in craniosacral therapy for animals, including workshops on dogs, wolves, foxes, coyotes, and horses.

The fundamental tenets of the technique hold that the bones of the cranium and pelvis exhibit subtle, periodic motions as a result of the rhythmic coiling and uncoiling of the central nervous system and their subsequent tugs on bony attachments inside the skull and sacrum. The motions of the occiput and sacrum caused by these dural pulls then supposedly produce mechanical responses in the tissues with which they communicate, ultimately spreading throughout body. Because the motions are so subtle, the craniosacral therapist “listens” through the hands for these motions through contact with the patient’s head or sacrum. If one detects asymmetric movements or abnormal rates, one immediately commences treatment through gentle motions designed to facilitate release of strain patterns in the dura. The goal is to promote more healthful and restorative movement patterns.

These visually imperceptible movements have posed challenges to researchers attempting to identify, verify, and quantify the ebb and flow of the craniosacral mechanism, borne by the tide of the cerebrospinal fluid. Arguments persist about whether or not the human cranial sutures ossify during adulthood. If the cranial bones do fuse, especially at the critical fulcrum located at the junction of the sphenoid bone and occiput, that would call into question a key component of craniosacral manipulative therapy. This premise maintains that the rocking back and forth of the occiput as a consequence of dural connections at the foramen magnum induces secondary, gear-like motion in its rostral neighbor, the sphenoid bone. This requires that the suture between the sphenoid and occiput remains unossified.

¹ Magoun HI. *Osteopathy in the Cranial Field*, 2nd edition. Kirksville: The Journal Printing Company, 1966. P. xi.

The cranial concept further posits that all other cranial bones move in synchrony. The unpaired cranial bones flex and extend while the paired bones rotate internally and externally. Because the “dural tube” surrounding the spinal cord connects both at the occiput and sacrum, craniosacral therapists claim to be able to sense the same craniosacral rhythm simultaneously, whether they are contacting the cranium or sacrum. That is, an examiner at each end of the patient should theoretically be able to report the same findings. However, a number of studies have indicated that the diagnostic reliability between examiners is practically non-existent, and no scientific evidence has demonstrated treatment effectiveness. The approach remains enshrouded in controversy today, even to the point where some researchers consider the craniosacral phenomenon to be purely imaginary.²

Given the unanswered questions about craniosacral manipulation in humans, how well-justified can the procedure be for non-humans, whose craniopelvic structures vary from humans’ both anatomically and developmentally? Only species-specific research will help answer these questions. To this end, Kevin K. Haussler, DVM, DC, PhD at the Equine Orthopedic Research Center at Colorado State University has completed a preliminary investigation into the anatomical basis of craniosacral therapy in horses, and presented his findings at the Fourth Annual Veterinary Spinal Manipulative Therapy Convention in Fajardo, Puerto Rico, this past November. Dr. Haussler methodically compared claims made by craniosacral proponents to available scientific evidence with a focus on veterinary anatomy, thereby revealing compelling refutation of widely accepted premises. Concerning sutural ossification, Dr. Haussler demonstrated that, in skull after non-human skull, the basisphenoid articulations are commonly ossified. Dr. Haussler then presented videotaped evidence from his own recent anatomical dissections of the equine spine and dural attachments. He clearly illustrated differences in dural mobility at key sites along the spine, from the occiput to the sacrum, that debunk several assumptions. For example, in response to the idea that the spinal dura acts like a tube and that traction forces on the dura at one end transmit faithfully to the other end, Dr. Haussler showed that dural attachments at each spinal nerve level impede the conveyance of even gross arcs of motion (much larger in magnitude than the subtle craniosacral motion) applied to the neck from reaching the pelvis. In addition, when the cervicothoracic region is brought into extension, the dura exhibits bidirectional movement in the cranial thoracic segments, a phenomenon unheard of in craniosacral therapy.

Perhaps before more non-veterinarians set up workshops teaching others craniosacral therapy of wolves and horses, it would be prudent to first examine further the anatomical underpinnings of the technique. In the words of anatomy professor Steve E. Hartman, PhD and physiology professor James M. Norton, PhD, both from the College of Osteopathic Medicine at the University of New

² Hartman SE and Norton JM. Interexaminer reliability and cranial osteopathy. *The Scientific Review of Alternative Medicine*. 2002;6(1):23-34.

England, “[W]e believe that craniosacral therapy bears approximately the same relationship to real medicine that astrology bears to astronomy. That is, this approach to ‘health care’ is medical fiction, and it is not appropriate to teach fiction as part of medical or allied health curricula...[U]ntil researchers have replicated demonstrations of efficacy – using properly controlled scientific trials – we believe that craniosacral therapy/craniosacral osteopathy should be removed from all medical and allied health curricula.”³

³ Hartman SE and Norton JM. Craniosacral therapy is not medicine. *Physical Therapy*. 2002;82(11):1146-1147.