

Answer to the Manipulation Quandary

In response to your editorial detailing the long-running altercation with chiropractors concerning manipulation¹, I have a simple and effective answer. When the dust from the car in front of you is making your breathing difficult, the most effective answer is to pass that car; go out in front and let them eat your dust.

When Fred Mitchell Sr. back in the early days of osteopathy conceived of the muscle energy technique he was on the right track but missed the mark because he was focused on the articular dysfunction and was unaware of the essential myofascial trigger point (MTP) component. Osteopaths, chiropractors, and physical therapists have perpetuated that omission ever since. The fact of the matter is that the relatively few clinicians really skilled and knowledgeable both in manipulation techniques and MTPs are acutely aware of the fundamental fact that articular dysfunctions and MTPs in muscles crossing that joint establish a positive feedback loop so that one aggravates the other. Your problem is largely one of semantics so the simple answer is to change the playing field and the semantics that go with it. If you get the same effective results for the same patient problem by treating the MTPs rather than the joint and use different terminology you leave the other side without an argument. You are applying muscle contract-release to release the muscle(s) that are restricting joint movement not manipulating the joint to treat your patients.

I not only have years of experience treating patients, but at age 85 I have a collection of muscles, nearly all of which have latent MTPs that often are occasionally activated by my dynamic life style. My experience has been that by far the most effective and easily applied treatment of a newly activated MTP is what Mitchell would call a muscle energy technique. To avoid confusion, I would suggest we call it a Contract-Release technique. This simply is an isometric contraction of the muscle with the MTP followed by either an active or passive (or both) stretch of the muscle(s) restricting joint range of motion. The reason this is so effective is described and illustrated in a published paper². What that paper does not describe is that the reason the initial contraction facilitates the subsequent stretch is that it helps to release the tangled sticky titin molecules in the shortened sarcomeres. The reason the process must be done slowly is that it takes time for those molecules to work free of their stuck-together state. As usual in the MTP "business", there are precious few scientific articles documenting this feedback loop between the restricted joint motion and the shortened muscles associated with it. However, there is a wealth of clinically oriented references, including the book by Lewit³.

Sometimes the answer is at hand, but one must think outside of the box to recognize it.

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Manual Therapy in Children: Role of the Evidence-Based Clinician.

I read with great interest the editorial comment in this journal by Dr. Huijbregts on Manual Therapy in Children: Role of the Evidenced-Based Clinician¹. As the largest pediatric chiropractic organization worldwide, we at the International Chiropractic Pediatric Association (ICPA) welcome the invited opportunity to address his editorial comments with our perspective.

We could not agree more with Dr. Huijbregts' comment that the evidence-based clinician "combines research data on diagnostic accuracy, outcomes, and risk of harm with clinician expertise and patient (or in this case, parent) values when choosing a management strategy." Although experimental design studies have been published addressing the effectiveness of chiropractic care for children², the sum of the published literature is still very much lacking. We are only too painfully aware that this deficit is not unique to chiropractic but exists for both allopathic and non-allopathic approaches to pediatric patient care. However, this should not detract parents from choosing chiropractic care (or any other type of care) for their child since we in the chiropractic profession have over 100 years of clinical experience in providing a safe and alternative approach to the care of children. Indeed, the latest survey by the National Board of Chiropractic Examiners³ supports this statement from their findings that the percentage of patients under 17 years of age has increased by 8.5% since 1991. A 1998 study by Lee et al⁴ estimated that some 30 million visits were made by pediatric patients to chiropractors each year. This represented approximately \$1 billion in healthcare cost, \$510 million of which was paid out-of-pocket by families.

Recently, Vohra et al⁵ performed a systematic review of the literature for articles that documented adverse events associated with pediatric (0–18 years of age) spinal manipulation. Using 8 electronic databases with the literature search spanning some 104 years, these authors identified 14 cases reporting direct adverse events with pediatric spinal manipulation. Ten of the 14 cases were attributed to chiropractic. They identified "a further 20 cases of delayed diagnosis and/or inappropriate provision of chiropractic care." Based on these findings, Vohra et al concluded that "serious adverse events may be associated with pediatric spinal manipulation." *Ceteris paribus*—"all other things being equal"—it would seem more appropriate to conclude what we in the chiropractic profession have always advocated – that there is insufficient evidence to indicate that the use of spinal manipulative therapy in children is harmful⁶. Of the 10 chiropractic cases involving an adverse event as cited by Vohra et al, 9 papers were retrievable for closer examination. Five cases documented minor adverse events which might be described as self-limiting and did not require hospitalization or the attention of a medical doctor. Four of 5 cases described as involving a severe adverse event (i.e., requiring hospitalization or resulting in permanent disability or mortality) involved patients with a pre-existing comorbidity and/or presenting with continued declining health status as a result of severe trauma. Vohra et al failed to address this in their paper. Upon further examination of the 20 cases cited as resulting in delayed diagnosis or inappropriate provision of chiropractic care, the supporting references were nothing more than Letters to the Editor and a text-book citing a medico-legal case. This was a violation of the authors' study selection criteria of adverse events cited in primary investigations/reports in peer-reviewed sources.

Before one dismisses the clinical experience (and expert opinion) of chiropractors in the care of children in favor of the allopathic approach to pediatric care, consider the following. Everyday, millions of children are treated with prescription and over-the-counter medication that have never been tested for their effectiveness let alone their safety in children. Non-prescription cough and cold products are but one example of this instance where safety and efficacy data are lacking in children⁷⁻⁸. On a more pressing note, consider the use of "off-label" drugs—the practice of prescribing medications outside indications set by the regulatory bodies with respect to the age of the patient, dose prescribed, route of administration, or the indication for drug use⁹. I would concede that the issues surrounding this practice are complex and there are attenuating circumstances. However, severe adverse events associated with off-label prescribing number more than 10 cases¹⁰⁻¹¹. Our over-reliance on so-called "research" has failed us as a society. Several respected biomedical journals whose publications we have relied upon to provide the best scientific evidence to guide patient care have had to address the issue of conflict of interest, the falsification of data, and scientific misconduct in general¹²⁻¹³.

We are not advocating that we should ignore or do not strive to do more research but rather point out the trinity of evidence-based healthcare: research data are combined with clinical experience/judgment, while at all times respecting the values and choices of the patient. The ICPA has recently created the largest practice-based research network in the chiropractic profession to address the issues of safety and effectiveness of chiropractic care. Our preliminary data thus far (unpublished data) are similar to the findings by Hayes and Bezilla¹⁴ in their work on the use of osteopathic manipulative treatment of pediatric patients. No treatment-related complications (i.e., fractures, dislocations, cerebrovascular accidents, etc) were found thus far based on surveys of chiropractors and independently, from surveys of parents of children under chiropractic care. With respect to treatment-related aggravations, our findings thus far indicate less than a handful which may be described as "soreness" and/or "stiffness" over the course of thousands of office visits. Interestingly, a majority of chiropractors and parents indicated treatment-related improvements in their patients/child as they relate to the presenting complaints but also in "unrelated" problems.

From a historical perspective, the chiropractic care of children has been around since chiropractic's inception and based on surveillance studies on the effects of chiropractic care on patients, improvements in both musculoskeletal and non-musculoskeletal conditions are popularly reported among the elderly and in the pediatric population¹⁵. Unlike that of Biedermann's etiologic model of KISS Syndrome and KIDD Syndrome¹⁶, chiropractic's pathophysiologic model has, at its core, a vitalistic and holistic approach to patient care vis-à-vis the vertebral subluxation complex¹⁷. As touched upon by Dr Huijbregts, there is diversity among manual therapists and results obtained by one "technique" (salutary or otherwise) should not be universally applied to all. For chiropractors, the application of manual therapy/adjustment to sites of spinal subluxations are varied and many and can range from non-force/non-thrust techniques to the well-known high-velocity, low-amplitude thrust to the spine. With children, due consideration to the unique biomechanical features of the pediatric spine calls for judicious modification of the thrusting forces applied¹⁸. Manual therapy for the pediatric patient is simply not a scaled-down version of the adult and should only be performed by healthcare providers with expert training.

With respect to the vegetative responses such as facial and whole-body flushing, diaphoresis, crying, bradycardia, and temporary respiratory arrest as reported by Koch et al¹⁹ in children treated for KISS-syndrome with impulse manipulation; first, this requires further investigation to determine if similar responses do occur with other techniques/practitioners and secondly, the vegetative response findings by Koch et al were, as qualified by the authors, of short duration and self-limiting without long-term patient consequences, based on their experience with over 20,000 children²⁰.

As is the fiduciary responsibility of any clinician, the risks and benefits of any intervention must be weighed in the process of informed consent. As pointed out by Dr Huijbregts, "there is no clear evidence of harm" in the manual therapy of children and absence of evidence is not evidence of absence. We at the ICPA and within the chiropractic profession in general, are working on the arduous task of producing high-quality research to substantiate our claims of effectiveness and safety. In the meantime, millions of children continue to benefit from our 100 years of clinical experience.

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