



ERGONOMICS / POSTURE / SLEEP HABITS

Building the DC-MD Bridge

BIOMECHANICS & POSTURE EDUCATION: NOT JUST FOR YOUR PATIENTS.

Steven P. Weiniger, DC

From MDs practicing integrative holistic medicine to the family internist, many DCs are enjoying unprecedented attention from their allopathic colleagues. The opportunity is to earn respect and then build an economic practice model, which requires shifting the MD from being a receptive listener about chiropractic to being an enthusiastic referrer. Increasingly, DCs are facilitating this shift by positioning themselves as the go-to resource for problems related to *posture*.

A DC friend recently lamented that he golfed and socialized with friends who were MDs, but never received a referral. My diagnosis of the problem: In addition to a personal relationship, building referrals requires everyone to be on the same page.

In order for an individual MD to refer a patient to you, a congruence with the MD's practice patterns and beliefs is essential. The MD must understand - and be able to share - what you do, and have confidence in whom they should be referring. They should be able to address parameters such as treatment effectiveness, safety, cost and duration, as well as being able to reassure their patients and colleagues about allopathic red flags such as long-term contracts and lifetime-care practice models.



Effective professional communication must be in the listener's context, not yours. Physicians view themselves as healers and rely upon an interdependent network of other professionals to help patients, a system that has traditionally excluded DCs.

Integration into an MD's referral network requires them to have a framework to understand your chiropractic practice; one which, in turn, can be readily communicated to patients and other physicians. Building that understanding usually requires a personal relationship, as well as answers to questions both spoken and unspoken, i.e.:

- What do you do and why?
- Whom should I refer to you?
- How effective and how safe is your treatment?
- What will it cost?
- Do patients have to keep coming back forever?

These questions and more all flow from the initial "elevator speech" question: "What's a chiropractor?"

The DC-MD Bridge

According to a recent study of primary care physicians, more than 89 percent consider biomechanical risk factors such as posture to be the most important short-term trigger for sudden-onset LBP; and more than half think biomechanics is a long-term trigger for sudden episodes of acute LBP.¹

The commonality of biomechanics and a postural practice model builds a framework on what

"everyone knows" and can create value for the unique benefits of spinal manipulation. So, to build a bridge to other health professionals (as well as the public), the answer to "What's a chiropractor?" becomes, "We work with posture" and "I help improve the biomechanics of motion."

I'm a DC, and I help people strengthen posture and move well. I perform an adjustment (AKA spinal manipulation, or SMT) to unlock spinal joints, and then retrain the patient's habitual posture patterns with progressive patterned motions to target the weak links in their unique kinetic chain. In other words ... I'm a posture specialist.

Posture is the beginning point of motion. Static or dynamic, standing or seated, in the shifting balance of walking or the exquisitely timed shifting of momentum while throwing a ball, posture is an expression of the nervous system telling muscles to contract in a choreographed framework. And all within the imperative of staying upright while constrained by connecting ligament and fascia.

In other words, posture is the way the different muscles and joints interplay to keep the body balanced in space. Balance is one of the core concepts we use to position posture with interprofessional congruence. What comes next is creating awareness.

When you think about it, posture can be (somewhat) conscious ... but most of the time, we are surprisingly unaware of the actual physical arrangement of our physicality. Posture is about mechanics and nerves, habits and training, structure and function. It isn't one of these things; it's all of them! Plus, there's one more facet to posture that is absolutely imperative: breathing.

The diaphragm is our primary respiratory muscle and it is also the uppermost deep core muscle. Posture affects how we breathe in ways both mechanical and neurological. When the torso folds onto the pelvis and the head juts forward, there is literally less room for [the diaphragm](#) to descend on inspiration. The resulting physical restriction on the bottom by the viscera pushing against the abdominal wall, and of the anterior upper rib cage by the shoulders on top, means many people literally can't take a deep breath.

Because of this mechanical linkage, patterns of unconscious coordination commonly recruit many of the same deep core muscle patterns for breathing as for postural balance and stabilization. "Nerves that fire together wire together,"² and muscle, nerve and postural patterns become facilitated when used and weaken when neglected.

It can take multiple training sessions for professionals who focus on breathing (e.g., yoga teachers, respiratory therapists, meditation instructors, certified posture exercise professionals and others) to help people find and engage long-neglected patterns so they can take a full diaphragmatic breath.

Where Function & Structure Meet

Posture is where function and structure meet, a perspective increasingly supported by research. In addition to the obvious NMS problems, postural changes in the spine can be at the root of seemingly unrelated symptoms.

A recent paper in the *Journal of Brain Structure and Function* found "evidence of pathways linking upper cervical sensory afferents with CNS areas involved in autonomic and oromotor control, via the intermedius nucleus of the medulla. Disruption of these neuronal pathways could, therefore, explain the dysphagic and cardiorespiratory abnormalities which may accompany cervical dystonia and

Whiplash Associated Disorders (WAD)."³

Whether from modern postural habits or traumatically induced structural asymmetry, the interrelated domains of posture form a powerful framework for DCs to communicate with MDs, and one that's congruent with any chiropractic philosophy or technique. It's also why a simple digital picture of posture is such a powerful tool to understand an individual's problems, as well as communicate the importance of addressing the limiting factors of structure (muscle, ligament and fascia) and function.

Using Posture Pictures to Engage, Educate and Empower

Especially as boomers age and our society slumps with text neck and computer slouch, posture interventions are increasingly being seen as what smart people do who want to move well, perform well and age well. Posture is the starting point of all body motion, so observing and tracking resting posture can be a proxy for observing and tracking dynamic motion.

This is why posture, documented with a digital picture, can be the Rosetta Stone to engage and educate the MD toward understanding what a DC does, how to explain the role of the DC to the patient, and empower them to know what patients should be referred.

But what is correct posture? Does anyone have perfect posture? Credibility is imperative in cross-professional dialogue. Research indicates that especially in the lateral plane, small structural asymmetries are the norm.⁴ Sagittal (AP) plane distortions show some correlation with health⁵ and clinical outcomes,⁶ but unfortunately, much of the research to create adequate normative databases of posture and track best clinical practices for interventions remains to be performed.

Especially in our time of evidence-based practice, lining up colored strings and other ways to pathologize inconsequential postural variants does not suffice; which is one reason for DCs to engage MDs is by communicating with an observational, biomechanical model.

One such model is Kendall's four body types, but while well-known, their clinical framework is unwieldy to integrate into a clinical practice and studies have called into question its validity.⁷⁻⁸

As a DC aware of the importance of spinal motion, I advocate an observational model to benchmark the relative positions of the body's masses over the body's center of pressure on the ground, and correlate these relative positions with clinical findings, as well as changes with care and over time. To facilitate communications, let's label those masses *postural zones*.

Common-Sense Posture Concepts

Along with posture pictures, we can use common-sense concepts to educate MDs, patients and the public about posture. The first concept: In order to stand up, we must balance - bottom to top - our body's four masses:

- Zone 4: Head and neck, which balance on...
- Zone 3: Torso and upper extremity, which balance on...
- Zone 2: Low back and pelvis, which balance on...
- Zone 1: Lower extremities

It makes sense to an MD when you talk about the symmetry of how each of the four body masses is

aligning, and moving, in order to balance. In fields ranging from rehab to sports performance to aging well, the overwhelming consensus with respect to body motion is that rough symmetry is better than gross asymmetry. And all motion begins with posture.

Observing the resting alignment position of adjacent body masses, as well as where each mass is with respect to our feet, is clinically relevant and congruent with clinical research,⁹ [sports performance](#) training and common-sense. Regardless of postural alignment issues such as high hips and low shoulders, as long as a body is not falling down, it is mechanically balanced ... albeit imperfectly.

Both relative and absolute positions are functional and dynamic, which is why improving posture is more than merely standing up straighter. Improving or strengthening posture means improving the balance, alignment and motion control of the body to align subjective perception of body position and motion with objective reality; and in so doing, endeavoring to correct errors in sensory function as well as motor control.

Coupling an observational picture with common-sense and scientifically valid concepts like balance and compensation form a credible biomechanics springboard for a narrative story to communicate the DC's perspective of a clinical problem to even a skeptical MD. Support comes from places like a recent study in *Journal of Neurosurgery: Spine*,¹⁰ which supported traditional chiropractic philosophy with the observation that "the spine functions as a global unit so that cervical alignment parameters influence, and are influenced by, parameters in the lower regions."¹⁰

A Sample Biomechanics Narrative

Consider as an example of this kind of biomechanics narrative the sedentary office worker with neck tightness. He sits 10 hours a day, and his posture picture shows a marked high right hip and low right shoulder. Overuse of the right hand using a mouse, especially in a flexed seated posture, is likely requiring asymmetric neck, shoulder and low back muscle function to maintain balance; causing the torso, as well as the pelvis, to deviate to the right.

This asymmetry must be correlated with other findings, but common observations, in addition to neck and shoulder patterns, could be an adaptive shortening of the right psoas and possibly compensating left lumbar curvature, which fits with the observed posture. Added stress to the cervical area would also be expected, setting the stage for injury and the resulting complaint, as well as suggesting a target for muscle therapy and spinal manipulation (SMT).

These changes are subtle, which is one reason why working with similarly subtle, but real posture observations can help position the adjustment as a therapeutically unique and valuable passive therapy. DCs are trained to find and restore subtle segmental motion (among many other things). And restoring and promoting symmetry of spinal function is an essential element of whole-body motion, as well as posture.

The goal of functionally strengthening posture is to train the body to function closer to vertical alignment of the head, torso and pelvis over where the feet strike the ground. Systematically cueing and precisely focusing subtle attention on full-range, symmetric motion of a single postural mass can target neglected motions, promote stability, and avoid joint overstress and injury.

DCs offer additional synergy for this kind of focused postural retraining exercise, using spinal

manipulation to not only restore motion, but also facilitate control by facilitating neurologic proprioception.¹¹

Patients are engaged when you empower them for self-management by progressively retraining control of a single postural mass while adjacent segments are stabilized. They can feel the difference in how they move. And since symmetry of spinal motion affects overall postural balance and motion, a corollary becomes that spinal manipulation is an integral component of functionally strengthening posture. Plus, there's greater understanding of the importance for wellness when symmetry of movement is improved after a spinal adjustment.

Posture is increasingly the subject of interest from the public, product manufacturers and other professionals. For DCs, it can be a biomechanical, common-sense framework to communicate chiropractic to other health professionals, patients and the public; and position the local DC as the go-to posture expert.

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