



# Done by Hand

Chiropractics, the headache patient, and the lost art of touch.

By Peter McAllister, MD



## The Birth of a Chiropractor

Daniel David “DD” Palmer was a tall charismatic grocer, who became a phrenologist, spiritualist, magnetic healer, and medicinal potions entrepreneur. Born in Toronto, Canada, DD discovered as a young man that his “cures” found a

more receptive audience in the midwestern US, and so he emigrated southwesterly, selling tonics and magnets out the back of a horse-drawn wagon before settling in Davenport, IA.<sup>1</sup>

In 1895, with several spectators gathered and to great fanfare, DD thrust his clutched hands so forcefully into his patient’s thoracic spine that all present heard the alarming and audible crack. The patient, a janitor who serviced DD’s office, was middle-aged, stooped, and habitually complained to DD about his hearing loss—telling him that one day his hearing was sharp as a barn owl and the next he was deaf as a box turtle. Weeks before the dramatic crack, DD had observed that the janitor’s spine seemed bent, as DD would later write, to “an ungodly angle.” Palmer wondered if there could be a connection between the janitor’s deafness and his bowed backbone?

DD had been considering the spine and its relationship to health and posited that there existed a spiritual (ie, God-given) life force or innate intelligence within the human body flowing from brain to spinal nerves to liver, kidneys, stomach, and other organs (including the hearing apparatus of the ear), supplying nourishing energy (Figure).<sup>2</sup> Although without evidence, DD further postulated spinal subluxations (ie, vertebral misalignments) hindered flow of vital spirit, and that reducing subluxation with vigorous manipulation (a high-velocity, low-amplitude thrust) could restore this flow.

The next day, when the janitor commented his hearing had “somewhat improved,” DD knew he was onto something big. Cobbling together notions from magnetism, vitalism, bone-setting, and other fringes of pseudoscience, and borrowing the Latin words *chiro* and *practis*—meaning done by hand—DD found commercial success better than any healing magnets or elixirs he had sold out of his wagon. Chiropractic was born.

## A Lack of Evidence

Modern science tells us that there is no nourishing vital force flowing from spinal nerves to organs, without which they would not survive—for example, a transplanted liver functions

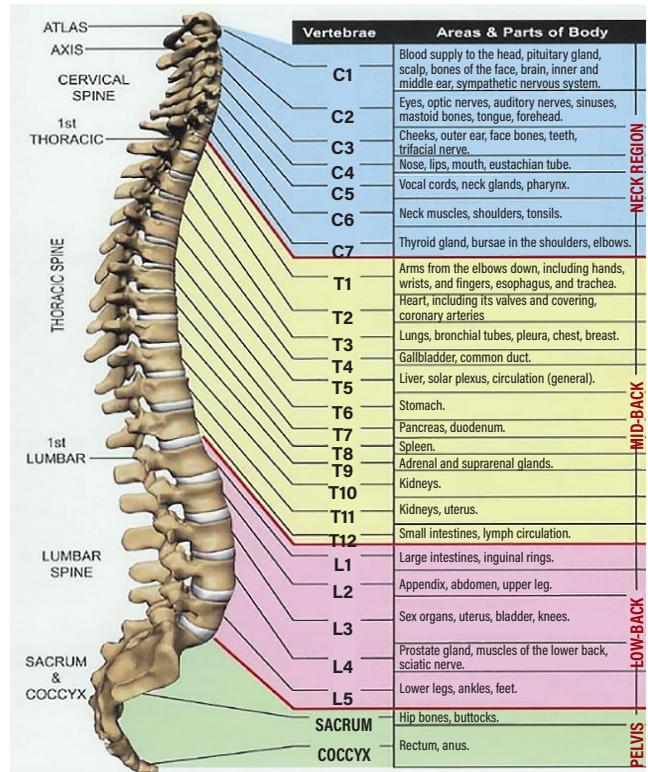


Figure. Chiropractic chart of viscera supplied by vertebral nerves.

well completely devoid of innervation. Although DD Palmer believed that “95% of human disease” comes from spinal-subluxation problems, we know now that human maladies are caused by myriad scientifically provable causes among them infectious, autoimmune, degenerative, genetic, nutritional, and other etiologies.<sup>3</sup> There is ample anatomic evidence that no neural path connects the spinal cord or nerve roots to the ear. Although spinal subluxations exist, they do not interrupt innate intelligence, nor are they reduced by chiropractic manipulation. Quite simply, DD’s crack of the janitor’s back could not have restored even a modicum of hearing.

A scientifically rigorous review of contemporary research concerning chiropractic is both brief and disappointing. There are few well-designed studies, in part because the discipline was quite antiscience until the 1970s, and the only positive objective result is that it may be helpful for acute musculo-



skeletal low back pain.<sup>4</sup> Chiropractic appears to be roughly equivalent to physical therapy, or a sheet of back stretching exercises, and possibly slightly superior to nonsteroidal anti-inflammatory drugs (NSAIDs). That's it. Chiropractic does not treat asthma, ear infections, bed wetting, anxiety, irritable bowel, autism, attention deficit hyperactivity disorder (ADHD), or any other nonmusculoskeletal condition, despite many practitioners' website proclamations.

There is no evidence that chiropractic has any role in the treatment of headache.<sup>5</sup> Chiropractic may, in fact, be harmful when applied to the cervical region in an attempt to treat headache. Vertebral artery dissection leading to stroke (in some cases fatal) has been reported, as have dural tears and cervical nerve root and cord trauma.<sup>6</sup> Under-reporting of cervical trauma by chiropractors appears to be a major problem.<sup>7</sup> The use of total spine x-ray imaging, common in chiropractic offices, is also not without long-term health risk.<sup>8</sup>

### Why Do Patients Go?

Using email listserves of neurologists and headache specialists, I asked 78 colleagues, "Do you send headache patients for chiropractic care? If not, why not?" Of the 42 who responded, 35 (83%) said they did not and would not refer their patients with headache to a chiropractor, citing lack of evidence of efficacy and concerns about harm, particularly in the neck and suboccipital regions. Only 7 (17%) routinely sent their headache patients to chiropractors, and all came with caveats, such as "I only refer to Dr. X; she's gentle and doesn't do manipulation" or "I only refer for low back pain, not headache."

Although neurologists and headache specialists may not be enamored of chiropractic, it seems our patients are. There are more than 77,000 chiropractors in the US treating more than 35 million annually (~12% of the population),<sup>9</sup> vs approximately 17,000 neurologists, 500 board certified in headache medicine by the United Council on Neurologic Subspecialties (UCNS). There are 10,000 chiropractic students in 18 accredited schools and 2,500 new chiropractors and 1,500 chiropractic assistants annually. Differences in training and qualifications abound (Table). The US Bureau of Labor predicts chiropractic will grow by 16% by 2026, because, as the Bureau's website states, "The field is attractive to patients because chiropractors use nonsurgical treatment methods and do not prescribe drugs."<sup>10</sup> Many people go to chiropractors seeking chronic pain relief that includes migraine and other headaches. Simply put—chiropractors see our patients.

It is reasonable to ask why patients go to chiropractic, despite an overwhelming lack of evidence to support its use in all but a select group of patients with low back pain.

### Chiropractic Marketing

Chiropractors aggressively market themselves as a safe alternative to traditional medicine. Unlike allopathic medical

**TABLE. CHIROPRACTOR VS NEUROLOGIST TRAINING**

	Chiropractor	Neurologist
Years of college	3	4
Average college GPA	3.37	3.78
Entrance examination	No	Yes
Years of training	4	4
Postgraduate training	No	≥ 4 years
Subspecialty certified	3%	75%

schools, chiropractic students are taught marketing, finance, and business operations from the beginning of training. There is a specific emphasis on what it takes to get patients in the door—and keep them coming. Many chiropractors market themselves as primary care doctors, capable of providing health care to the entire family from infancy through end of life; there have even been cases of intrauterine chiropractic manipulation!<sup>11</sup> Although marketing a chiropractic practice as a primary care provider may be a good way to build up a patient base, not everyone agrees with that model; some chiropractors, for example, are antivaccination proponents.

### Anchoring Bias

Many musculoskeletal conditions resolve over time, without intervention. If patients have less pain after a few visits, they may assume chiropractic manipulation was responsible, when it may have been nature taking its course. To be fair, the same could be said for visits to physicians or physical therapists.

### Hands-On Care

Perhaps the chiropractor's most valuable tool is neither their ill-proven gadgets—thermal analysis and wobble chairs come to mind—nor their unnecessary whole spine x-rays, but rather their hands, for to lay hands on a patient is to establish a human connection, vital to the doctor-patient relationship. Chiropractors lay hands on patients, instantly establishing a primal connection that has the unspoken power to engender goodwill and contribute to a heightened sense of well-being, or even the perception of being "healed." Traditional allopathic medicine seems to have all but forgotten this ancient healing art of touch, busy as we are ordering high-tech tests and clicking and box ticking on our computers, attending to an "iPatient" in a machine, but leaving the real patient out in the cold.

### The Importance of Human Touch

Several months ago, I was rounding with a new medical student and observed that after seeing 10 patients, she had declined to shake hands with any. I gently asked if there was some reason, cultural, hygienic, or otherwise, for her lack of participation in this ageless form of greeting. To my surprise, she informed me that at her medical school they were taught



not to “violate the patient’s personal space.” A handshake, apparently, was a violation of personal space!

Touch is essential to the doctor-patient relationship. Touch, by one human to another, is primal and potent, transcendent and transformative, and absolutely crucial to the development of trust and empathy. It seems that in the era of pixel-accurate imaging and precision blood tests, we’ve become greater diagnosticians, but lesser doctors. Given the onerous demands of ticking an ever-greater number of boxes in our electronic medical record, we’ve gotten to the point where we scarcely make eye contact with, let alone touch, nudge, prod, palpate, percuss, or dare I say it, hug our patients. Author and Stanford University physician Abraham Verghese says, “The most powerful innovation in medicine is the power of the human hand—to touch, to diagnose, to comfort, and to bring about treatment.” He goes on to say touch, “tells the patient I am there with you, and for you, and I will never abandon you.”<sup>12</sup>

There is evidence to support usefulness of touch in neurology because it can decrease pain. Researchers studied functional MRI (fMRI) results in women receiving painful thermal stimuli. Both pain perception and fMRI pain signals decreased in women whose hands were held by a stranger and even more so when a spouse was the hand holder.<sup>13</sup> Touch activates brain reward circuits, leading to decreased pain perception. In a 2012 study of 80 male and 120 female patients in the United Kingdom, approximately 82% said they felt comforted by physician touch and believed it was an integral part of the interaction with their doctor, regardless of gender.<sup>14</sup>

## Implications for Neurologists

How should neurologists respond when asked about chiropractic by our patients with headache? Should we weigh in vociferously, or adopt a neutral stance and demur? Should we, as it were, “grow backbones” and review the lack of evidence and even the potential harm of cervical manipulation? Like most things in life, there are shades of gray. Some chiropractors have abandoned the prescientific subluxation theory and no longer perform spinal manipulation. These practitioners, termed *mixers*—as opposed to those still holding on to subluxation theory, called *straights*—are more likely to perform safe joint mobilization and deep tissue manual therapy, much like a physical therapist or osteopath and work on exercise, sleep hygiene, and nutrition. These chiropractors may be helpful to a select group of headache patients with significant myofascial pain, poor posture, and cervicogenic headache. It is still important to check them out thoroughly because some mixers still engage in pseudoscience (eg, as ozone therapy, homeopathy, or chelation). It may be even more useful to ask patients why they want to go in the first place. You may be surprised when a patient tells you it’s because you have not laid hands on him or her. You have not palpated the pain, carefully observed and manually scrutinized the injured area,

percussed the region, mined deeply the muscle spasm. In other words, you have not fully done your job, and chiropractors, whatever their shortcomings, touch, push, prod, and crack. They lay hands on aching areas, while we, most often, do not.

Neurologists need to rediscover the lost art of human connection. We may find our patients stick with us, and remember, in this age of rampant physician burnout, touch is reciprocal. Rediscovering the empathy conveyed by touch may be just what the doctor ordered, for patient and physician alike. Abraham Verghese coined the term *iPatient*—the one who resides in the electronic medical record displayed on our laptop. Often, he says, the *iPatient* is doing just great—all i’s dotted, all t’s crossed—while the living, breathing patient sits ignored, alone, and abandoned. Our specialty must commit to this physical patient through eye contact, emotional engagement, and fostering trust and empathy through touch.

Noted psychiatrist Leo Buscaglia wrote that, “Too often we underestimate the power of a touch, a smile, a kind word, a listening ear, an honest compliment, or the smallest act of caring, all of which have the potential to turn a life around.”<sup>15</sup> We neurologists, for the good of our patients, our discipline and ourselves, must reconnect with our real patients on a human level, and deemphasize the *iPatient*—that string of 0s and 1s careening inside our computers who care not one whit about us. Despite the finest technology science has to offer, medicine is still a fundamentally human endeavor and must be done, at least in part, *chiro practis*—by hand. ■

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### Peter McAllister, MD

Medical Director

New England Institute for Neurology and Headache

Chief Medical Officer

New England Institute for Clinical Research

Ki Clinical Research

Stamford, CT