

## Once Upon a Time in Chiropractic Research

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A long time ago, a man who would one day become the legendary founder of a great technique (it doesn't matter who he was) decided to conduct a study to determine the consequences of deliberately subluxating the fifth lumbar vertebra, as he would recount in a book several decades later. He reasoned that he could best determine the effects of L5 subluxation by observing what changes might occur in the health of a normal person whose L5 he subluxated deliberately.

The inclusion criteria for this study required that participants be able to stand upright, touch their toes without bending their knees, and bend backward without developing back or leg pain. The investigator had to examine 200 people to recruit a mere 18 who satisfied the initial inclusion criteria, 16 of whom were also found to have spines stable enough from day to day to be entered in the study. Startlingly enough, only 16 of 200 potential participants, in this "convenience sample" of participants (using today's jargon), were able to touch their toes, lean back without pain, and also had "stable" spines. Were average people so very fragile then, or did the legendary technique founder indulge in some artful hyperbole in describing his experiment?

Anyway, the investigator went on to experimentally adjust the L5 of each participant four days in a row, so as to create a right spinous process misalignment - again - just to see what would happen. And what happened was truly astounding: Many (the exact number is not provided) of the 16 study participants developed significant health problems, ranging from cystitis to right hip pain; and every single study participant developed palpatory pain over the left transverse process of atlas - every single one of them!

Within four months of the last experimental adjustment (we are not told if there were further adjustments after the first series of four), five of the study participants had suffered "acute back failure," and one had to be hospitalized for three weeks. Ouch! In the modern era, not even one such adverse consequence has been recorded among the thousands of participants who have entered into dozens of clinical trials that have been very carefully reported.

One might argue that this investigator was trying to deliberately induce vertebral problems, whereas clinical trials generally aim at correcting them. Could that explain the high incidence of adverse consequences he reported? Probably not. We are hard-pressed to understand why these study participants were so negatively impacted by four or more "wrong adjustments," since we have good reasons to believe this would not be a rare event in chiropractic. We know from countless reliability studies that chiropractors examining the same patient (by whatever means) rarely agree above chance levels of concordance. Therefore, under the assumption that there generally is a correct listing (i.e., that the specific listing does matter), it is not likely, but certain, that patients are routinely adjusted the wrong way. Why was this legendary technique founder so much better than anyone else at causing adverse consequences, adjusting according to bogus listings?

In the study, two participants were lost to follow-up: the one who had to be hospitalized for three weeks, and another who moved to California. Of the remaining 14, all but one improved nicely upon receiving correct adjustments to the fifth lumbar. It's nice how that all worked out.

It neither matters who the investigator was, nor that his data were so dreadfully implausible. We are not going to quibble about the ethics of the described experimentation on human subjects, because the data are so implausible that we doubt anything nearly as pernicious as what was described actually occurred. This investigator did go on to found one of today's great techniques, and perhaps that says it all. It is not unusual that a chiropractic technique system features a creation myth laden with non-reproducible "research."

In the interest of fairness, we must judge this research from the standpoint of historical relativism, as a product of its own time - not ours. After all, research standards change. Judged historically, this study was a novel design for its time: an 18-participant clinical trial, using a time series design. The investigator was attempting research at a time when research was not cool. What's more, his followers in the technique he founded have followed in his footsteps in that commitment to research, having published several studies, with many more to come. Perhaps that is the most important lesson to draw from this example of chiropractic proto-research: it inspired more and better research.

On the other hand, we must also realize that no reputable modern journal would publish this research, because any responsible peer reviewer would tear it to shreds. No institutional review board approved this research on human participants, and there is no indication that the latter provided informed consent. The examination and treatment methods are not described at all by the investigator, and his discussion is completely superficial. There is no literature review, and no references are provided; parts of it make no sense. In essence, there is no reason to think anything at all was discovered in this study, notwithstanding the statements of the investigator.

It is easy to point an accusatory finger at this legendary technique founder, and others of his time who operated in a similar manner. Yes, they confused the public, made insupportable claims, and did not deploy the standard scientific methods we use today. However, these same proto-researchers got us started in research and reduced to practice much of what evolved into the more responsible technique we now see.

Chiropractic's proto-researchers served the historical role of irreversibly formulating a new agenda for chiropractic: In the future, it would have to prove and not merely posit its clinical value, and demonstrate that its methodology in concept and practice was consistent with normal science. Yes, from today's vantage point mistakes were made, and the freedom to construct "artful hyperbole" was much abused. On the other hand, if these clinician-scientists had not made these mistakes and thrown down the research gauntlet to the chiropractic profession of today, it is highly unlikely the chiropractic research milieu would have taken the strides that now usher the profession toward a more rational technique.

Contemporary technique-system practitioners might best show their respect for the founders by taking an honest look at the creation myths and non-reproducible research typically present at their historical core. The founders would expect and demand nothing less. I know people (friends) who have assigned themselves the impossible and totally unnecessary task of validating just about every thing the legendary founder in this column said and did. What a pity; what a waste of time! Chiropractic techniques deserve a healthy admixture of constructive and destructive criticism; that is how they might best be supported. Although it is proper to show respect - even reverence - for early attempts at research and for the techniques that developed from it and have withstood the test of time, it would be a terrible mistake to accept its conclusions without the same scrutiny we would maintain for modern research. No double standard for old and for new research is warranted.

*Note:* The American Back Society is the largest interdisciplinary grouping of its kind, and has

always prominently included the chiropractic profession in its symposia. The next meeting of the ABS, "Advanced Diagnosis & Treatment for Neck and Back Pain," will be held Nov. 13-15 in Las Vegas. Please send e-mail to [info@americanbacksoc.org](mailto:info@americanbacksoc.org) or visit the ABS Web page ([www.americanbacksoc.org](http://www.americanbacksoc.org)) for further information, including a continuing-education credit for chiropractors.

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