

Stephenson's Principles Revisited in 1997

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While sitting at my desk last week waiting for therapy to expire on several patients who were to subsequently receive my adjustments, an older friend of mine from another small Mississippi town called to drop me a hint. It seems that he had been revisiting his Palmer collection (i.e., Dr. B.J. Palmer's so-called "green books"), reading a work by R.W. Stephenson, *The Art of Chiropractic*. Obviously a fan of Dr. Palmer, he said that Stephenson's principles should be updated in light of what we now know from modern research.

My friend said he couldn't think of anyone better qualified to do that updating than me, given that I had written a textbook about modern chiropractic research. I told him that I appreciated his confidence in me, and that I would look into the matter.

Arriving home for lunch, I quickly perused the book (only 72 pages), noting the definitions of science, philosophy, and definitions on the normal and abnormal positions of vertebrae. Later, I took the time to re-read the 1947 revised edition in more detail. On page 3 Dr. Stephenson defined, abnormal positions of vertebrae:

"A vertebra is in an abnormal position when it is out of proper alignment with the vertebra above or the one below or both; so that its articulations are not in proper apposition. These are classified as three kinds, according to degree; namely, fractures, dislocations, and subluxations. Fractures and dislocations are not in the realm of Chiropractic. Subluxations are the physical representations of the cause of dis-ease. Innate's opinion is the criterion of abnormal positions, or of normal positions."¹

On page four we have the definition of subluxations:

"A subluxation is the condition of a vertebra that has lost its proper juxtaposition with the one above or the one below or both; to an extent less than a luxation (dislocation); which impinges nerves and interferes with the transmission of mental impulses ... unless it is the cause of dis-ease it is not a subluxation."¹

There are so many important topics, from "Innate Intelligence is the Adjustor," to "Nerve Tracing," to the last topic, "Spinographs," that they cannot be adequately discussed in a brief manner. We will instead focus on perhaps the most important single issue Dr. Stephenson addressed, what we now refer to as vertebral subluxation complex (VSC).

The first edition of Dr. Stephenson's work appeared in 1927. We have to remember that at that time there was no cineradiography. Important discoveries in spinal reflexes and facilitation were years away, as were a complete knowledge of CNS phenomena like descending inhibition and neuronal pools. Melzack and Wall's, "Gate Control Theory of Pain" would not appear until two decades after his 1947 revised edition was released.

Finally, tests of inter- and intra-rater agreement for reliability of x-ray interpretation, palpation for tenderness, examination for range of motion asymmetry, thermography, electromyography, leg

length inequality, and other clinical tests associated with analysis of VSC were not begun until the last decade.

Therefore, in the context of what was known at the time, a good argument can be made that despite the protestations of some of Dr. Stephenson's contemporaries to the effect that VSC is a dynamic lesion, as opposed to static one, there was no solid scientific evidence yet available counter to his or Palmer's view.

But as we begin our second century of drugless health care, we must now finally and totally reject their hypothesis, even as Catholics now universally accept that Galileo was right about the earth being round. There is simply no point in putting people to the stake over this one anymore. There is now overwhelming evidence that VSC is a dynamic lesion.²

The definition of subluxation first described by chiropractors Solon Langworthy, Oakley Smith and Minora Paxson in the first chiropractic textbook, *Modernized Chiropractic* (1906), is worth repeating here:

"A simple subluxated vertebra differs from a normal vertebra only in its field of motion and the center of its field of motion; because of its being subluxated, its various positions of rest are differently located than when it was a normal vertebra ... its field of motion may be too great in some directions and too small in others."³

In retrospect, a triad of findings reported by chiropractors and osteopaths early in the century appear to best fit with current findings of clinical research of reliability and validity of a number of tests we use in chiropractic practice. The triad of findings attributable to so-called phase 1 (pre-radiographic) spinal lesions (segmental dysfunction) includes: restricted motion, paraspinal and/or spinous tenderness, and taut muscle (or spasm).

- Gross motion testing received some validation when side and level specific adjustments ameliorated motion restrictions in a series of classic blinded trials under the direction of Palmer West scientist Dr. Dale Nansel early in this decade.²
- Use of algometry to reliably measure paraspinal tenderness asymmetry has been established by rheumatology researchers. Howard Vernon, DC, director of research at the Canadian Memorial College, was the first to demonstrate qualitative improvement in pressure pain thresholds after adjustments in a blinded study.²
- There is some evidence that electromyography may be useful in qualitatively describing the taut muscle associated with VSC Phase 1. But the most promising of the SEMG tests, the so-called flexion/relaxation phenomena, must be used before and after chiropractic adjustments in blinded trials before its validity can be fully assessed.⁴

In contrast with these more promising measures, leg-length testing, paraspinal infrared thermography, and assessments of static radiographic 1-2 mm spinal deviations using line analysis, have generally demonstrated only poor or fair inter- and intra-rater agreements in blinded tests.²

It seems that we should follow the advice of our esteemed scientific friend (or heretic, according to some in our midst) Dr. Joseph Keating Jr., when he proclaims: "Skepticism ... should therefore be a characteristic of workers in the science of chiropractic. When considering subluxation, there is good reason for skepticism."⁵

Although it may be disparaging to think that Dr. Stephenson could have been so totally wrong about VSC, stay tuned for later visitations of his work that point to ideas that may prove more tenable. And remember, in science, as in baseball, it ain't over 'til the fat lady sings!

References

1. Stephenson RW. The Art of Chiropractic, rev. Davenport: Palmer School of Chiropractic, pp. 3-5, 37-8, 71-2.
2. Leach RA. The Chiropractic Theories, ed. 3. Baltimore: Williams & Wilkins, pp. 55-84, 89-108, 121-130.
3. Gibbons RW. Solon Massey Langworthy: keeper of the flame during the "lost years" of chiropractic. *Chiro Hist* 1981;1:15-21.
4. Leach RA, Owens EF, Giesen JM. Correlates of myoelectric asymmetry detected in low back pain patients using hand-held post-style surface electromyography. *J Manipulative Physiol Ther* 1993; 16:140-149.
5. Keating JC. To hunt the sublaxation: clinical research considerations. *J Manipulative Physiol Ther* 1996; 19: 613-619.

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