CHAPTER V: MANIPULATIVE AND BODY-BASED THERAPIES: CHIROPRACTIC AND SPINAL MANIPULATION

Research Challenges and Scientific Evidence

So our challenges in this particular area are several. Right now, our technology for identifying spinal biomechanical dysfunctions of the spine, or even of the other joints, is very insufficient. The correlation of that dysfunction with spinal-related pain syndromes is really largely an unknown. The causes of low back pain, neck pain, and headache are also not well understood, which is probably the reason why we have such variability in randomized trials. I can tell you that the evidence of efficacy of manipulation rests on only a few of the relevant outcome measures that I mentioned before on the previous slide. We also don't know the biological mechanisms of manipulation, massage, and mobilization, or any of those body-based therapies, so far.

This is the model we're dealing with. We have made a very interesting discovery, however, and that's that the U.S. bureaucracy operates very much like this. But, that's for another time. For some of the mechanistic studies, and this is maybe for some of the more technically oriented people in the audience out there, there is some current evidence in favor of a neurological explanation for how manipulation might have its pain relieving effects. These are slightly technical, but there are many different kinds of nerves and it's possible that manipulation alters Group 1A into mechanoreceptor discharge. There is some evidence in favor of that theory. Or it will alter Group 3 and Group 4 mechanoreceptor or chemoreceptor neurons. This is unknown, however.

It may alter the mechanical or chemical environment of the intervertebral foramen. This is actually the tunnel that the nerve roots come out of when they come out of the spinal cord. We don't know if it alters that environment there. Whether or not manipulation influences the central nervous system, processing somehow, for example, through a theory called central facilitation, there's some evidence in favor of that. Whether they fix the neuroendocrine system, there are inconsistent results right now. Whether it impacts somato reflexes, there's some evidence in favor, and whether or not manipulation affects

somato-visceral reflexes to the sympathetic nervous system, which is one major theory, that currently is totally unknown. So, we have a lot of work to do in this area and this, in fact, represents what my senator is going to be doing probably for the next 10 years, if we have a little bit of luck with our funding agency.

The summary of the scientific evidence right now would be that the preponderance of it currently supports the use of manipulation for acute and chronic low back pain, for acute and chronic neck pain, and probably for common types of chronic headache. This is not to belabor or denigrate the experiences of patients because many patients have other kinds of experiences. But in terms of the scientific evidence, this is where we stand right now.