

# Dr Chris Colloca Interview: Part 2

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You will remember Part 1 of our interview with Dr Chris Colloca, a world leading Chiropractic researcher whose groundbreaking research has made him a world leader in this field.

In Part 1, Dr Chris Colloca told us how his amazing world of chiropractic began with just two weeks of care to heal a numb right hand. This 'miracle' saw him go on to Chiropractic College and in time, the research arena, developing his own adjusting instrument and technique which is now in use in over 5,000 chiropractic offices through the US and over thirty countries around the world.

Get ready now for Part 2, where Dr Chris Colloca talks more in depth about his groundbreaking research.

*Chris, your burning desire to be better and live an extraordinary life is certainly coming true for you and for chiropractic research. Can you tell us what the most exciting finding from your research is so far?*

All of my research is exciting - from identifying that vertebral movement resulting from chiropractic adjustments indeed excites mechanoreceptive afferents in the dorsal root ganglion that reflexogenically stimulate anterior primary motor neurons and elicit a significant neuromuscular effect in human subjects, to identifying differences in spinal stiffness among different variables and measuring trunk muscle strength improvements following adjustments. But, our neuromechanical research in humans has to be the most exciting. This study was the first in chiropractic to be performed in humans that went to the core question of the mechanisms of chiropractic care. This would be followed closely by being able to identify a target frequency that produces the best spinal motion in patients. It is all amazing.

*I am keen to find out more about your work with orthopaedic surgeons. How did that come about and what are your aims with this research?*

Dr Tony Keller, a prominent bioengineer and spine researcher, and I worked together doing biomechanical research. We had just finished collecting surface EMG data on human subjects measuring reflex responses to chiropractic



adjustments when he asked my thoughts on how the adjustment worked neurophysiologically. We needed to obtain measurements at the spinal nerve root level and compare spine motions during higher force (manual) adjustments versus lower force (instrument) adjustments. Learning that we wouldn't receive approval for research using higher forces on patients, we moved our research to an animal model (sheep). For five years our research team travelled annually to Adelaide to measure neurophysiological and biomechanical responses to chiropractic thrusts. We also developed a dynamic spinal stiffness assessment protocol to objectively measure spinal responses with an accuracy of a tenth of a millimeter. We aim to better understand the mechanisms of chiropractic adjustments, validate objective measures to assess the spine, and ultimately help chiropractors find the best areas to be adjusted.

Working together with physicians and scientists has exposed the medical community to our chiropractic research and methodology. I believe this understanding and knowledge has begun to bridge the gap between chiropractors and medical physicians in a very positive manner. Ultimately, my desire is to foster a better working relationship with physicians in everyday chiropractic practice.

*How do you see your research benefiting  
Chiropractors on a day to day level in practice?*

My research gives chiropractors confidence that they are doing something beneficial for their patients. This research also prospectively produced chiropractic adjusting instruments (The Impulse Adjusting Instrument and Impulse iQ). Impulse iQ actually assesses the spine's motion response during an adjustment and meters subsequent thrusts to the patient's natural (resonant) frequency in real-time. Thus, the instrument senses the frequency at which the spine is moving, and as the mobility improves and muscles relax during an adjustment, the instrument actually speeds up in real-time to keep up with the new motion pattern, ceasing the adjustment when mobility is maximized. It's amazing.

*What can practicing Chiropractors do to further  
research into our wonderful profession? (as well  
as donating to Spinal Research obviously!)*

Research is the backbone to better chiropractic care, and my desire is to see chiropractic care play a major role in health care worldwide. The Australian Spinal Research Foundation is committed to such research and practicing chiropractors can be involved by not only joining and/or donating to Spinal Research, but they can participate in their sponsored events, like DG and Parker. Every time a chiropractor participates in such events, not only are they educating themselves to further patient care, they are supporting research that benefits them in their every day clinical practice. I also believe chiropractors have a duty to read the literature, and become aware of the great research that is coming out of this outstanding profession.

*Thank you so much for your time Chris. Your work in research and chiropractic is amazing and I can't wait to hear more of your great results when you speak at our Dynamic Growth Congress in February 2009 in Brisbane.*

*Interview by Dr Tony Rose, on behalf of Spinal Research.*