



RUBICON

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The Rubicon Group, is pleased to present the work-product of a year-long development process related to an evidence-based definition and contextual statement related to the term: chiropractic subluxation.

The following statement was unanimously adopted by the member institutions of The Rubicon Group

### Definition and Position Statement on the Chiropractic Subluxation

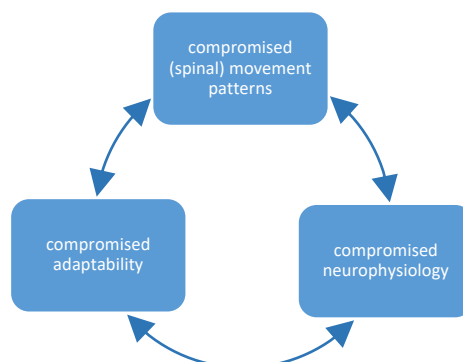
The term ‘subluxation’ has been used by the chiropractic profession for over a century.<sup>1, 2</sup> It is an important element of chiropractic practice, embedded in legislation and regulation, and its clinical implications have been, and continue to be scientifically explored.<sup>2, 3</sup>

The term subluxation, as used by chiropractors, is a researchable concept that is important to health and health care delivery.<sup>1, 2, 4</sup> The need to properly define this entity has been widely recognized as a high priority within the profession, as evidenced by the number of groups and organizations who have offered definitions of subluxation.<sup>1, 2 5-10</sup>

Many of the past definitions do not provide a testable definition of chiropractic subluxation.<sup>11</sup> Some do not reflect the current research that supports a neurologically-centered model of subluxation.<sup>2</sup> The Rubicon Group (TRG) has utilized the current available scientific evidence to define the chiropractic subluxation. Contemporary neurophysiological language and concepts, based on current scientific publications on the topic, have been used. As this definition is subject to ongoing scientific exploration that is likely to lead to new findings and understandings, modifications may be anticipated. However, this definition reflects what is currently known, and it is congruent with current neurophysiological scientific understanding

**“We currently define a chiropractic subluxation as a self-perpetuating, central segmental motor control problem that involves a joint, such as a vertebral motion segment, that is not moving appropriately, resulting in ongoing maladaptive neural plastic changes that interfere with the central nervous system’s ability to self-regulate, self-organize, adapt, repair and heal.” (The Rubicon Group, May 2017.)**

There are three key elements, namely:



A chiropractic subluxation often relates to the spine and its connecting structures.<sup>1</sup> Chiropractic subluxation assessment generally involves evaluating the pathophysiological consequences of the central segmental motor control problem;<sup>4, 12</sup> these may include pain, asymmetry, biomechanical or postural changes (such as changes in relative range of intervertebral motion), changes in tissue temperature, texture and/or tone, and other findings that can be identified using special tests.<sup>12</sup> Once identified, subluxations are corrected using a variety of techniques including high velocity low amplitude chiropractic adjustments, instrument assisted adjustments, and lower force manual techniques and approaches.<sup>13</sup>

A growing body of scientific evidence has demonstrated that spinal function impacts central neural function in multiple ways,<sup>3, 4, 14-19</sup> and that improving spinal function has an impact on clinical outcomes.<sup>20-24</sup> Scientists have known for several decades that neurons continuously adapt in structure and function in response to our ever-changing environment.<sup>25-27</sup> This ability to adapt is known as 'neural plasticity',<sup>27</sup> and it is now well understood that the central nervous system can reorganize in response to altered input.<sup>28-35</sup> Examples of increased sensory input\* that can lead to neural plastic changes include repetitive muscular activity<sup>29, 36-41</sup> such as typing or playing the piano, or repeated tactile sensory input such as occurs with blind Braille readers.<sup>42</sup> Similar central nervous system change or reorganization may take place due to a decrease in behavior or activity.<sup>† 32, 43-49</sup> Thus the concept, that alterations in paraspinal muscle function due to abnormal spinal movement patterns are capable of changing central neural function is totally congruent with current neuroscience understanding, as well as current scientific findings.<sup>3, 4, 14-19</sup>

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\* In the scientific literature, this can be known as hyperafferentation. Hyper—meaning increased, and afferentation – meaning the afferent nerves, which are the ones that go to the brain with information.

† In the scientific literature, this is often called deafferentation.

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