



**VERTEBRAL SUBLUXATIONS  
AND  
ACCELERATED AGING**

**By Keith Wassung**

Americans are living longer than ever before. The human life expectancy is increasing and barring unforeseen circumstances, we can expect to live to a ripe old age—that is a ripe old calendar age. Though our life expectancy has increased, the quality of our lives and our health has not. The United States continues to be one of the unhealthiest nations in the developed world.



Most of us do not want to live to be 90 if the last 30 years are filled with illness, disability and dependence of family and nursing homes. We want to be able to play golf, take long walks and enjoy our families. We want those extra years to be quality years. Longer lives do not mean much if they are not active lives. The quality of those years will largely be dictated by the choices we make in the preceding years, choices designed to stave off the aging process.

### GENETICS & AGING

Assuming that a person's entire life is "written" in the genes that they are born with has been a major mistake in recent health care philosophy. The more we learn about genetics, our biological inheritance, the more we realize that for the most part, our lifestyle decisions and behaviors have far more impact on longevity and health than does heredity. A person's genes define their basic biology, but health decisions and habits control the way genes will affect the body and health in general.



"Genes are unquestionably the fundamental units by which our bodies are constructed. However, pure genetic determination does not adequately explain the varied capabilities of our biology. A more accurate view of the role of the genome is to see the genes as providing the overall plan for the developmental pathways. The environment to which the individual is exposed will modify the actual pathway."<sup>1</sup>

**PETER NATHANIEL, MD**  
Life in the Womb

"The major function of your genes is to transmit health and the inborn resolve to remember wellness. In the sickness paradigm, we are taught that disease-carrying genes determine our destiny. This is a false view. If we were truly destined to live by our genes, we would suffer from the thousands of diseases experienced by our ancestors for as long as we lived, which would not be very long at all. Disease-carrying genes are not our destiny, because they must answer to our inner compass—our healing force."<sup>2</sup>

**EDWARD A. TAUB**  
"America's Wellness Doctor"

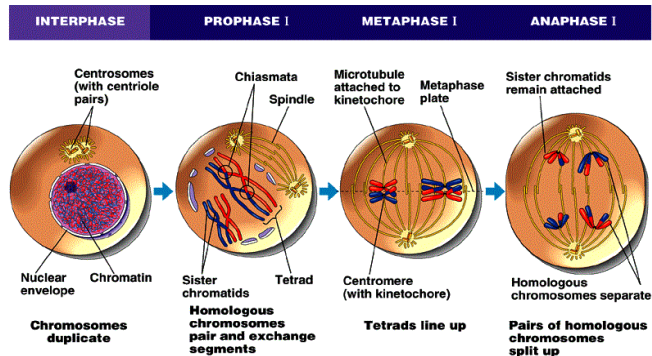


**"The environment in which you grow up is as important as your DNA in determining the person you become. Certain genes can lead to vulnerability, but not inevitability."<sup>3</sup>**

**NEWSWEEK**

## A NEW PARADIGM OF AGING

It used to be thought that aging is the ticking away of some internal clock to a predetermined plan laid down in your genes. Dr. Leonard Hayflick, a noted research scientist, grew human cells in tissue cultures and showed that they could subdivide to create new cells only a limited number of times.



This *fibroblast replicative limit*, as it was termed, appeared to show that the human cell has an inbuilt timer that eventually runs down. The evidence looked good and the study was repeated in several laboratories, but numerous scientists could not accept the aging “clock” theory.

One problem with tissue culture experiments is that the life of the cells is dependent upon the adequacy of their nutrition. If there is even the slightest deficiency in the nutrient, medium used to grow the cells or in the air, water or temperature, or any one of a hundred variables, then the cells will accumulate damage.

Every successive cell division is then progressively impaired until the cells no longer replicate and dies. These cell deaths have nothing to do with an internal clock, but are caused by environmental damage.



**Chronological age is not biological age. How do we know this? There are two main lines of evidence.**

First, though average levels of many physical functions show a progressive decline with age, there is a wide variability within aged groups. Some individuals show no decline at all. That these individuals exist indicates that chronological aging is not an inevitable cause of biological aging



Often a person will blame a health condition, such as a bad shoulder, a bad knee, etc on their age. But if age were to blame, then it would stand to reason that both shoulders and both knees would be degenerated and not just one limb. These problems are due to cumulative stress and traumas, not to the passage of time.

The second line of evidence that aging is in fact degeneration caused by abnormal stress is the continuing discoveries that aging process previously considered natural do not occur at all in some human populations. Blood pressure for example, rises with age in the American population, and used to be considered an inevitable part of aging. Science knows now, however, that there are numerous populations, mostly isolated from Western society, in which the elderly have the same blood pressure as the young. Science has known that rising blood pressure is caused by complex factors in the environment of Western society.

When members of populations migrate to western society, their blood pressure begins to rise with a few years.

Osteoporosis is a major health concern for western women; however, women in other cultures around the world do not suffer from osteoporosis and similar degenerative disorders.



## TIME IS NOT THE ENEMY

The Human Body is an amazing collection of synergistic entities controlled by what can only be described as innate intelligence. The body is designed to be totally self-functioning and self-healing.

We tend to think of healing when we suffer a cut on our arm or have broken a bone, but healing is a constant process of replacing old cells with new cells.

For example, red blood cells are replaced at a rate of about 100 billion a day, with one trillion total red blood cells in constant circulation.

The body is constantly analyzing what is happening within the body and what is happening in the environment outside the body and makes adaptive changes as necessary.

**Aging can best be defined as the gradual loss of the body's ability to respond to the environment.**

Aging, per se, is not just the effects of chronological time, but also the abnormal stress we place on our body, which gradually breaks it down.

This is caused by a number of things by including inactivity, chemical pollution and neurological and postural stress.

## INACTIVITY & DISUSE

The human body is designed to move. The technological age of labor-saving devices and sedentary living often detracts from the biological necessity for movement.

Disuse is deadly; many degenerative diseases plaguing Americans have a portion of their roots in sedentary, inactive lifestyles. as much as 50 percent of the decline in physiological functioning--weak muscles, stiff joints, low energy levels--is actually due to disuse and not a normal consequence of age,"

The human body is designed to move. The technological age of labor-saving devices and sedentary living often detracts from the biological necessity for movement. Disuse is deadly; many degenerative diseases plaguing Americans have a portion of their roots in sedentary, inactive lifestyles. As much as fifty percent of the decline in physiological functioning--weak muscles, stiff joints, low energy levels--is actually due to disuse and not a normal consequence of age.

**"More people die of a sedentary lifestyle than from smoking." <sup>4</sup>**

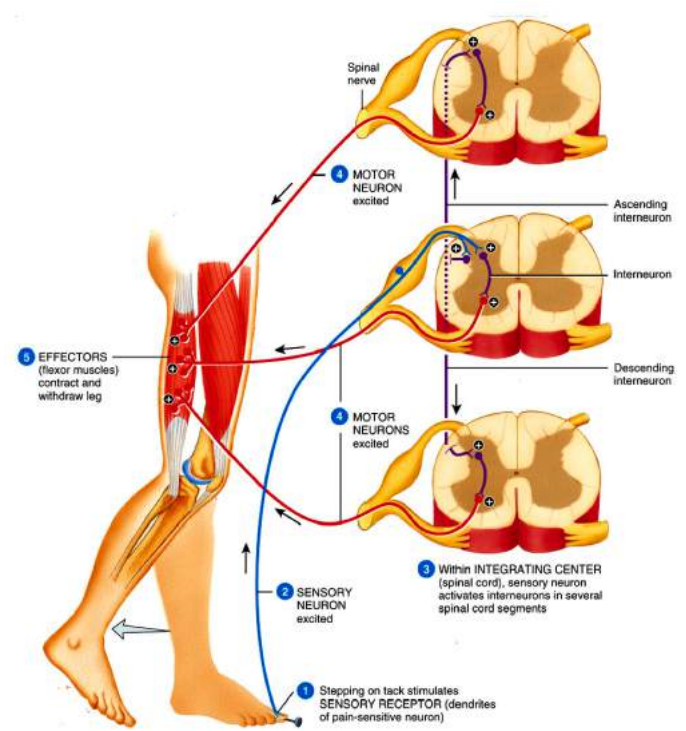
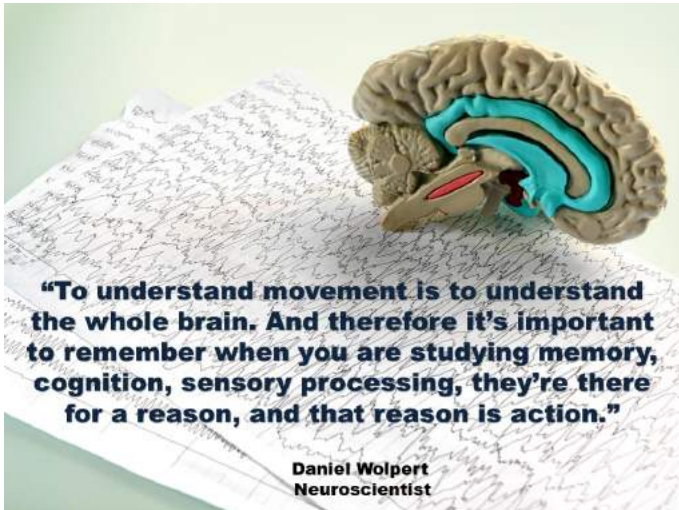
C. Everett Koop, Former Surgeon General of the U.S



Without movement you could not sustain life: blood cells that don't move cannot transport oxygen, lungs that don't move can't breathe, hearts that don't move can't pump blood, and spines that don't move can't create the motion required for proper joint nutrition, for the activities of daily living, or for the stimulation of the joint-brain pathways required for proper brain and body function.

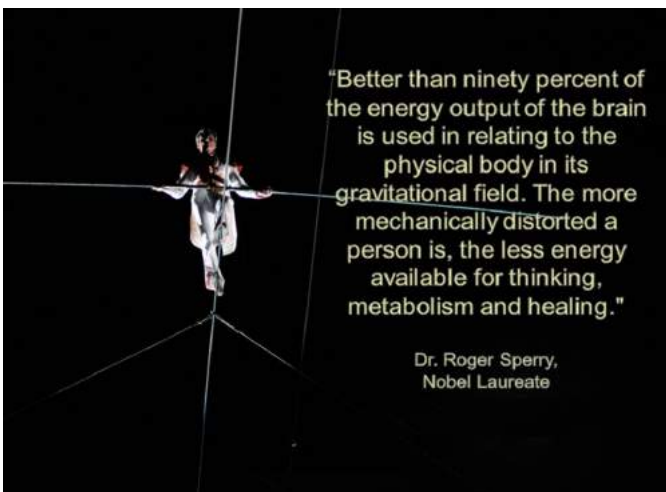
Spinal movement stimulates brain function in the same way that a windmill generates electricity for a power plant. Half of all the nerve impulses that are sent between your brain and body in your spinal cord are for the delivery of movement stimulation to the brain.

The joints of the body act as sensory chambers, which relay proprioceptive information between specific neural pathways and the central nervous system (CNS). These neural pathways also transport the necessary sensory motor information, which modulates muscle function.



This enables the brain to coordinate activities such as concentration and learning, emotions, motor control, and organ function. Movement charges your brain's battery and makes you able to think better, feel better, and function better, all of which are essential to health and longevity.

The disruption of muscle and joint mechanoreceptors from physical trauma results in partial deafferentation of the joint and surrounding musculature, thus resulting in diminished proprioception and increased nociception. This predisposes the joints to further injury and accelerates the degenerative aging process.



“Mechanoreceptors in cervical facet joints provide major input regarding the position of the head in relation to the body. With aging, mild defects impair mechanoreceptors function. With decreased proprioception, body positioning in space is impeded and the patient becomes reliant on vision to know the location of a limb. To compensate for the loss of proprioception in the legs, the feet are kept wider apart than usual. Steps become irregular and uneven in length. As impairment increases, the patient becomes unable to compensate. With severe loss of proprioception, the patient is unable to get up from a chair or rise after a fall without assistance.”<sup>6</sup>

Proprioception is the term used to describe the ability to sense the position, location, orientation and movement of the body and its parts, all which are important to movement and brain function.

Spinal proprioception plays a critical role in modulating protective muscular reflexes that prevent injury or facilitate healing. Sensation is the fundamental ingredient that mediates the proprioceptive mechanism.

**Caranasos, MD, Gait Disorders in the Elderly**

# CHEMICAL POLLUTION

The United States is the most medicated nation in the world. The U.S. consumes 68% of all of the drugs in the world at the rate of 250,000 pills an hour, twenty-four hours a day.

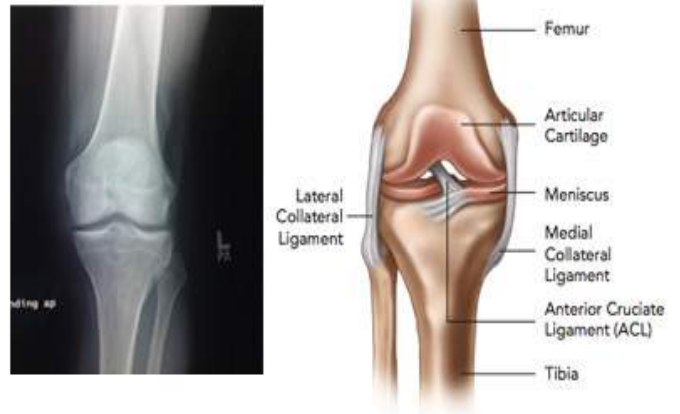


Drugs are foreign to the body. Drugs work by altering the body's natural biochemistry in order to suppress symptoms. Even with suppressed symptoms, the true cause of the problem may grow worse with the body's natural healing mechanism compromised by the drugs. In fact by interfering with normal cell function, drugs cause cellular malfunction, which is the same as causing disease. In addition to toxicity, drugs also cause severe nutritional deficiencies by depleting the body of essential nutrients.

Antibiotics, anti-inflammatories and steroids all damage the human digestive system by impairing the ability of the body to digest food and absorb nutrients. The main side effect of steroids is to increase many of the parameters of aging. This includes arthritis, degenerative changes of joints, etc. These are all well documented in scientific literature.

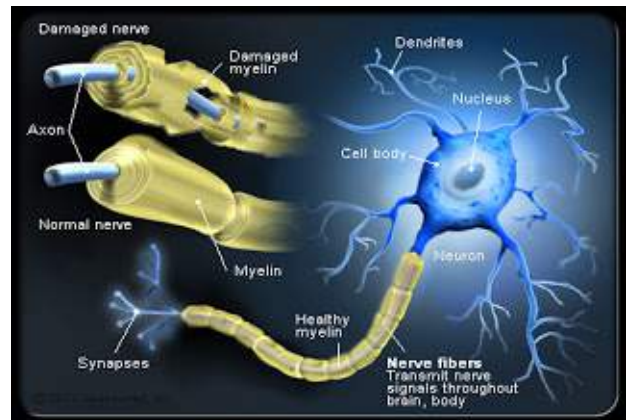


Research has shown that NSAIDS, such as aspirin and ibuprofen interfere at the cellular level with the mechanism responsible for rebuilding and repairing cartilage. NSAIDS actually cause degradation of joint cartilage causing further degeneration to the joints. This inhibits normal joint movement, which inhibits normal stimulation to the brain



# NEUROLOGICAL STRESS

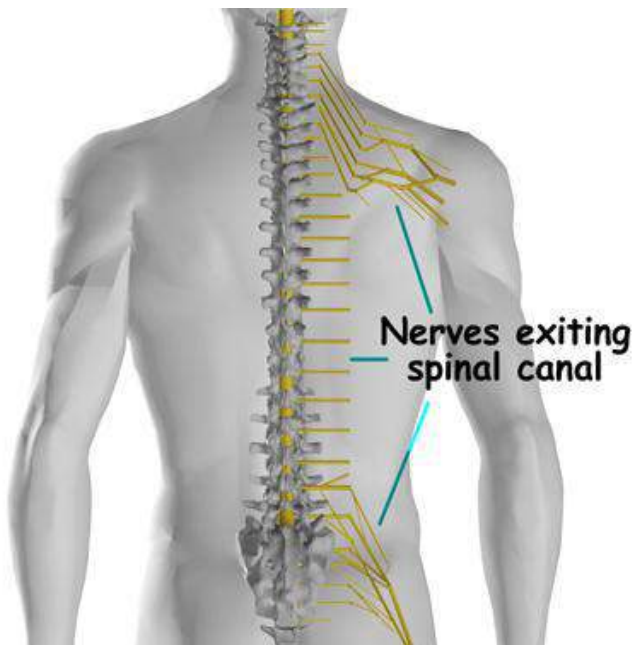
The human body can respond and adapt to just about anything it encounters provided it is a state of homeostasis, which means that the body is able to send and receive nerve information. The central nervous system is the master control system of the body and every single function reflects its activity. Nerve impulses travel from the brain, down the spinal cord and out through nerves to all parts of the body. Nerve impulses then return to the brain through return pathways.



There are in excess of 100 billion neurons, or nerve cells in the human central nervous system and the number of possible interconnections between these cells is greater than the total number of electrons in the known universe.

Recent research has clearly shown that even activity that occurs at the cellular and molecular levels are controlled and coordinated by the central nervous system.

The central nervous system regulates the aging process and dependent upon healthy stress responses, determines longevity. Proper neurological signaling in the human body is the primary key to psychological, emotional, immune and hormonal health and longevity



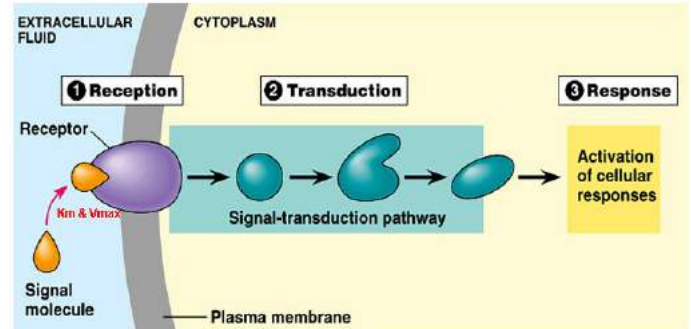
**“The quality of healing is directly proportional to the functional capability of the central nervous system to send and receive nerve messages.”<sup>7</sup>**

Janson Edwards, MD. PhD

There is a greater quantity of communication in the human body than all of the combined manufactured communication systems in the world and the coordination and precision of neurological and biological communication systems is un-paralleled.

The entire body is wired for cell signaling so that the body can repair, restore and coordinate physiological and psychological activities. This enables our bodies to optimally adapt to physical and psychological stressors.

Cell signaling with growth factors is more fundamental to the body than is breathing. Cell signaling begins before birth and ends just before death. Loss of cell signaling underlies ineffective adaptation. Inability to adapt is the pathway to death.



To stay healthy, as well as repair cell damage during aging, our cells continuously talk to each other to know how to behave in context with the surrounding environment. Cell signaling is fundamental to coping with stress, the underlying component of functional aging.

**“No one could survive without precise signaling in cells. The body functions properly only because the cells constantly communicate with each other.”<sup>8</sup>**

Scientific American

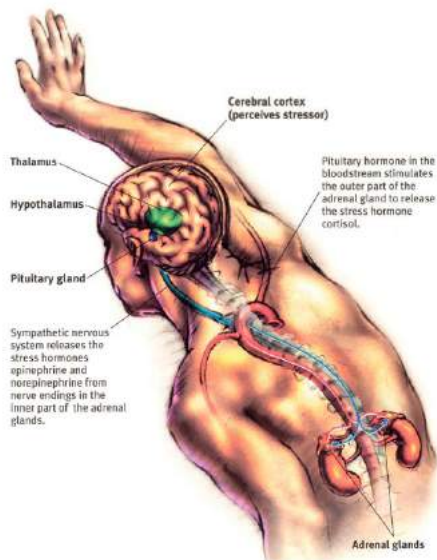
Aging was earlier defined as gradual loss of the body's ability to respond or adapt to its environment. We can take that one-step further and state that aging is the breakdown of communication between the nervous, immune and hormonal systems of the body.



## The Role of the Nervous System in Lifespan Determination

Recent studies in diverse organisms have provided evidence that, indeed the brain may control lifespan. Signaling pathways involved in both central nervous system and peripheral stress responses and regulation of energy metabolism may play important roles in lifespan determination.

The brain also controls neuroendocrine systems strongly implicated in aging. The hypothalamic-pituitary system has a strong influence on lifespan. A consistent feature of environmental and genetic factors that increase longevity is that they increase cellular resistance to stress. The brain coordinates the responses of the whole body to such stressors on both rapid and long-term time scales by modulating the activities of neuroendocrine pathways (involving the hypothalamus and pituitary gland) and the autonomic nervous system.



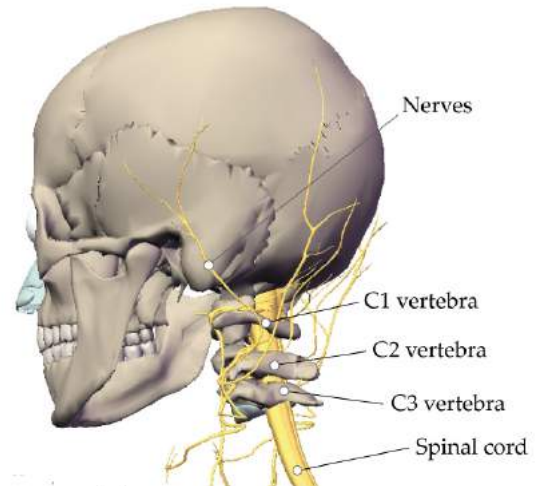
The responses typically involve a behavioral response (fleeing the mugger or tiger), a vascular response (increased blood pressure and diversion of blood flow from the gut to muscles) and a metabolic response (increased mobilization of glucose). An increased ability of an organism to escape from a potentially lethal stressor will obviously increase its probability of having a long lifespan, and this is one way the brain can determine average lifespan.

"However, the brain may also control maximum lifespan by its ability to stimulate signaling pathways that increase the resistance of cells to stress."<sup>9</sup>

M.P. Mattson  
Aging Research Reviews

## VERTEBRAL SUBLUXATIONS

The vertebra of the spine protects the central nervous system. Because the spinal column is moveable, it is also susceptible to various stresses and forces, which can cause them to lose their proper structural position. These minor misalignments of the spine, known as "vertebral subluxations" inhibit normal spinal movement, which causes nerve interference resulting in decreased nervous system, function, improper healing and accelerated aging



Subluxations also alter the optimal structure of the spine, which weakens it and increases degeneration. Vertebral subluxations are often referred to as the "Silent Killer" because they can be present for long periods without any evidence of pain or symptoms. This is similar to a cavity eating away at a tooth.

Any force that the human body cannot adapt to can cause a vertebral subluxation. Such examples include auto accidents, work related injuries, stress, sports, and repetitive movements even the birth process.

Vertebral subluxations are devastating to a person's health and longevity and are well documented by leading health authorities.

**"Subluxation is very real. We have documented it to the extent that no one can dispute its existence. Vertebral subluxations change the entire health of the body by causing structural dysfunction of the spine and nerve interference. The weight of a dime on a spinal nerve will reduce nerve transmission by as much as sixty percent."**<sup>10</sup>

Chang Ha Suh, PhD



# CHIROPRACTIC

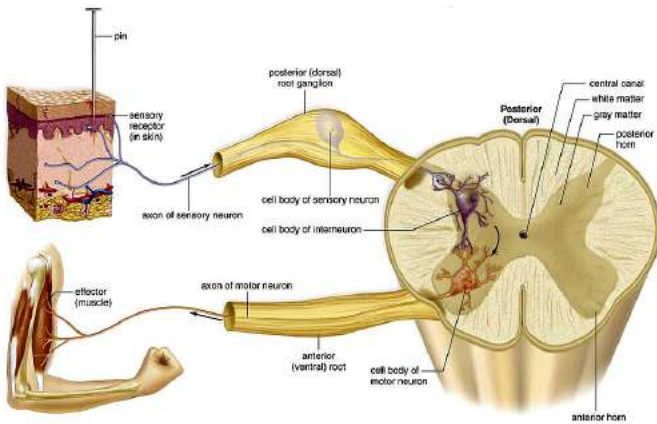
"Abnormalities of central afferent and efferent pathways have been revealed by evoked potential studies in diabetic patients. Central nervous system abnormalities are more frequent in patients with peripheral neuropathy, but evoked potential can be abnormal even in patients without neuropathy." <sup>11</sup>

## Clinical Neuroscience



"Subluxations of vertebra occur in all parts of the spine and in all degrees. When the dislocation is so slight as to not affect the spinal cord, it will still produce disturbances in the spinal nerves passing off from the foramina." <sup>12</sup>

### Dr. James Woddersee, Neurosurgeon



"Hyper-functional or hypo-functional neurons along a neural chain prevent normal nerve transmission causing disturbances in the homeostasis of the cells, tissues and organs." <sup>13</sup>

### Dr. T. N. Lee

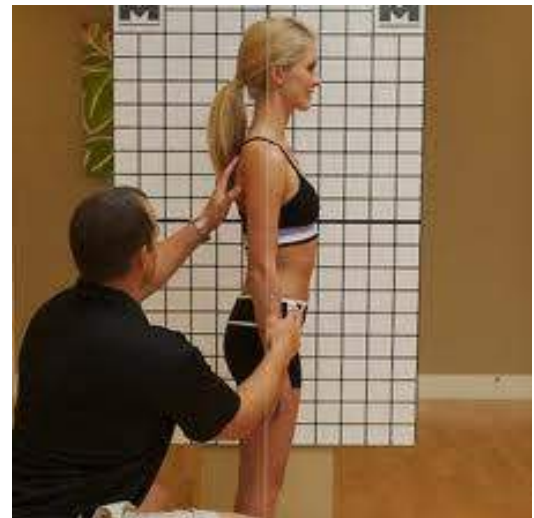
Chiropractic is a health care system that is founded on the premise that a properly functioning nervous system is essential to overall health and function of the human body.



Doctors of Chiropractic detect and correct vertebral subluxations by physically adjusting the spine. This restores the nervous system to an optimum level of function, which maximizes the body's inherent healing potential.

Chiropractic adjustments restore normal nerve function; improve spinal biomechanics, range of motion, reflex arcs, and posture, all of which are essential to a properly functioning nervous system.

Doctors of Chiropractic are experts in spinal structure and body mechanics. Chiropractic adjustments restore and maintain the structural integrity of the body by correcting spinal subluxations. Chiropractors emphasize the importance of posture to overall health, a concept that has been often overlooked in traditional methods of health care.



## POSTURE AND HEALTH

- Posture and normal physiology are interrelated.
- Posture affects and moderates every physiological function from breathing to hormonal production.
- Abnormal posture is evident in patients with chronic and stress related illnesses.
- Homeostasis and nervous system function are ultimately connected with posture.
- Despite the considerable evidence that posture affects physiology and function, the significant influence of posture on health is not addressed by most physicians. <sup>14</sup>

### American Journal of Pain Management

**Deviations in the body's center of gravity (read: poor posture)... have resulted in intestinal problems, hemorrhoid, varicose veins, osteoporosis, hip and foot deformities, POOR HEALTH, DECREASED QUALITY OF LIFE, and a SHORTENED LIFE SPAN.** <sup>15</sup>

### Journal of the American Medical Association



**"The beginning of the disease process begins with postural distortions"** <sup>16</sup>

Dr Hans Selye, Nobel Laureate

## THE CHIROPRACTIC LIFESTYLE

Health care is slowly changing from a symptom, disease based system to a function, and performance based system in which the structure of the human body is restored and maintained. Correction and maintenance of the structure of the spine is of paramount importance in the pursuit of optimal health and longevity



In his book, "The Wellness Revolution" economist Paul Zane Pilzer predicts that wellness will become the next trillion-dollar industry. According to Pilzer, wellness is "not about a fad or trend, it's about a new and infinite need of infusing itself into the way we eat, exercise, sleep, works, save, age, and almost every other aspect of our lives." <sup>17</sup>

Wellness incorporates all the elements for preventive health care -- nutritious diet, aerobic conditioning, good posture, strength training, rest and periodic spinal adjustments. Wellness really involves all aspects of your life. Although millions of people have experienced relief from back and neck pain through chiropractic care, the focus and intent of chiropractic is far beyond the elimination of symptoms, but rather is in the correction of subluxations in order to ensure a properly functioning nervous system.

**"Subluxation alone is a rational reason for Chiropractic care throughout a lifetime from birth."** <sup>18</sup>

Dr. Lee Hadley, Syracuse Memorial Hospital

## REFERENCES

1. Nathaniels, P. (1999) Life in the Womb, Ithaca, NY Promethean Press
2. Taub, E. (1996) Balance Your Body, Balance Your Life. NY, Kensington Books
3. Sapolsky R. (April 20, 2000) "All in the Genes" Newsweek
4. Koop, C. [www.drkoop.com](http://www.drkoop.com)
5. Sperry R. [www.rogersperry.com](http://www.rogersperry.com)
6. Caranasos, I. Gait disorders in the elderly *Hospital Practice*, 1991; June 15:67-94.
7. Edwards, J. (1994, August) "Nerve dysfunction & Tissue healing" *Journal of Neurological Science*
8. Scott, J. & Dawson, T. "Cell communication: The inside story" *Scientific American*, June 2000 p. 73
9. Mattson, MP, The role of the nervous system in lifespan determination. *Aging Research Reviews* (2002) 155-165 16010
10. DeRoeck, R. The confusion about chiropractors, Impulse Publishing, Danbury, CT (1989)
11. Comi, G. "Evoked potentials in diabetes mellitus" *Clinical Neuroscience*, 1997;4(6):374-9
12. Woddersee, J. Surgical Treatment, p.623
13. Lee, T "Thalamic Neuron Theory" *Medical Hypothesis* 1994, 43 285-302
14. Lennon, J. "American Journal of Pain Management" Jan, 1994
15. Freeman JT., Posture in the Aging and Aged Body, *JAMA* 1957; 165(7),pp 843-846 JAMA (Journal of the American Medical Assn.
16. Selye, Hans, *The Stress of Life*, (1978) McGraw- Hill Publishing
17. Pilzer, P. *The Wellness Revolution*, (2002) Wiley and Sons, NY
18. Hadley, L "Anatomical & Roentgenographic studies of the spine", Thomas, 1981

## ABOUT THE AUTHORS

Dr. Dale Friar is a former All-American running back and has been in private clinical practice for 25 years. He currently practices in Mt. Pleasant, SC and can be reached at [drfriar@bellsouth.net](mailto:drfriar@bellsouth.net)

Keith Wassung is a nationally known author and speaker in the field of health education and research. The author of over 100 articles on health education and research, Keith makes his home in Goose Creek, SC for more information visit [www.keithwassung.com](http://www.keithwassung.com)



# THE EDUCATION AND TRAINING OF A DOCTOR OF CHIROPRACTIC

Educational requirements for doctors of chiropractic are among the most stringent of any of the health care professions. The typical applicant at a chiropractic college has already acquired nearly four years of pre-medical undergraduate college education, including courses in biology, inorganic and organic chemistry, physics, psychology and related lab work. Once accepted into an accredited chiropractic college, the requirements become even more demanding — four to five academic years of professional study are the standard. Because of the hands-on nature of chiropractic, and the intricate adjusting techniques, a significant portion of time is spent in clinical training.

Doctors of chiropractic — who are licensed to practice in all 50 states, the District of Columbia, and in many nations around the world — undergo a rigorous education in the healing sciences, similar to that of medical doctors. In some areas, such as anatomy, physiology, rehabilitation, nutrition and public health, they receive more intensive education than their MD counterparts.

Like other primary health care doctors, chiropractic students spend a significant portion of their curriculum studying clinical subjects related to evaluating and caring for patients. Typically, as part of their professional training, they must complete a minimum of a one-year clinical-based program dealing with actual patient care. In total, the curriculum includes a minimum of 4,200 hours of classroom, laboratory and clinical experience. The course of study is approved by an accrediting agency which is fully recognized by the U.S. Department of Education. This has been the case for more than three decades.

Records from insurance and court cases have constantly shown that chiropractic is the safest portal of entry health care available to the public today. Although no healthcare procedures are 100% safe, chiropractic stands on its record of safety and effectiveness unmatched in healthcare.

The chiropractic adjustment is a safe, efficient procedure which is performed nearly one million times every working day in the United States.

There is a singular lack of actuarial data that would justify concluding that chiropractic care is in any way harmful or dangerous. Chiropractic care is non-invasive, therefore, the body's response to chiropractic care is far more predictable than its reactions to drug treatments or surgical procedures. Of the nearly one million adjustments given every day in this country, complications are exceedingly rare.