



Chiropractic and Spinal Hygiene

Chiropractic comes from the Greek language and means practice with one's hands. To understand what chiropractors do with their hands, let's take an average person's body and study it over a hypothetical lifetime.

At birth, a baby has over 600 muscles and 200 bones. Where two bones come together we have a joint. Muscles move our bones, causing our joints to open and close. Muscles are each made up of thousands of individual muscle cells. When you're not using a muscle, some of its muscle cells continue to contract and relax. This is called muscle tonus. It is similar to setting the thermostat in your home down in the evenings, but not shutting off your furnace entirely.

By age ten, a person has developed some muscle tension in some of these 600+ muscles. Muscle tension is any situation where more muscle cells are contracting with the muscle at rest than simple muscle tonus. So you can have a muscle ranging from having just a little tension all the way up to where the muscle is in 100% spasm or cramped. Another thing to know about muscle tension is that if we are under a lot of stress (physical or emotional) there is a build up of the body's muscle tension. Likewise, let's say with a vacation, muscle tension can be reduced. We all have experienced the difference between being "uptight" and "mellow." While there are certainly ups and downs, there is also a slow accumulation of tension as we age, of which we are generally not aware.

Now, by the time the average person is 20 they have more muscle tension built up in their body than at age ten, but something else is going on in the muscles. Tense muscles cannot allow blood in to them as readily as muscles with just tonus, nor can tense muscles allow lymph to

drain the muscles as efficiently. So if muscles cannot eat or excrete at optimum levels, then individual muscle cells die off and are replaced by less specialized tissue called fibrous tissue-internal scar tissue. Fibrotic infiltration of muscles happens either very slowly over time, or quickly due to trauma to the muscle in sports or accidents. Gross changes in the muscle texture are even evident to the untrained hand. Chiropractors are well trained to use their hands to feel more subtle muscle tension and to appreciate the degree of fibrous infiltration. The degree, to which a muscle is tense, contracted, and infiltrated with fibrous tissue will be directly related to how well the joint that muscle operates is able to open and close.

Partial limitation of joint motion, called fixations, is well evident in a 20-year-old spine. So while muscles are slowly changing as we age, a similar change is happening in our joints. Autopsy studies of accident victims in their 20's show that the end plates of the bones that make up the joint surface have started to lose their shiny cartilage coverings.

By age 40, a small percentage of people have lost a significant amount of cartilage end plate in some of their spinal joints. If we were to put a splint on a perfectly healthy wrist and keep it there for a year preventing its motion, when we took the splint off, the wrist joints would be fused together with calcium. Joints need motion to maintain their health. Our joints depend on movement to bring fluid between the joint surfaces to protect them from wearing down.

The average 60 year old has had such a long build-up of muscle tension and lack of joint movement in the spine that many of their spinal joints have now filled with calcium and become "arthritic." So, as we age we find our joints and

muscles are losing their normal function and we find ourselves less capable of using our bodies. The last part of this story is the effect muscle tension and spinal joint fixations have on the nervous system. Your brain is nervous tissue and it has a tail that travels down inside your spinal bones. Some of the nervous tissue exits the spine at each spinal level going to the organs, muscles and joints throughout the body. Your brain is not just inside your head, but it is really fully distributed in your body and comes out of your spine! Proper spinal function ensures proper nervous system function for your whole body.

One role I love as a chiropractor is to teach you how to take good care of this important, but easily ignored organ: your spine. My other job is to use my hands to loosen up your joints. This corrective care is then followed by a lifetime of maintenance care to optimize your spinal function at each stage in your life.

Just as a dentist is concerned with your dental hygiene over a lifetime, a chiropractor considers your spinal hygiene. Most scientific research these days is related to studying the mysterious inner workings of the brain. Each year that passes, we gain more insight into the workings of the nervous system and seeing it's crucial role in regulating our immune system, our hormonal system, and all the other body systems. In a short while, science will finally be able to prove what chiropractors have been saying for over 100 years: *a key to good health is a healthy spine*. We can't prevent our spine from normal aging, but we can prevent our joints from fusing and our muscles from changing to fibrous bands. While we can begin a corrective care program at any age, the best time is when we are young, while the joints are optimally healthy.

One last observation: many health-minded people have said to me that they don't need chiropractic care because they exercise regularly. I think good spinal function depends on a well balanced exercise program of strength, flexibility, cardiovascular, and chiropractic care. Chiropractors around the country are very popular with recreational and professional athletes. Our research has shown that fibrous tissue in muscles

weaken those muscles and undermine performance. Also, spinal fixations irritate the spinal nerves, which in turn inhibit the function of the muscles innervated by those nerves. Having an optimally functioning spine, and therefore nervous system, definitely requires doing good things for our muscles: exercise, diet, stress management, etc. The effect of your overall health program on your muscles will determine how much chiropractic care you need. So take good care of yourself-you deserve it!