

Snap, Crackle, Pop: Synovial Fluid!

You may be wondering what really causes the popping sound you might hear when receiving a chiropractic adjustment. Actually, it's similar to what happens when opening a carbonated beverage or a bottle of champagne and hear the "pop" that it makes—it's just the release of gas and pressure within the joint.

Most of our joints have a water-balloon-like structure surrounding them called the joint capsule. This capsule is filled with synovial fluid that, along with containing nutrition for the joint, lubricates the joint and helps reduce friction. Inside the synovial fluid is a variety of gases including nitrogen, oxygen, and carbon dioxide. The pressure inside the joint capsule changes when the joint is stretched beyond its normal range of motion, creating a vacuum and forming a bubble from gases being dissolved in the fluid. As the pressure changes, the bubble collapses and gas is quickly released producing the cracking or popping sound in the joint. These gases must again build up inside the fluid in order for the joint to make the cracking/popping noise again. This is why after “cracking” your knuckles, it takes a little while before they will “crack” again.

After the adjustment, there is typically an increase in joint mobility and vertebral range of motion. This helps to stimulate joint healing. This increased vertebral motion also frees joints of scar tissue and adhesions that have accumulated from days, months, or in some cases years, of being immobile. These adhesions are similar to plaque and tartar build up on teeth from improper brushing and flossing. They need to be removed in order to improve tissue health.

In addition, increasing joint motion through chiropractic adjustments has other benefits. Special sensory receptors around the joint, called the Golgi Tendon Organs, send information back to the brain about joint function and about the amount of tension on the joint or muscle. Often times, an adjustment helps to "reset" this tension and creates the feeling of looseness or relaxation. Other receptors called mechanoreceptors are in discs, tendons, ligaments, and muscles of spinal joints. The cerebellum (a portion of the brain) primarily functions from the mechanoreceptors' input. When this input is decreased, the cerebellum may function at a lower level resulting in the inability to perform precise movements, control muscle tone, or maintain normal posture. Chiropractic adjustments can help to restore normal movement and improve sensory feedback, which are very important to the healthy function of the cerebellum and the nervous system as a whole.

Can Cracking Knuckles/Joints Lead to Arthritis?

According to Johns Hopkins University Arthritis Center, limited studies revealed **no difference** in occurrence of arthritis between “habitual knuckle crackers” and “noncrackers.” Sorry, Mom!

Chiropractic is a safe and effective treatment for joint pain. If you or someone you know is suffering from back or neck pain and have not found the relief for which you are looking, please contact our office. We may be able to help.

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