

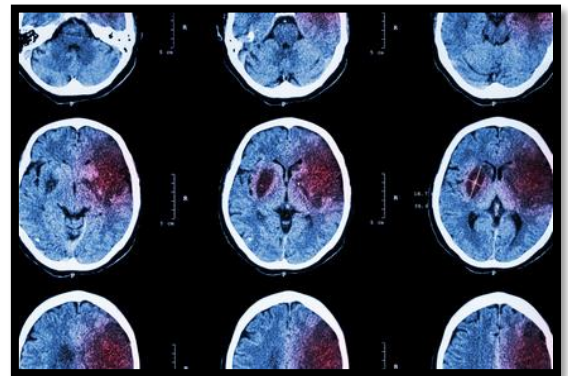
PET Scans Show Chiropractic will Benefit the Majority

Doctor,

This white paper discusses the significance of the 2017 study published in the **Journal of Evidenced Based Complementary and Alternative Medicine** called *"Glucose Metabolic Changes in the Brain and Muscles of Patients with Nonspecific Neck Pain Treated by Spinal Manipulation Therapy: A {18F}FDG(radioactive glucose) PET Study"*.

Some of the best research in the world is currently showing the benefits which come with improving the function of the nervous system. New York Times published an article explaining that research is being done by dozens of teams to create an implantable device which can change the function of the nervous system. Researchers and medical experts are turning to the nervous system to provide remedies and cures to the rising chronic disease epidemic. Little do they know that chiropractors have been helping patients improve the function of their brain and central nervous systems for over 123 years through chiropractic spinal adjustments. This study published in 2017 explored the effects of a chiropractic adjustment on the brain using a PET scan. This was a follow-up study from the same chiropractor and author using a PET scan in 2011 to determine the effects of a chiropractic adjustment on brain and sympathetic nervous system function. The findings of this study were significant and as follows:

- A radioactive glucose PET scan can visualize brain metabolic changes induced by spinal adjustive care. The aim of this study was to investigate changes in brain and muscle glucose metabolism using PET scan technology.
- Spinal adjustive care was applied to 21 male subjects using an activator, in accordance with activator method protocols. The Activator applied impulses to specific vertebrae and joints.
- Adjustments were performed on the subjects in a prone position without movement such as cervical rotation, lateral flexion, and extension, to prevent the muscle uptake due to muscle contractions during the procedure.
- Spinal adjustments were performed on the whole spine, the scapula, ilium, and the sacrum, as necessary for each subject.
- The average number of adjustment sites were eight per subject.
- Glucose metabolism of the brain and skeletal muscle changes were measured.
- Salivary amylase levels were also measured as an index of autonomic nervous system activity, muscle tension, and subjective pain intensity. (salivary amylase levels correspond to plasma norepinephrine levels as an accessible measure of sympathetic nervous activity)
- Adjustments on all subjects were performed by the same chiropractor, who is an advanced practitioner of the activator technique.
- There were multiple changes in brain activity after the adjustments were applied.
- Increased activity in the cingulate cortex and cerebellar vermis were found post-adjustment.
- Salivary amylase and cervical muscle tension were also significantly reduced following the adjustment.
- The assessment of body responses in the study showed brain changes, relaxation of muscle tension, and decreased salivary amylase levels, indicative of reduced sympathetic nerve activity.
- In this study, observation of metabolic changes in the brain and skeletal muscles, as well as reductions in subjective pain, muscle tension, and salivary amylase were found post-adjustment.



Chiropractic adjustments have been linked to improved sleep, better digestion, changes in fertility, stronger immunity, better breathing, improved attention and concentration, and so much more. The reason is not because chiropractic adjustments seek to treat any of these symptoms or conditions, but because the adjustment removes interference from the brain and nervous system to allow the body to function the way it was intended. Studies like this continue to prove the influence of chiropractic care on human health and function. Chiropractic is for all ages, all genders, and all ethnicities.