

KEEP YOUR SPINE MOVING



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Did you know that even the ancient Greeks knew that movement and physical exercise was good for your brain? Modern scientists have now shown that movement is one of the keys to promoting a healthy brain.¹ Movement has been shown to help people with dementia, depression, and even ADHD.²⁻⁴ It's even been shown to change the structure of your brain and improve your concentration and how fast you can think and react.^{1 5 6}

Why is spinal movement important?

Scientists now know that it's not just physical exercise that's important for your brain, but how your spine moves is also very important for keeping your brain healthy.

If we look at spinal movement in a very simplistic way, there are really three things we want our spine to be able to do on a regular basis. Sometimes, for example, when we are running, we want our spinal bones to move together in a way that spreads and absorbs the impact forces generated by running. By moving well together, the impact forces are shared equally across the spinal bones, and no damage takes place. But other times, for example when we are lifting heavy objects, we want our spine to stiffen up to protect us. Without all the bones stiffening



up like this we could injure ourselves while lifting heavy objects. So how does our spine sometimes move and sometimes stiffen up? Well, it's the brain and central nervous system that does this for us by activating our spinal muscles. The brain activates the correct muscles around the spine and skull in the correct order with perfect timing, to either allow for optimal movement, for example during running, or to allow for the spine to stiffen up, for example during heavy lifting. Now there is one more thing we need from our spines, and that is for it to reflexively respond during times we're experiencing some postural challenges. In these cases, we need our brains to reflexively switch on and off the correct spinal muscles very, very fast so that we can maintain balance and stop ourselves from falling over.



Chiropractic care helps keep your spine moving

Scientists have shown that chiropractic adjustments can have a big effect on how well your spine moves.⁷⁻⁸ And they've also shown that chiropractic adjustments can help your brain to process information more quickly, know where your body is in space, and control the way your muscles work.⁹⁻¹⁰

One potential reason why a healthy spine is so important for your brain is that researchers believe that when one of your spinal segments doesn't move properly, it changes the way your brain perceives and responds to all other sensory information that enters your nervous system. In other words, spinal function seems to be one factor your brain uses to help process and integrate all of the information from your environment.¹¹ This is why chiropractors are so interested in making sure your spine is functioning properly. They believe that if your spine isn't moving in a normal or ideal way, it changes the way your brain controls your body.¹¹

New research has recently shown that chiropractors are very good at figuring out which segments in your spine are most restricted or stiff.¹²⁻¹⁴ They can then adjust your spine using specific spinal adjustments to help restore normal movement patterns in your spine, with the aim of helping your brain to better control your body.

So, if you want to make sure your brain is getting the stimulation it needs to stay healthy, see your chiropractor so they can help you to keep your spine moving as best as it can. And in between your chiropractic adjustments keep your spine moving well by staying active or doing yoga or other stretching exercises. Remember that if you look after your spine, your brain will love you for it!!



Disclaimer and References

This information is provided for educational purposes only. It is not intended to be professional advice of any kind. Haavik Research Limited encourages you to make your own health care decisions based on your own research and in partnership with a qualified health care professional. **1.** Guiney H, Machado L. Benefits of regular aerobic exercise for executive functioning in healthy populations. *Psychonomic bulletin & review* 2013;20(1):73-86. **2.** Morres ID, Hatzigeorgiadis A, Stathi A, et al. Aerobic exercise for adult patients with major depressive disorder in mental health services: A systematic review and meta-analysis. *Depress Anxiety* 2018. **3.** Tyndall AV, Clark CM, Anderson TJ, et al. Protective Effects of Exercise on Cognition and Brain Health in Older Adults. *Exercise and sport sciences reviews* 2018;46(4):215-23. **4.** S J, Arumugam N, Parasher RK. Effect of physical exercises on attention, motor skill and physical fitness in children with attention deficit hyperactivity disorder: a systematic review. *Attention deficit and hyperactivity disorders* 2018. **5.** Chaddock-Heyman L, Erickson KI, Holtrop JL, et al. Aerobic fitness is associated with greater white matter integrity in children. *Frontiers in human neuroscience* 2014;8:584-84. **6.** Gomes-Osman J, Cabral DF, Morris TP, et al. Exercise for cognitive brain health in aging: A systematic review for an evaluation of dose. *Neurology Clinical practice* 2018;8(3):257-65. **7.** Galin-dez-Ibarbengoetxea X, Setuain I, Andersen LL, et al. Effects of Cervical High-Velocity Low-Amplitude Techniques on Range of Motion, Strength Performance, and Cardiovascular Outcomes: A Review. *J Altern Complement Med* 2017;23(9):667-75. **8.** Branney J, Breen AC. Does inter-vertebral range of motion increase after spinal manipulation? A prospective cohort study. *Chiropr Man Therap* 2014;22:24. **9.** Kelly DD, Murphy BA, Backhouse DP. Use of a mental rotation reaction-time paradigm to measure the effects of upper cervical adjustments on cortical processing: a pilot study. *J Manipulative Physiol Ther* 2000;23(4):246-51. **10.** Holt KR, Haavik H, Lee AC, et al. Effectiveness of Chiropractic Care to Improve Sensorimotor Function Associated With Falls Risk in Older People: A Randomized Controlled Trial. *J Manipulative Physiol Ther* 2016. **11.** Haavik Taylor H, Holt K, Murphy B. Exploring the neuromodulatory effects of the vertebral subluxation and chiropractic care. *Chiropr J Aust* 2010;40(1):37-44. **12.** Holt K, Russell D, Cooperstein R, et al. Interexaminer reliability of seated motion palpation in defined spinal regions for the stiffest spinal site using continuous measures analysis *Journal of Manipulative and Physiological Therapeutics*. *J Manip Physiol Ther* 2018;IN PRESS. **13.** Cooperstein R, Haneline M, Young M. Interexaminer reliability of thoracic motion palpation using confidence ratings and continuous analysis. *J Chiropr Med* 2010;9(3):99-106. **14.** Cooperstein R, Young M, Haneline M. Interexaminer reliability of cervical motion palpation using continuous measures and rater confidence levels. *J Can Chiro Assoc* 2013;57(2):156-64.