



How Can Chiropractic Help With Stroke Recovery?

WHAT IS CHIROPRACTIC?

Chiropractic is a complementary healthcare modality with an emphasis on treating mechanical problems of the musculoskeletal system. Chiropractors make manual adjustment of joints in the spine and other parts of the body to promote optimal functioning.

Our Purpose

Our purpose is to be a global facilitator of health and wellness through access, education and advancement of Traditional & Complementary Medicine (T&CM). The World Health Organization (WHO) advises that lifestyle-related diseases (or non-communicable diseases) are responsible for more than 70% of deaths worldwide each year.

Knowledge represents empowerment. By sharing this evidence-based, peer-reviewed research, we aim to support everyday people to take ownership of their wellness, by making informed decisions and choices in conjunction with their health professional.

How This Study Could Help Support Stroke Recovery

According to the Stroke Foundation, [in 2017, there was one instance of stroke every nine minutes](#) in Australia alone. This study explores the effects of chiropractic care for supporting recovery from stroke, and is titled:

THE EFFECTS OF A SINGLE SESSION OF CHIROPRACTIC CARE ON STRENGTH, CORTICAL DRIVE, AND SPINAL EXCITABILITY IN STROKE PATIENTS.

You can read the full study here: <https://www.nature.com/articles/s41598-019-39577-5>



Why Is This Study Important?

Stroke is caused by the blockage or rupture of a blood vessel in the brain, which leads to the sudden death of brain cells due to oxygen starvation. Non-fatal stroke may lead to problems with memory and other mental functions, or difficulty in moving or coordinating parts of the body. This may force a person recovering from stroke to depend on others to help them with basic daily activities. In populations that do not have a high income, the responsibility of helping stroke survivors is often taken on by family members.

Hemiparesis is weakness and impairment in controlling muscles on one side of the body, and it is a common consequence of the brain injury caused by stroke. Often, this weakness is not a problem of the muscles themselves, but with the brain's ability to send coordinated messages to the nerves that make the muscles move.

Plantar flexion is the medical term for the action of tilting the foot downward from a position of being at right angles to the lower leg, as when standing on tiptoe. The plantar flexor muscles are used whenever a person is on their feet, so weakness and poor control of these muscles affect a person's ability to stand and walk.

Various treatments are used to help people re-learn to use muscles that no longer receive signals from the brain properly after a stroke. These improvements take place gradually over a long period of time, so finding ways to speed up the process may reduce a person's level of disability more quickly and decrease the burden on those caring for them.

What Does This Mean For My Wellness?

The nerve functions evaluated in this study were described as “indicators of changes in the central nervous system [needed for] recovery following a stroke”. Previous research quoted by the authors suggested that the changes to nerve function associated with a single session of chiropractic care “were similar to those observed following three weeks of strength training”.

The increase in muscle strength reported in this study adds weight to the hypothesis that chiropractic may be a possible way to help fast-track recovery after stroke. Even if the effect is only temporary, it may still have meaningful implications such as allowing stroke patients to obtain faster results from physiotherapy.

An increase in muscle strength, even in the short term, may translate to a slight reduction in disability level, and consequently greater independence. With regard to the muscles studied in this trial, this means people recovering from stroke may be able to stand and walk more easily, potentially improving quality of life.

The researchers also mentioned that chiropractic adjustment may have an effect on neural plasticity. This is the brain’s ability to make new connections and adapt to injury as healthy brain cells take over from areas of the brain that were damaged by stroke. The authors mentioned that “neural plasticity is thought to be the key to promoting motor recovery in stroke patients”.

How Does This Relate to Chiropractic?

The authors of this study referred to evidence that suggested correcting small misalignments in the spinal column may result in changes to the way the brain processes sensory information coming through the spinal cord. This, in turn, is hypothesised to possibly have an effect on helping the brain coordinate muscle movement.

In 2019, researchers affiliated with the New Zealand College of Chiropractic as well as other institutions published the results of a trial investigating changes in muscle strength after a single session of chiropractic care in 12 male patients recovering from strokes sustained at least 12 weeks earlier. In addition to measuring the maximum force that participants were able to exert using their plantar flexor muscles, researchers measured key aspects of nerve function in the legs and spinal cord.

Half the participants were assigned to receive chiropractic adjustment. The other half comprised a control group; these participants were moved into the same positions as those used for chiropractic adjustment, but no actual joint manipulations were made. After a one week period to allow any effects of the chiropractic session to wear off, the alternate intervention was provided to the participants so that all participants received one chiropractic session.

The authors of this study quoted previous research exploring how chiropractic adjustment may increase muscle strength in some situations by “rapidly [altering] central neural function”. The authors hypothesised that if signals from the brain could reach the muscles more effectively, the process might also [stimulate the brain’s ability to heal itself](#).

Key Findings About Chiropractic to Support Stroke Recovery

- On average, participants were able to exert 64.2% more force using their plantar flexor muscles after chiropractic treatment. In the control group, there was a decrease in muscle strength, consistent with normal fatigue that could be expected due to exertion in providing the initial measurements.
- The findings of this study were compatible with a 2015 study that recorded a 16.05% increase in plantar flexor muscle strength in elite taekwondo athletes after a single session of chiropractic care. While that study reported positive findings, the improvements in strength reported was much lower than the findings of this study. The researchers hypothesised that this could be due to the stroke patients having weaker muscles, and therefore more opportunity, to increase in strength.
- The researchers used electrodes attached to the participants' legs to measure key aspects of nerve function. They reported that after chiropractic treatment, there was a significant increase in supraspinal input, meaning muscle control impulses originating from the brain.
- Considering this study's small sample size, the authors noted that it was more useful as an exploratory trial than to verify the effectiveness of chiropractic treatment for a general population. Larger studies with long-term follow-up were recommended to verify the initial findings of this research.

Disclaimer: The above does not constitute medical advice, and as with any exercise or wellness program, please consult your medical professional before undertaking chiropractic treatment.

[Scientific Reports](#) is an open access journal publishing original research from across all areas of the natural and clinical sciences ..Partnering with our extensive network of expert peer reviewers, our editorial team provides rigorous, objective and constructive peer review.

Quoted from journal description

References

[Facts and figures about stroke | strokefoundation.org.au](#)
[The effects of a single session of chiropractic care on strength, cortical drive, and spinal excitability in stroke patients | Scientific Reports](#)
[Chiropractic | souladvisor.com](#)
[Stroke rehabilitation | strokefoundation.org.au](#)
[About | Scientific Reports](#)