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ASRF CASE REPORT PROJECT

Improved sleep, energy and mental clarity in 79-year-old female: A case report

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Background: A 79-year-old female presented for Chiropractic care with a primary concern of poor sleep, energy and vitality, and a desire to feel healthier. Despite her active lifestyle, she was experiencing balance issues and other challenges that lead to her declining level of physical activity.

Intervention: The patient commenced a course of care during which she was checked and adjusted using Diversified Techniques with the Activator as a method of delivery, and Thompson Drop Technique in addition to a cervical orthotic.

Outcomes: Over the course of care, the patient reported improvements in sleep, energy, mental clarity and balance, which allowed her to re-engage with a healthy and active lifestyle.

Conclusion: Chiropractic care across the lifespan may support broad improvements in quality of life, and should be investigated by further research into healthy aging.

Indexing Terms: Chiropractic; Subluxation; energy; sleep; mental clarity; ageing; Quality of Life.

Introduction

Ageing is often accompanied by an assumption of progressive decline within which a loss of balance, slower responses, and diminished quality of life are not only accepted but expected. Yet as developed countries observe an upward trend in life expectancy, we as Chiropractors are uniquely placed to change the conversation and lead in the direction of healthy, vitalistic ageing.

> *... This case suggests that individuals are capable of overcoming some of the frailty and limitations commonly associated with ageing with appropriate care from their Chiropractor, ...'*

It is a standpoint not unsupported by research. Chiropractic care has documented potential to mitigate some of the sensorimotor deteriorations commonly associated with aging. In a randomised controlled trial by Holt and colleagues, older adults (65+) who received 12 weeks of Chiropractic treatment showed measurable improvements in ankle joint position sense, choice-stepping reaction time, multisensory integration, and physical health-related Quality of Life when compared with a control group. (1) These findings have the potential to not only challenge passive acceptance of

age-related sensorimotor decline, but to invite a more optimistic expectation for functional capacity in later life and drive further research into positive aging.

Another relevant study is Lelic et al, 2016. (2, 3) Here, it was shown that adjusting the subluxation impacts brain function, including significant impacts in the prefrontal cortex as well as sensorimotor integration. This work demonstrates how Chiropractic care can modulate neural activity, including within the prefrontal cortex which is an area critical to coordination, decision-making, and sensorimotor integration.

Using techniques such as EEG and transcranial magnetic stimulation, Haavik and Murphy (2011) showed that Chiropractic care may alter how the brain processes sensory input and orchestrates movement. (4) This evidence reframes ageing not as an irreversible decline but as a dynamic state where Chiropractic care may support neuroplasticity and improved bodily awareness.

Case details

A 79-year-old semi-retired female presented to the clinic in April 2017 with the stated goal of becoming '*healthier and more well*'. She reported irregular Chiropractic care in the past and described maintaining a relatively high activity level for her age, although she had discontinued formal exercise approximately 18 months prior to her presentation.

Her health concerns at the time included difficulty sleeping, persistent low energy, fatigue, digestive disturbances, postural changes, episodes of brain fog, and impaired balance. She noted a fall one year prior and a previous fall in 2016. She also reported an unexplained weight loss of 15 pounds 6.8kg, which she had not sought medical investigation for at the time of intake.

Her past medical history was notable for a diagnosis of osteopenia 20 years earlier. She was not taking any medications and denied having any diagnosed conditions. Family history was significant for cancer, diabetes, and heart disease.

Clinical findings

History and chiropractic examination revealed multiple levels of subluxation throughout the spine and pelvis. Specific areas of involvement included C1, C2, C5, T2, T5, T11, T12, L4, L5, and the ilium. Orthopaedic testing demonstrated a right positive Derifield and a left cervical syndrome.

Cervical range of motion was reduced, most notably in left lateral flexion. Neurological assessment revealed a positive Romberg's test and a positive Unterberger's test, indicating impaired balance and proprioceptive control.

Postural analysis identified significant asymmetry. Frontal view assessment demonstrated a right shoulder shift of 0.21 inches 0.5cm with a right tilt of 4.1°. The hips were shifted 0.64 inches 1.5cm to the right and tilted 1.2° to the left. Lateral analysis showed the head displaced 0.31 inches 0.78cm forward, producing an estimated 2.8 pounds 1.2kg of additional head weight. The shoulders were shifted 2.27 inches 6.8cm posteriorly, while the hips were displaced 2.44 inches 6.0cm anteriorly. Overall, the patient demonstrated a 7-pound weight distribution imbalance to the right.

Physiological scans further supported these findings. Heart rate variability was recorded at 88%, surface electromyography (sEMG) at 76%, and thermal scanning at 84%, each reflecting measurable stress and dysfunction within the nervous system.

Management

Following examination, the patient commenced a course of care during which they were managed using Diversified Technique with the Activator as a force application. The Thompson

Drop Technique was also used in conjunction with a cervical spinal orthotic (the Dennerroll) commencing in 2022.

The patient's care plan commenced in three phases:

- Corrective care during which the patient was seen twice per week for eight weeks
- 'Rebuild' care during which the patient was seen twice per week for six weeks and then
- once per week for twenty-four weeks.

Optimisation care then commenced, during which the patient was seen once per week ongoing. The aims of care were to correct subluxations, decrease spinal dysfunction and to improve coordination and balance, with the knowledge that subluxation-based care may result in the body correcting other symptomatology.

The patient's full spine was assessed and adjusted (if necessary) at each appointment.

Outcomes

The patient's reviews indicated a sharp increase in outcomes at the beginning and then steady improvements over time.

June 2017 – Re-examination

At her first re-examination, the patient reported increased energy, more positive thinking, and greater activity levels. She described improved coordination, balance, and concentration, as well as clearer thinking and an enhanced ability to manage stress. Posture was noticeably improved, and Romberg's test, previously positive, was now negative. Objective findings showed a reduction in right-sided weight distribution imbalance to 3.6lbs 1.6kg. Physiological measures included HRV at 74%, sEMG at 72%, and thermography at 84%.

January 2018 – Re-examination

By her second re-examination the patient noted greater mobility, better digestion, reduced anxiety, and improved elimination. She also reported better moods and clearer vision at short distances. Objective measures showed HRV at 77%, sEMG at 71%, and thermography at 66%.

January 2019 – Re-examination

Findings at this stage indicated a left-sided weight distribution imbalance of 2.0lbs 0.9kg. HRV measured 65%, sEMG 65%, and thermography 98%. No new subjective complaints were noted, though she reported ongoing improvement in her overall function.

February 2020 – Re-examination

The patient showed a further reduction in postural imbalance, with only 1.2 lbs 0.5kg shifted to the left. Cervical range of motion also improved, particularly in left lateral flexion. HRV increased to 76%, with sEMG at 73% and thermography at 78%.

April 2021 – Re-examination

At this point, the patient reported no new subjective findings but noted that she had confidently returned to regular cycling. She described riding 5 km to her Chiropractic appointments and 5 km home on a regular basis. Objective measures showed HRV at 74%, sEMG at 72%, and thermography at 67%.

April 2022 – Re-examination

The patient continued with her cycling routine and had no new subjective complaints. Objective measures included HRV at 79%, sEMG at 59%, and thermography at 83%.

May 2023 – Re-examination

Findings remained stable, with the patient still cycling to appointments and reporting no new concerns. HRV was recorded at 78%, sEMG at 72%, and thermography at 79%.

June 2024 – Re-examination

At her most recent re-examination, the patient continued to cycle to her Chiropractic appointments and reported no new subjective changes. Objective measures included HRV at 78%, sEMG at 69%, and thermography at 74%.

Discussion

Over her time with us, this patient has gone from a frail early 70 year old, to a robust, engaged and active 80 year old. Objectively, spinal function steadily improved over time as well as a decrease in subluxation indicators. Subjectively, she was able to increase confidence in activity, going from quitting exercise years prior to engaging with care to someone who does daily spinal mobility exercise, walks, and cycles a 10km route into the office weekly. A big win was that the patient was able to cycle not only in the good weather, but through the rain in the winter as well, which they have been able to do nearly every week for the past two years. This patient has been someone who has had a previous interest in health and diet specifically, but was becoming physically frail. They have continued to engage with their interest in diet and continues to experiment to improve their health outcomes, but now has confidence in their body to be able to confidently live their life and age gracefully.

The changes in overall health, spinal and nervous system function have been regularly recorded subjectively through quality of life surveys and self assessments on nutrition, exercise and mindset activities currently being completed. Objectively, this patient was observed for spinal ROM, spinal orthopaedic exams to investigate areas of inflammation, balance and coordination tests, paraspinal thermography, surface electromyography, heart rate variability, and weight distribution.

The patient stated they had the following changes:

- improved sleep
- more energy
- greater mobility
- more positive thinking
- improved posture
- more alertness
- less anxiety
- clearer thinking
- less lightheadedness,
- being more more active with clearer vision
- better digestion
- more coordination
- easier breathing
- better moods
- better concentration
- improved balance,
- handled stress better
- improved elimination
- clearer skin

- increased stamina, and
- eliminated toe fungus.

Eventually, they were able to be more happy daily, have less daily stress, and get outside daily.

Over the course of care, the patient reported significant improvements in mobility, coordination, and balance. Importantly, the patient noted that their weekly Chiropractic visits were one of the few sources of regular physical touch they experienced. This human interaction may have contributed to their perceived improvements, underscoring the value of therapeutic relationships in healthcare outcomes.

From a clinical perspective, correcting areas of significant subluxation likely played a key role in improving the patient's balance and functional stability. These neurological and structural changes appeared to enhance the patient's trust in their body, which encouraged gradual increases in physical activity over time. This growing confidence was equally important as the physiological changes, creating a positive feedback loop that supported ongoing progress.

Conclusion

This case suggests that individuals are capable of overcoming some of the frailty and limitations commonly associated with ageing. With appropriate care, function can be restored and maintained, and confidence in the body's capacity can be rebuilt. Improvements were seen not only in the patient's subjective quality of life but also in objective measures such as mobility and bone density.

These outcomes highlight the potential role of Chiropractic care in supporting healthy ageing. While this is a single case, it demonstrates how a focused approach to subluxation-based care and nervous system function can help older adults remain active, independent, and engaged in their daily lives. Further research is warranted to explore these effects across larger populations and to better understand the mechanisms driving these improvements.

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About the Chiropractor

Dr Thea Treahy-Geofreda graduated from Western University in London, Ontario with a Bachelor of Health Sciences and later her Doctor of Chiropractic from New Zealand College of Chiropractic. 8 years into her professional Chiropractic career, Thea owns and practices from The Powerhouse Chiropractic Inc, with her partner Brian, in Vancouver, Canada.

About the Case Report project

This Case Report is a part of the ASRF Case Report Project, a project designed to gather client studies from chiropractors and transform them into much-needed case reports, focused on the effects of chiropractic care on clinical presentations highly relevant to chiropractic, such as stress, immunity and adaptability.

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