

Reversal of insomnia, chronic Fatigue Syndrome and neck pain in a 60-year-old female undergoing concentrated Chiropractic care: A case report

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Background: A 60-year-old female presented for a course of concentrated Chiropractic care with primary complaints of Chronic Fatigue Syndrome, insomnia, and chronic, worsening neck pain following a motor vehicle accident.

Intervention: The patient underwent four, week-long programs of concentrated Chiropractic care using the Averio Functional Neurological Technique with additional adjunctive protocols.

Outcomes: The patient experienced total remission of Chronic Fatigue Syndrome, complete neck pain reversal, and insomnia resolution. This was consistent with improvements across multiple areas of cervical ligament instability, vertebral subluxation, and functional objective tests taken pre- and post-concentrated weeklong programs.

Conclusion: Concentrated chiropractic care may be recommended in cases where symptoms have been resistant to ordinary medical care and other Chiropractic management. Further research is recommended to fully understand the mechanisms behind concentrated Chiropractic care and the impact it may have on treatment-resistant symptomatology.

Indexing Terms: Chiropractic; concentrated Chiropractic care; Quality of Life; Chronic Fatigue Syndrome (CFS); insomnia; sleep.

Introduction

As we continue to better understand the body, its ailments, and the ways we can optimise health through research findings, the importance of one thing has surfaced time and again: sleep. Impaired sleep, lacking in either quantity or quality, can have detrimental effects on more than just mood and concentration.

Cognitive function and cardiovascular, cerebrovascular, and metabolic health can all be negatively impacted by inadequate sleep. (1) As such, a noticeable push has been made for public health initiatives promoting better sleep practices. (2) Attention is also directed at the management of conditions affecting sleep and changing perceptions to consider the negative health consequences of ongoing poor sleep, and finding effective management options.

... Referral between Chiropractors can provide benefits to the patient and should be a standard procedure...'



Chronic Fatigue Syndrome (CFS), also known as *myalgic encephalomyelitis*, is a condition 'characterised by severe fatigue, cognitive dysfunction, sleep problems, autonomic dysfunction, and post-exertional malaise, which can severely impair patients' ability to conduct the activities of daily living'. (3) To obtain the CFS diagnosis, patients must have debilitating fatigue for more than six months that is not improved by rest. The condition carries with it many common potential comorbidities, including psychiatric difficulties and autoimmune diseases. (4) Naturally, the symptoms of CFS itself, along with the potential for many comorbid concerns, severely impact the CFS patients' Quality of Life. Unfortunately, with no medical or pharmaceutical cure, treatment is centred around symptom management and improving patients' QoL.

Currently, there is a growing body of evidence in Chiropractic literature investigating the effects of Chiropractic care on sleep and conditions impairing sleep, such as sleep apnoea. Still, there remains a lack of literature pertaining to the potential benefit of chiropractic care for CFS.

A prospective clinical study published in 2012 highlighted the potential benefit Chiropractic care can have for CFS patients. The study concluded that chiropractic care may contribute to improved quality of life for some patients but that further research is needed to determine the extent of its effect and how it may impact patient care. (5)

This case report documents the changes in symptoms of a person receiving Chiropractic care for CFS, insomnia, and chronic neck pain, adding to the preliminary evidence in this area of chiropractic research.

Case details

A 60-year-old female trauma therapist presented for a course of concentrated Chiropractic care. She self-reported as having a high level of physical activity and had been receiving regular Chiropractic care prior to her presentation. Her primary complaints were Chronic Fatigue Syndrome, insomnia, and chronic and worsening neck pain following a motor vehicle accident.

She had been undergoing manual Chiropractic care without results for some time, as well as receiving regular Pulsed Electromagnetic Field (PEMF) therapy and acupuncture treatments. At the time of her presentation for concentrated Chiropractic care, she reported having been active her whole life but no longer having the energy to complete her daily activities or engage in recreational activities such as horse riding. She also listed a secondary complaint of occasional sexual dysfunction.

Medical history

Upon presentation to the clinic, the patient underwent an in-depth examination during which a full medical history was taken, along with blood intracellular micronutrient panels, digital computer-analysed radiographs, spinal surface EMG, vitals, and body composition testing.

During the medical history portion, the patient reported having been in a motor vehicle accident three years prior, in which she suffered a concussion. She previously rode horses almost daily. Her occupation at the time of presentation was as a therapist in a unique field where she worked with injured and traumatised people, introducing them to therapy horses. The patient stated that she did not use tobacco, marijuana, alcohol, or street drugs. She reported allergies to eggs and dairy, was using hormone replacement patches and regularly used Tylenol for pain management.

In addition to her presenting complaint, the patient further reported suffering from spinal arthritis, low blood pressure, easy bruising, and a history of a hysterectomy (approximately twenty years prior to presentation).

Clinical findings

A series of radiographs were taken to assess the patient's spine. These revealed abnormal spinal alignment in the cervical spine, with 80% loss of standard cervical curvature, abnormal alignment in the lumbar spine (with 23% loss of a normal lordotic curve), wedging cervical ligament instability at C3-C4 and C4-5 in flexion, with 14.1mm left tilt on the anterior-posterior cervical radiograph.

A systemic inflammatory panel was taken upon presentation (on 08/22/2021), which revealed severe deficiency in omega 3 fatty acids (2.7), high TMAO, Trimethylamine N-oxide (she returned a reading of 15.1, where 6.2 is the highest normal limit), and a high omega-6/omega-3 ratio.

Her micronutrient panel dated 06/16/22 revealed cellular deficiencies to B12, high Vitamin D 25-OH, high arachidonic acid, high omega 6, high AA/EPA, Arachidonic Acid/Eicosapentaenoic Acid (which was 600% over normal limit) and an iodine deficiency.

Functional brain tests (including Fukuda's, King Devicks, Balance, Blind Spot, Heal-To-Toe Gait Assessment, and BTRAX balance and fall risk assessment), and spinal EMG returned abnormal results. Subluxations were detected at every level of the cervical and lumbar spine.

It was summarised that the patient had an issue with chronic inflammation both chemically (omega 3/6, TMAO, nutritional imbalances, etc) and neurologically (abnormal spine/ligament instability). It was argued that her body could not respond to normal manual Chiropractic and acupuncture treatment measures due to these chronic inflammatory issues and cervical ligament instability.

Management

The patient was placed on an Averio concentrated chiropractic care plan, during which she was managed with the Averio Functional Neurological Technique (FNT) supine, prone, and while the patient was blocked during chi motion. Instrument adjusting was used on extremities (to legs and feet) and the ribs.

The patient underwent four week-long programs between 2021 and 2023, with an estimated 50-65 Averio Functional Neurological Technique adjustments per program.

Note: It was recommended that the patient stop manual Chiropractic care following a flexion/extension panel showing ligament instability. The patient could resume manual Chiropractic care following the April 2023 weeklong program and reversal of both areas of cervical ligament instability.

Care plan details

Week-long programs were undertaken in September 2021, February 2022, August 2022, and April 2023. Following the 2023 week of care, the patient was moved to maintenance care.

Care aimed to reverse Chronic Fatigue Syndrome, insomnia, and neck pain by correcting the underlying problems.

The cervical spine was a particular area of focus, specifically alignment and ligament instability. The patient was not responsive to conventional manual adjusting, possibly due to the multiple regions of ligament instability in the cervical spine. The *American Medical Association* recognises Cervical ligament instability as creating a 25-28% full-body impairment per area of instability on the DRE IV impairment scale due to how this negatively affects Central Nervous System function. This patient had two ligament instability areas requiring a different Chiropractic approach, but a Chiropractic approach nonetheless.

The Averio FNT adjustment is sustained contact using a friction plate to assess where to adjust and when the adjustment is complete. This adjustment is accomplished with little force and a high level of specific assessment and contact. Averio Chiropractors have repeatedly observed that in cases of ligament instability, the patient will respond best to a combination of concentrated, low-level force Chiropractic adjustments (estimating a minimum of ten low-force Chiropractic adjustments during a day), and reduced rotational movement of the cervical spine (wherein the patient is instructed not to turn head as much as possible).

A whole-food nutritional protocol is undertaken, specifically using nutrients shown by published studies to support ligament regeneration and repair. The patient also underwent class two photobiomodulation and cryotherapy on the damaged tissues.

Spinal ligament instability

Spinal ligament instability is determined as more significant when 3.5mm (in the cervical and thoracic region) transitional movement in either flexion and/or extension on a digital computer-analysed radiographic assessment or greater than 11° of wedging separation between two adjacent spinal segments. (11, 12) A literature review of spinal ligament instability shows causation or correlation between spinal ligament instability and migraines, pain, hypertension, cysts, dystonia, spondylotic disease, myelopathy, psoriatic arthritis, spinal cord injury, scoliosis, chronic inflammation, ossified ligaments, rheumatoid arthritis, neurological symptomatology, muscle weakness, low back pain, and even paediatric mortality. (13 - 31)

The strong connection between spinal ligament instability and adverse health issues and chronic inflammation is likely why spinal ligament instability has been classified as a DRE IV classification since the 3rd AMA guidelines (approximately 60 years ago). Spinal ligament instability is a critical bridge in understanding the impact spinal damage and spinal subluxation can have on the central nervous system.

Spinal ligament instability is typically resolved with surgical intervention. (32, 33, 34) Surgical fusion has many adverse side effects and risk factors, including life-threatening infection and/or secondary pathology in the spine due to the loss of normal spinal motion in the adjacent segments. (35, 36, 37)

Using concentrated Chiropractic care to assist the body in regenerating normal ligament stability non-surgically does not have the same risk factors as fusion spinal surgery. Concentrated Chiropractic care consistently benefits the patient's overall health outcomes. The reversal of spinal ligament instability through concentrated Chiropractic care could be used as a talking point in inter-professional dialogue to understand the importance of vertebral spinal subluxation and how spinal damage negatively affects the central nervous system and health outcomes.

Outcomes

Over the four weeks of concentrated care, the patient noted a complete reversal of Chronic Fatigue Syndrome, a complete reversal of insomnia, and a reversal of neck pain. This was consistent with radiographic retesting which revealed a complete reversal of ligament instability at C3-C4 and C5-C6, reversal of severe Omega 3 fatty acid deficiency, as well as notable improvements of cervical and lumbar curves.

Objective testing revealed the following:

- ▶ The patient's height changed from 5'2" to 5'4½" (157 to 164cm)
- ▶ Computer-analysed radiographs revealed reverse of wedging ligament instability at C3-C4 and C4-C5
- ▶ Anterior Head Carriage improved by 91.8% (from 9.8mm to 0.8 where 0.0mm is normal)

- ▶ Normal Cervical Alignment improved by 97.6% (from -8.4 degrees to -16.6 degrees where normal is -42 degrees)

Patient-reported findings included:

- ▶ Improved sleep, energy and neck pain
- ▶ Reversal of Chronic Fatigue Syndrome
- ▶ Reversal of chronic neck pain
- ▶ Reversal of insomnia (the patient reported needing only 20 mins to fall asleep following four Averio week-long programs)
- ▶ The patient was able to return to riding horses and working full-time.

When asked for her feedback on her results, she stated, *'I have my life back!'*

Discussion

This case report details the improvement in CFS, insomnia, and neck pain symptoms and an overall improvement in quality of life following a series of concentrated Chiropractic care programs. The positive effects documented in this case were achieved by targeting ligament instability in the cervical spine and supporting its regeneration, without surgery, through an innovative concentrated care weeklong program.

There is a lack of evidence for the effect of Chiropractic care on CFS symptoms and management, potentially to the detriment of patients with CFS. This report begins to bridge the gap that exists in the discipline's literature, between the foundational evidence supporting the regulatory effect Chiropractic care can have on the nervous system and the clinical outcomes this understanding translates to in practice, specifically for patients with CFS.

Previous studies in this area have identified that generalised joint hypermobility is more common in a subset of CFS patients, compared to healthy controls, and have outlined the potential benefit of adjusting Atlas misalignment on quality of life in CFS patients. (5, 6) While these articles are important to initiate research into this condition, case reports such as this are vital to lay an effective foundation for larger scale studies into the true benefit and relief chiropractic care may bring to those managing CFS.

The improvement in insomnia symptoms following chiropractic care noted in this case are supported by other case reports with similar outcomes. (7, 8, 9) While these case reports begin to depict a potentially significant trend, a review of the literature published on chiropractic and insomnia, as of 2010, found that due to the limited number of studies and the lack of high-quality evidence, there was little evidence for chiropractic treatment of insomnia. (10) Since that review was published, there have been no further large-scale studies completed that address this gap in Chiropractic literature, despite multiple case reports highlighting the potential benefit to practice members.

Referrals within Chiropractic

This case raises the emerging topic of co-referral within chiropractic. As the successful management detailed in this case suggests, there can be benefits to having multiple Chiropractors review a case; just because a case did not see the expected improvements under one method or technique of Chiropractic does not mean that Chiropractic or the individual practitioner has failed the patient.

Nor does it necessarily indicate the only viable interventions left are surgical or pharmaceutical.

As this case illustrates, it can mean that the patient requires a different technique, additional objective testing, or a heightened frequency of care to have the optimal response. With different Chiropractors training in different techniques, and with some up-skilling into areas such as paediatrics, functional neurology, and specific areas of health such as women's health or vestibular function, there is always room for co-referral or collaborative work within the profession when particular needs are recognised in an individual under care.

Conclusion

While co-referral within the chiropractic profession is critical, it is not a topic that is currently discussed or incentivised enough.

As with all case studies, limitations apply in that this is a sample size of one. With this said, it supports prior case reports on concentrated Chiropractic care, chronic fatigue syndrome and difficulty with various aspects of sleep. Aboutness and agglomeration significantly increase the power of case reports. (39)

Future research is required to further examine symptomatology and phenomena identified in this case report, such as non-surgical regeneration of ligament instability, tissue regeneration, and the impact of concentrated chiropractic care on complex conditions not responsive to ordinary medical care or lower frequency chiropractic care.

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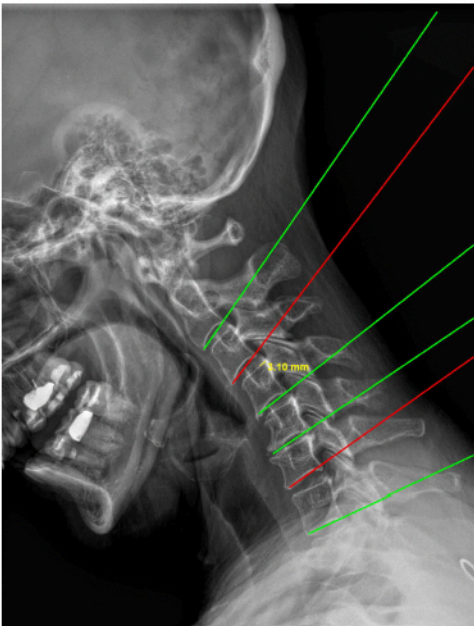
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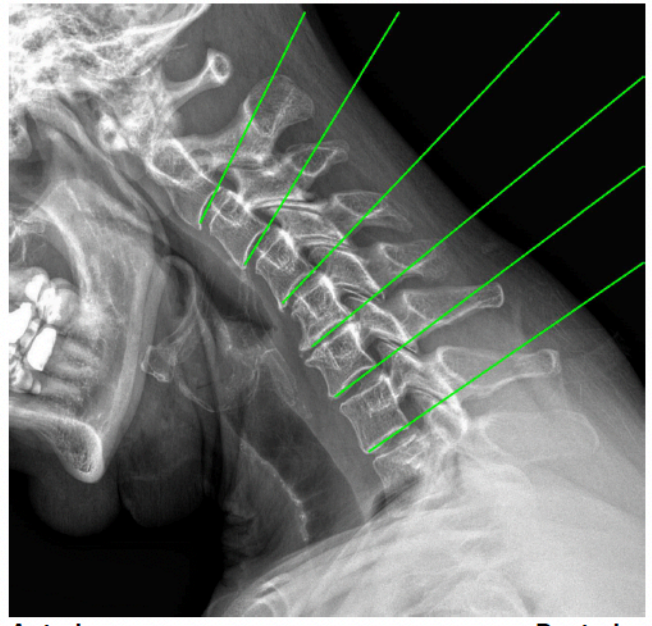
Images

1: Lateral Cervical Flexion 2/18/2022



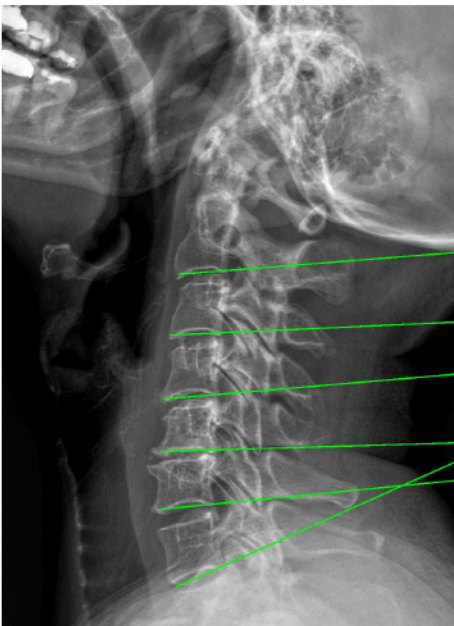
Anterior Posterior

2: Lateral Cervical Flexion 4/21/2023



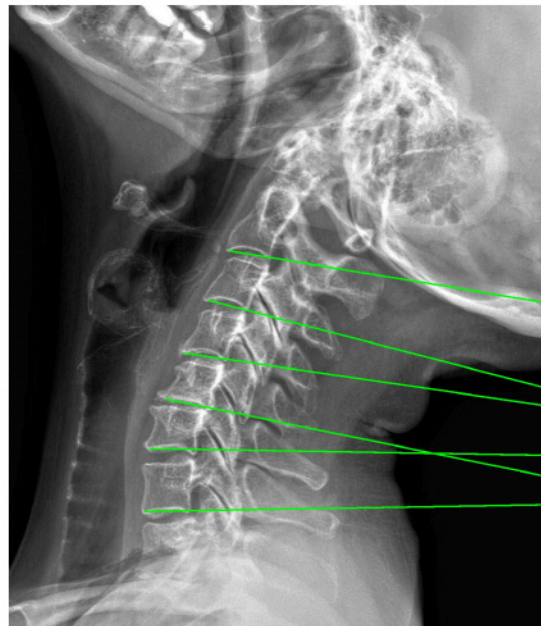
Anterior Posterior

1: Lateral Cervical Extension 2/18/2022



Anterior Posterior

2: Lateral Cervical Extension 4/21/2023



Anterior Posterior

The green line represents vertebrae motion below the ratable threshold for alteration of motion segment integrity.

The red line represents vertebral motion above the ratable threshold indicating alteration of motion segment integrity.

Declarations

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.

This valuable project is made possible by the generous fundraising and contributions of ASRF supporters.

Patient consent was documented and is held by the lead Authors and the Journal.

All data with appropriate clinical commentary were provided by authors Kotlerman, Martin, and Carter.

ASRF definition of subluxation

'A vertebral subluxation is a diminished state of being, comprising a state of reduced coherence, altered biomechanical function, altered neurological function and altered adaptability.'

About the author

Dr Sarah Kotlerman, BS DC NTP, is the Clinical Director at [Averio Health Institute](#), a regenerative chiropractic institute specialising in concentrated care programs for patients with severe, chronic health issues. In the last few years, Averio Health Institute has collaborated with the Australian Spinal Research Foundation in the publication of ten case studies showing how concentrated chiropractic care has the potential to allow the body to regenerate tissues and reverse disease. Dr Kotlerman is passionate about reversing spinal abnormalities and central nervous system interference in patients, allowing their bodies to express health and life as designed. Dr Kotlerman is also a toxicity expert, having tested and reversed heavy metals, environmental chemicals, and mycotoxicity in thousands of patients.

Dr Kotlerman is a Washington State Chiropractic Association board member since 2020 and is currently participating with the Washington Chiropractic College team towards building the opportunity for a boutique chiropractic college in Washington state. Dr Kotlerman is married with one child. Outside of the office,

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