

# Improvement in posture, sleep and energy in a 25 year old female under chiropractic care: A case report

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**Abstract:** A 25-year old female presented for chiropractic care to address her postural concerns. She described herself as *'healthy but fatigued.'*

**Objective/Clinical Features:** Chiropractic care for the reduction of vertebral subluxations involved special attention to the thoracic and cervical spine, where a forward head carriage was noted, and stabilising of the pelvis which was found to be tilted.

**Intervention/Outcomes:** Following a course of chiropractic care, objective findings confirmed a reduction in forward head carriage, an increase in pelvic stability, and was concomitant with patient reported increases in sleep quality, energy, vitality, and immune function (i.e. resistance to coughs, colds and flus)

**Conclusion:** In this case, an improvement in sleep, energy, vitality, and immunity was concomitant with a course of chiropractic care.

**Indexing Terms:** Chiropractic; Subluxation; Immunity; Fatigue; Sleep Quality.

## Background

There is no shortage of chiropractic literature offering evidence of improvements in postural measures in the adult population. Likewise, the topic of improved sleep is also one in which chiropractic literature shows no paucity. However, literature linking chiropractic to improved sleep outcomes is more usually linked with infants and paediatric patients, or pregnant patients, or patients with comorbidities such as cystic fibrosis or cancer. (1, 2, 3, 4, 5, 6)

The topic of chiropractic care and immune function remains more controversial with notable large bodies decrying a link between chiropractic and immune function, while a plethora of authors have clearly identified a theoretical link. (7, 8) Numerous case reports exist in which autoimmune conditions appear to have lessened or resolved concomitant with chiropractic

... This report explores potential relationships between immune status and spinal health with chiropractic care ...'



care, and others report improvement or resolution of conditions related to allergies, rhinitis, sinusitis or a generally lessened susceptibility to colds and flu.

Hence, while chiropractic is well-represented in evidence for postural improvements, this case report linking postural improvements with sleep quality, immune function and generalised feelings of energy and vitality is novel.

### History and Examination

A twenty-five-year-old female presented for chiropractic care, with a primary concern of poor posture. She was an active person working in a sedentary job but offsetting this by attending fitness classes five times per week. She had no history of back or neck pain, no significant injuries or relevant family history.

Upon presentation, a thorough history and examination was undertaken and the following findings were reported: She had restricted cervical range of motion in both flexion and extension, whereby the extension of the cervical spine improved when the shoulder blades were actively retracted. Her thoracic range of motion was restricted in extension, her lumbar range of motion was restricted in right rotation, and the sacroiliac joint range of motion was restricted in right flexion. Motion palpation revealed stiffness and restriction in T1-T4 while prone, restriction and stiffness of the right sacroiliac joint and general restriction of the thoracolumbar junction.

A digital posture examination included AP/lateral photographs of their relaxed posture (with breath expired). This revealed a forward head carriage of 10 degrees from the tragus of the ear to the midpoint of the glenohumeral joint. She also had an anterior pelvic tilt of 8 degrees from the approximate location of the PSIS and the ASIS. Her left shoulder and hip girdles were both elevated by 2 degrees.

X-rays revealed no scoliosis, pelvic unleveling or anatomical variances. However, her lateral X-ray showed that she had a loss of cervical lordosis with an acute kyphosis at C4/C5 as well as an acute lordosis of C7/T1. She also had mild loss of normal kyphosis throughout her thoracic spine and an increase in lordosis of her lumbar spine and an increased sacral base angle between her L5 and S1. There were no other anatomical variances or spinal deformities observed.

When the patient completed her pre-treatment wellness survey, she described herself as 'healthy but fatigued', rating herself a 3 out of 5 for energy, vitality, concentration, mood and sleep quality, and 4 for feelings about her general sense of health, wellbeing, resistance to colds, coughs and other infections.

### Treatment

Following the initial consultation, the patient commenced a course of chiropractic care using the *Advanced Biostructural Correction Technique*. Each session of chiropractic care utilised meningeal stretching, first rib adjustments, and AP adjustments of anterior subluxated vertebrae from C7 through to L5. Sacral adjustments were performed, along with supine adjustments of the mortise joints, lower limb phalanges, fibular head, acetabular joints, and anterior rib cage.

The initial course of care comprised four weeks with three sessions per week, followed by a second course of care comprising one session per week for twelve weeks. Upon completion, the patient opted for wellness care which involved one session every three weeks. She was also provided with advice for at home care including changes for a more ergonomic work space, and changing the height of her pillow to facilitate sleeping on her side.

### Outcomes

Following four weeks of care (twelve treatments), a re-evaluation was undertaken. Another digital analysis of her posture was taken with relaxed posture and expired breath. At this point,

significant improvements in posture were noted in that she measured four degrees of forward head posture and six degrees of anterior pelvic tilt using the same anatomical markers as the initial assessment.

After sixteen weeks of care (twenty-four treatments), the repeated digital posture analysis was performed and revealed just one degree of forward head posture and three degrees of anterior pelvic tilt.

At the re-evaluation after thirteen months of care, at which point she was on a wellness plan, her forward head posture was stable at two degrees, but her anterior pelvic tilt was now resolved. At this point, she undertook a wellness survey and rated herself as three out of five for quality of sleep, four out of five for overall well-being, energy, vitality, concentration and resistance to coughs, colds and other infections. Notably, she rated herself five for mood, all of which represented significant improvements from her initial self-assessment of wellness.

It should be noted that these improvements in posture occurred concomitant with improvements in sleep, mood and energy.

### Discussion

In the present case, during which the patient's care was administered using the ABC technique, at-home changes supported the holistic approach to care. While postural correction was the presenting concern, the broader focus on energy and wellness emerged early on in the patient's course of care. It is noteworthy that, while the postural concerns did show marked improvements by the end of her course of care, the reported benefits had moved away from this original symptomatology and into territory more broadly referred to as vitality, well-being, and immune function.

Although some of the 'wellness' measures were subjective self reports this is still a valid way of assessing improvements or escalations while under care. In the present case, this represented a 20% increase in non-musculoskeletal (immune and health-related quality of life outcomes). While some of this may exist in the realm of perception, research has indicated that therapeutic trust as well as aspects of perception, termed '*contextual factors*' by researchers, may have a significant impact on clinical outcomes. (9, 10)

This case report also supports improved immunity in reduction of colds and susceptibility to seasonal flus. This is obviously a self report and not objectively recorded as immunoglobulin levels or inflammation level in the body, and thus further research would be required to make this a more 'valid and reliable' form of evidence for this claim. However, measuring such markers would require more rigorous and invasive forms of testing, but it is a lot more invasive for a questionnaire and again, whereas case report data is more focused on what is clinically relevant patients and chiropractors and thus the self-report data shouldn't be ignored completely.

### Considerations and future directions

Larger studies would be required to ascertain the neurophysiological mechanisms behind such improvements, and to establish causation given this is a standalone case report. However, no other significant changes to the patient's lifestyle or medical situation were declared over the course of care.

The improvement in energy, and immune function (as described in the decreased susceptibility to colds, infections, and viruses) is worthy of note, however the mechanisms behind such improvements cannot be established in this current paper.

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### *About the Chiropractor*

Dr Adrienne Leahy completed her Bachelor of Chiropractic Science at Murdoch University, Western Australia in 2011 and her Master of Chiropractic at Macquarie University in Sydney in 2013. Upon completing her Master Degree Adrienne studied *Advanced Biostructural Correction™* through seminars conducted by *Advanced Biostructural Correction Australasia* and their international counterparts. Adrienne is a part of a group practice of Chiropractors in Sydney's Lower North Shore providing ABC Chiropractic care for their patients.

*About the Case Report project*

This Case Report is a part of the [ASRF Case Report Project 2021](#), 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 project was made possible by the generous fundraising and contributions of ASRF supporters.

