

# Improved Heart Rate Variability, mood, reproductive health and gut function, and decreased eczema symptoms in a 30-year-old female under chiropractic care: A case report

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**Background:** A 30-year-old female patient presented for care at a chiropractic clinic with a primary complaint of decreased strength. Further examination revealed more specific symptoms of low back pain, neck pain, stiffness, fatigue, eczema and low energy.

**Management:** The patient commenced a course of subluxation-based chiropractic care during utilising Torque Release Technique, Toggle Recoil, Thompson, Gonstead and Sacro-Occipital Technique with pelvic/sacral blocks.

**Outcomes:** At the conclusion of her care plan, the patient reported improved mood, menstrual health, and gut function, reduced eczema and better sleep and energy. This was concomitant with a reduction in subluxation findings, and improvements in objective measurements (Heart rate variability and sEMG).

**Indexing Terms:** Chiropractic; Subluxation; HRV; eczema; gut function; SOT; Torque Release Technique.

## Introduction

As a measure of vascular autonomic nervous system function, heart rate variability (HRV) is a tool that can be used by chiropractors to gain a snapshot of insight into the state of a person's nervous system. While other measures exist, HRV, unlike blood pressure, for example, does not require abnormal pathology in order to give insight into the functioning of a person's nervous system when it comes to adaptability. (1) While it is thought to be important in chronic pain patients and autoimmune patients in addition to other specific condition groups, it is the state of adaptability that Chiropractors argue allows a person to better interact with and respond to their internal and external environment.

As we navigate life, stress, and immune challenges, this may increase or decrease our neurobiological resilience, resulting in either the ability to hold on to self-regulation and self-healing or to see symptoms in the body.

*... a broad spectrum of clinical outcomes are associated with subluxation-based Chiropractic care. This 30y female shows a range of symptomatic improvements'*



Evrengül et al (2004) discovered lowered heart rate variability in patients with rheumatoid arthritis, as opposed to normal controls. (2) Tracy et al's work (1) confirmed reduced HRV levels in chronic pain patients, and the meta-analysis was heavily influenced by studies featuring fibromyalgia patients.

As chiropractic research continues to examine immune function and other non-musculoskeletal conditions, these autoimmune conditions provide symptomatological rationale through which we may feasibly connect subluxation-based chiropractic care with improved autonomic function as evidenced by HRV.

The *Australian Spinal Research Foundation* defines vertebral subluxation as 'a diminished state of being, comprising a state of reduced coherence, altered biomechanical function, altered neurological function and altered adaptability.' (3) This case report examines eczema, mood, reproductive health and gut function improvements in a 30y female patient under chiropractic care through the lens of the vertebral subluxation.

### Case details

A 30y female registered nurse presented for chiropractic care, having previously been an intermittent chiropractic patient. Her main presenting condition was a self-reported decrease in strength. However, upon examination, she reported secondary complaints of neck and low back pain and stiffness.

At the time of her presentation, a comprehensive history and examination was performed. During this examination it was discovered that the patient was currently medicated for anxiety and depression and was taking *Citalopram*. She had a history of postpartum depression, and a torn left labrum requiring surgical reparation. The patient had also suffered from allergies and sinus issues for the past 3-4 years.

The patient reported constant low energy and fatigue, eczema, weakness in her ankles, cold feet, low back pain, and constipation that improved with exercise. Even when she was able to rest, she would awake tired and stiff.

The patient's examination revealed a short right leg by 3.2mm or 1/8 inch when prone. The patient was positive for right cervical syndrome and returned positive Derfeld and Webster's tests on the right (with increased heel-to-buttock resistance on the latter). A right-sided head tilt was noted, as well as decreased range of motion at the right sacroiliac joint.

Romberg's test returned a positive finding, and the patient exhibited a right sway with eyes open and eyes closed. She also had difficulty standing on her right foot. A rapid finger movement test was slow on the L) side, and rapid thumb-to-finger test was slow on the R) side. While performing a tandem heel-to-toe walk revealed a R)-sided drift with eyes closed, and a slight R) drift when eyes were open. When dual tasking, there was a L)-sided drift.

The Chiropractor used paraspinal thermography, sEMG, heart rate variability, the *Hamilton Anxiety Rating Scale* and full spine x-rays to assess the patient. Analysis for vertebral subluxation revealed the following locations: upper cervical area, cervico-thoracic region, thoraco-lumbar junction, lumbo-pelvic area.

The patient's goals were to improve strength, decrease pain and decrease anxiety, and the patient commenced a course of subluxation-based Chiropractic care. The care plan was established at a frequency of two visits per week for six weeks followed by a progress re-evaluation. Management of the patient combined several techniques at the discretion of the chiropractor. These included Torque Release Technique, Thompson, Toggle Recoil, Gonstead, Diversified and Instrument (Integrator) adjusting. A drop table was used, as were SOT pelvic/sacral blocks and manual (HVLA) adjusting.

## Outcomes

At the six week progress evaluation, significant improvements were noted in both objective findings and subjective patient reports. Objective measures included:

- ▶ Improved HRV (improved autonomic activity index as well as a autonomic balance index)
- ▶ Improved EMG (improved postural tone, most noticeable in thoraco-lumbar junction)
- ▶ Improved Thermal scan (the greatest change was seen in lumbar region)

Subjective findings reported by the patient included decreases in Eczema, shoulder pain and low back pain. The patient reported an increase in energy, mood, body awareness and postural awareness. She also reported better sleep, more regularity in bowel movements, and improvements in her menstrual cycle function.

Paraspinal Thermography, Surface EMG and Heart Rate Variability were used to assess changes in subluxation.

The patient now claimed to be happy about overall body changes which has resulted in increased awareness of her bodily state.

## Discussion

This case report has shown a range of symptomatic improvements concomitant with Chiropractic care. While presenting symptoms related to strength, and this improved under Chiropractic care, it is noteworthy that the patient reported a plethora of other symptoms responding to care.

How the body expresses health after we remove interference is a matter for innate intelligence. That said, seeing an improvement in health, vitality and function across the board lead to the patient regaining a state of ease.

We say that as Chiropractors, we care for nervous systems not symptoms. How we can best measure this, whether by HRV or other markers of autonomic system regulation, is a matter for further research and clinical recommendations so that chiropractors can better discover and explain what is going on in the bodies and brains of our practice members.

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### *About the Chiropractors*

Dr Bruce Steinberg graduated from the Palmer College of Chiropractic in 2006 and has been in practice since. He is a member of the *New York State Chiropractic Board*, the *International Federation of Chiropractic Organisations*, the *International Chiropractic Pediatric Association*, and more. His reputable career in chiropractic includes running a successful chiropractic practice, *Quantum Chiropractic*, and serving the chiropractic community through his involvement with foundations and organisations serving the profession locally and internationally.

Dr Kate Clodgo-Gordon graduated from the New York College of Chiropractic in 2014. She practices at Quantum Chiropractic in Queensbury NY and is currently working towards her Certification in Pediatric care via the ICPA.

### *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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