

## Background

This case investigates a connection between occurrence of migraines and a musculoskeletal disorder, the **loss of cervical lordosis (CL)**. It is suggested that the loss of CL leads to strain and weakness in the neck muscles, contributing to the onset of migraines.

Medications have been developed for relief and as prophylactics. Alternatively, chiropractic adjustments have been utilized as a treatment for the loss of CL and may have indications for the alleviation of migraine symptoms. A systematic review of **osteopathic manipulative treatment (OMT)** summarized 15 studies in which OMT methods such as myofascial release and suboccipital inhibition reduced patients' symptoms immediately post-treatment, reduced the number of migraines per month, and reduced the need for medications[3].

Together, these spinal manipulative treatments may prove an effective tool in addressing the musculoskeletal component of migraines.

## Treatment Protocol

- CMT of Cervical Spine, Mechanical Traction, Trigger Point Myofascial Release
  - Goal: restore normal lordosis
- Neurocognitive Rehab/Nerve Stimulation/CBT
  - Goal: help patient with psychological effects from disease
- Posture Aid Protocol/ Exercise Protocol
  - Goal: help improve cervical spine alignment and range of motion

## Recommendations

The above treatments along with lifestyle and dietary changes will hopefully result in an improved quality of life and reduction in overall duration, frequency and severity of migraines for this patient.

# Migraine and Stress

## Case Report



Image 1. C0-C2 Cobb angle



Image 2. C2-C7 Cobb angle

Baseline X-Rays and neurocognitive exams were taken in May of 2023. Her C0-C2 Cobb angle was calculated as **49 degrees** with loss of lordosis defined as any measurement over 37 degrees. Additionally, her C2-C7 angle was calculated as **10 degrees**, with loss of lordosis defined as any angle under 20 degrees.

Her neurocognitive exams showed **below average scores** in areas such as episodic memory and verbal short-term memory as well as moderate to severe levels of reported stress, anxiety and depression.

The patient has since received 6 months of weekly chiropractic, neurocognitive rehabilitation and transcranial vagal nerve stimulation treatments. A follow-up neurocognitive analysis showed a **decrease in reported anxiety, depression and overall perceived stress**. In addition, she improved in attention, response inhibition, visuospatial processing, and episodic memory. As her treatment sessions continue, data collection is ongoing.

## References

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