

## Craniosacral Therapy for Migraine and Headache: Three Case Reviews

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### ABSTRACT

Craniosacral Therapy is a touch therapy with osteopathic roots. There is little research to date although effects on various types of headaches and pain have been described. In this case series, we discuss the treatment of three patients with headaches who were successfully treated with CST (craniosacral therapy) after reviewing the techniques, and we cite the need for further research.

**Key words:** Headache, Craniosacral Therapy, Post-concussive, Migraine, Jaw spasm

Migraine and headache are common presentations to neurology clinicians. Migraine affects over 39 million people in the US, predominantly women in their 30s and 40s. [1] Headache comprises 5 percent of all chief complaints to primary care offices, both primary and secondary. [2] While targeted medications are widely prescribed, including the new migraine biologics, medication alone may not sufficiently treat the condition; patients often seek Complementary and Integrative Medicine (CIM) therapies for headache and pain in particular. [3] Craniosacral therapy (CST) is a light touch therapy that has its roots in earlier work by William Sutherland on Osteopathy. [4] After having been developed world-wide in the second half of the twentieth century and in the past twenty years, it is now practiced by thousands of practitioners in the entire world and offers an alternative or additional approach to treatment. [5, 2] Despite the availability, there is little research on this treatment. After reviewing the technique, we describe three headache patients treated with CST in addition to medication.

### Elements of CST

In a typical CST session, the therapist will enter in a feedback-loop with the patient. The therapist will use the very fine perception of the human hand to feel small moves,

differences in texture and temperature. In return, the hands, through very light pressure, will guide the body to enhance its self-healing abilities. CST does not claim to treat everything and is not a substitute for other treatments, but it believes that, for a wide range of conditions, the self-healing power of the body has a key role to play. [6] Although the theory behind CST is still very much an ongoing research question, there is nothing magical in CST. In fact, with a little bit of guidance, most people can feel the movements that the CST practitioner is paying attention to. It is a little bit like being guided by a professional musician to pay attention to the sound of an instrument playing a light background melody within an orchestra; this is not something one would usually pay attention to but there is no mystery in it and a little bit of patience and the ability to stay still are often enough to become aware of these sounds.

While these movements of the body, which are rhythmical, are usually perceived on the first day of training for CST, it takes a lot of practice, training, and guidance to become an effective therapist. To continue the musical metaphor, it is like becoming a conductor; the conductor has no direct physical means of producing sounds, only a baton as an indirect way of guiding the orchestra. Likewise, the CST therapist is mostly "listening" and guiding, not performing healing directly; the orchestra is the patient's body and the therapist, like the conductor, will need years to perfect their skills.

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## Case Description & Management

### CASE 1

23 years old female patient complaints about daily headaches, around age 6. She was evaluated by a neurologist and was diagnosed with post-concussion headache with a migrainous phenotype. A concussion occurred in September 2019. The neurological examination was normal. The patient's medical history revealed that she had several preceding traumatic head injuries. In 2016 she was struck on the left temple with a lacrosse stick. In 2019, a soccer ball struck the right side of her face. Later that year, she walked into a lamp post.

Her initial symptoms included daily headaches with frequent migraines, two or three each week with at a pain level of 6 to 8 depending on the day, photophobia, phonophobia and nausea. She experienced low energy and fatigue despite 6 to 8 hours of sleep. Upon clinical examination, she seemed to have significant jaw tension but was neurologically normal. Therefore, she was referred for CST. Initial CST evaluation found jaw tension with assessment as follows: overall whole muscle tone felt very stiff and 'on-guard', superficial breathing and pallor. Her CSR (Craniosacral Rhythm) was almost unnoticeable for about 15 min. After 15 min, CSR returned but was irregular, but the quality felt sluggish. OCB (Occipital Cranial Base) joint and left temporal bone felt "jammed" and with the media being compressed. Both the TMJ (Temporomandibular joint) demonstrated a pull in upward and backward direction.

Treatment began by gently holding her head and letting her temporal bones move in the direction of ease. This allowed her CSR to come back and then become more regular. At the end of the first session, she was breathing deeper and better. Her general muscle tone was more relaxed. Two weeks later, the patient reported back, and it noticed that she experienced reduced frequency and magnitude of headaches after the last treatment and only had one migraine.

The second sitting of treatment was commenced with the ten steps CST protocol which focused on transverse fascia release at different levels. SIJ, respiratory diaphragm release (RDR), thoracic mobilization, OCB release, Dural Traction (DT) was the primary focus at it is known for giving more mobility for the extradural membrane (DM), CIM. This is achieved by relieving cranial bones' structural tension (Temporoparietal Suture; Occipitomastoid Suture; Zygoma) and decompressed TMJ and Sphenobasilar Joint, Rock and Gliding dural membrane.

The third treatment began to focus on fluid exchange of cerebrospinal fluid (CSF) on brain tissue (Glymphatic) and decreased microglial formation. After six treatments (once every other week), the patient responded very well. She noted her life was getting back to "normal." No migraine, only fewer headaches and was able to pause her 3-month Botox injections in January 2022 without any hinderance.

However, in March 2022, she unfortunately got COVID for the second time and the severe headaches returned along with the incidence of migraine. After relapse, she became agitated and tired. Between April and October 2022, patient resumed Botox injection every three months; average one to two CST per month. Daily headaches decreased from level 6 to 2 or 3 and migraine decreased to one or two incidences a month. Patient reported that photophobia and phonophobia had resolved.

### CASE 2

30 years old male patient with a chief complaint of sinus headaches had reported to us. Evaluation by neurologist was consistent with tension type headache, triggered by sinus disease. The neurological examination was normal. The patient had undergone sinus surgery ten years prior. In the summer of 2019, he had attended a meditation retreat; while in "head forward" position for several hours, he developed daily severe headaches with pain in sinus area. Therefore, he was referred for CST.

Initial CST examination revealed neck and shoulder tension and pulling of two falx towards the ethmoid bone. His treatment consisted of six to eight monthly sessions with a focus on upper lymph drainage, unwinding thoracic inlet and outlet structure, and remobilization of the intercranial membrane and spinal meninges. Overall, he reported a 50% improvement in headaches in both frequency and severity.

He underwent another sinus operation most recently. He had polyps taken out of his left nasal cavity. His sinus headaches were 80% better when he commenced monthly CST, and he is currently receiving maintenance CST. The patient's symptoms worsened after the first identical surgery, which was performed a year earlier. This time, CST's role was to lessen the development of scar tissue following surgery and the aim of that treatment is to stop the growth of new polyps.

### CASE 3

58-year-old female patient with a history of depression, low back pain, neck discomfort, and migraines. The

neurological examination was unremarkable; therefore, the neurologist assessed her and recommended CST. During evaluation, her sacrum was found to have several still points. Her CSR was intended to be improved with SIJ decompression, transfer fascia release in various regions, and mouth work. Any emotion may have a direct effect on the jaw, tongue, and neck muscles. For instance, migraine headaches are influenced by hypertonicity of the hyoid, masseter, and pterygoid muscles. The mouth is worked on to relieve this hypertonicity and to promote fluid exchange in the various joints. Therefore, her treatment centered on this.

She had a large Somato-Emotional Release (SER) connected to work stress during her second therapy session. Any trauma, whether physical or emotional, has the potential to leave an imprint on the fascia and muscles throughout the entire body, which can be thought of as a form of somato-memory of that trauma. The therapist can spot a change in the rhythm's quality by keeping track of the craniosacral rhythm. The patient is at a point of release of that stress memory when that beat abruptly stops. The beat eventually returns with improved regularity when the fascial tension has been relieved.

After three CST treatments, she noticed vast improvement overall with less pain, feeling calmer and more energy and better focus at work. During that time, she also changed jobs and reported feeling happier. She had four CST treatments before stopping. However, in January 2022, she developed Covid-19 and her symptoms relapsed but less severe than before. She resumed CST in June 2022; and has continued monthly CST treatments for maintenance. No migraine and very few headaches every month with overall well being

## DISCUSSION

A systematic review of CST from 2020 that was published in BMC Musculoskeletal Disorders describes research from 2018 that evaluated the response in individuals with chronic pain in RCTs. [6] Studies on patients with migraine and headaches found a significant beneficial effect that persisted for six months after treatment ended. In this comprehensive meta-analysis, CST was compared to normal care; no significant safety issues were noted. In comparison to standard care, both primary and secondary outcomes regarding pain, management, and coping mechanisms were enhanced.

Another study that examined CST in primary care patients for a range of diseases discovered that it improved patients' perceptions of their wellness using the Measure Your Medical Outcomes form. [7] Although this study's

limitations and the possibility of the placebo effect were noted in the research, patients generally reported improvements in symptoms, disability, and quality of life. According to research utilizing the HIT 6 questionnaire, migraine symptoms improved for a month after therapy ended. Despite having only 20 participants, this small cross-over study clearly showed a statistical improvement. [8] After a few appointments, there was an improvement; Upledger had stated that the treatment is unlikely to be eventually beneficial if there isn't a change after six or seven treatments.

In summary, we have discussed a few CST concepts and how they apply to the care of patients with headaches, migraines, and concussions. Concussions involve more than just brain trauma; therefore, patients may also have spinal preconditions, such as spinal misalignment, which are made worse by a concussion. We observed the connection between structure and function. For instance, compression of the O/A junction can affect the way the cranio-nerves operate. E.g., CN10. When homeostasis is restored, the body has the ability to heal itself.

We had previously discussed the following techniques: maintain motion in the skull, bones, and spine; for instance, decompression of the frontal bone can aid in relieving stress in the frontal lobe, which can affect concentration. Tinnitus and vertigo brought on by a post-concussion can be brought on by temporal bone compression. By reducing the fascia tension, it is once again possible for the meninges and cranial membranes to move freely. This supports healthy blood circulation, lymphatic drainage, cerebral-spinal fluid exchange, and the autonomic nervous system in its normal balance. Additionally, a biomechanical force applied to the head that results in neurologic dysfunction causes a concussion.

## CONCLUSION

CST may help reduce inflammation by improving glymphatic flow and reduce formation of microglial cells on brain tissue. We describe three patients' response to CST treatment for headache and conclude that more research in this non-invasive therapy is needed.

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## REFERENCES

1. American Migraine Foundation. Migraine Resources & Support. American Migraine Foundation.2021.
2. Frese T, Druckrey H, Sandholzer H. Headache in general practice: Frequency, management, and results of Encounter. International Scholarly Research Notices. 2014;1–6.

3. Kuruvilla DE, Mehta A, Ravishankar N, et al. A patient perspective of Complementary and Integrative Medicine (CIM) for migraine treatment: A Social Media Survey. *BMC Complementary Medicine and Therapies*.2021; 21(1).
4. Haller H, Dobos G, Cramer H. The use and benefits of craniosacral therapy in Primary Health Care: A Prospective Cohort Study. *Complementary Therapies in Medicine*.2021; 58, 102702.
5. Bordoni B, Walkowski S, Ducoux B, et al. The cranial bowl in the new millennium and Sutherland's legacy for Osteopathic Medicine: Part 1. *Cureus*.2020; 12(9).
6. Haller H, Lauche R, Sundberg T, et al. Craniosacral therapy for chronic pain: A systematic review and meta-analysis of randomized controlled trials. *BMC Musculoskeletal Disorders*. 2019; 21(1).
7. Suroowan S, Mahomoodally F. Complementary and alternative medicine use among Mauritian women. *Complementary Therapies in Clinical Practice*.2013; 19(1), 36–43.
8. Deoora T K. In *Healing through cranial osteopathy*. Frances Lincoln.2003; 62–63.

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