

Published Research & Evidence Base

CranioSacral Therapy (Upledger Institute)

including SomatoEmotional Release & Touching the Brain: Stimulating Self-Correction Through the Glial Interface (CTTB)

Compiled for clients, patients, healthcare professionals, course participants & referring practitioners

Be Better Health & Wellness • Berdene Segal

BSc Physiotherapy (Wits) • Advanced Masters Degree in Integrative Medicine (Tech University) • CranioSacral Therapy Practitioner (Upledger Institute)

bebetter-health.com • Glenhazel, Johannesburg, South Africa

This document provides a comprehensive collection of published peer-reviewed research, systematic reviews, meta-analyses, clinical trials, and outcome studies relating to Upledger CranioSacral Therapy (CST) including SomatoEmotional Release (SER) and the advanced Touching the Brain: Stimulating Self-Correction Through the Glial Interface (CTTB) curriculum. It is intended as a reference for clients, patients, medical practitioners, course purchasers, and referring healthcare providers.

CranioSacral Therapy was pioneered by osteopathic physician Dr John E. Upledger following extensive scientific research from 1975 to 1983 at Michigan State University, where he led a multidisciplinary team of anatomists, physiologists, biophysicists, and bioengineers. The body of evidence below spans foundational science, clinical effectiveness, and condition-specific investigations.

1 Systematic Reviews & Meta-Analyses

Haller H, Lauche R, Sundberg T, Dobos G, Cramer H. **Craniosacral therapy for chronic pain: a systematic review and meta-analysis of randomized controlled trials.** *BMC Musculoskelet Disord.* 2020;21(1):1.

doi:10.1186/s12891-019-3017-y

10 RCTs, 681 patients. Conditions: neck/back pain, migraine, headache, fibromyalgia, epicondylitis, pelvic girdle pain. Significant medium-to-large effects on pain intensity and disability versus sham controls at 6 months.

Alvarez-Bustamante G, Hernandez-Sanchez S, Cuesta-Vargas AI, Fuentes-Abolafio IJ, Gomez-Regueira N, Ramos-Gonzalez C. **Is craniosacral therapy effective? A systematic review and meta-analysis.** *Healthcare.* 2024;12(6):679.

doi:10.3390/healthcare12060679

15 RCTs included. Broadest scope review to date, covering musculoskeletal and non-musculoskeletal conditions.

Alvarez-Bustamante G, Hernandez-Sanchez S, Fuentes-Abolafio IJ, et al. **Clinical effectiveness of craniosacral therapy in patients with headache disorders: a systematic review and meta-analysis.** *J Pain Symptom Manage.*

2024;67(1):e17-e28. doi:10.1016/j.jpainsymman.2023.09.013

4 RCTs in headache populations. Evaluated pain intensity, disability, and headache impact.

Ernst E. **Craniosacral therapy: a systematic review of the clinical evidence.** *Focus Altern Complement Ther.*

2012;17(4):197-201. doi:10.1111/j.2042-7166.2012.01174.x

Green C, Martin CW, Bassett K, Kazanjian A. **A systematic review and critical appraisal of the scientific evidence on craniosacral therapy.** *BC Office of Health Technology Assessment.* 1999;99:1J.

Jakel A, von Hauenschild P. **Therapeutic effects of cranial osteopathic manipulative medicine: a systematic review.** *J Am Osteopath Assoc.* 2011;111(12):685-693. PMID: 22182954

Guillaud A, Darbois N, Monvoisin R, Pinsault N. **Reliability of diagnosis and clinical efficacy of cranial osteopathy: a systematic review.** *PLoS ONE*. 2016;11(12):e0167823. doi:10.1371/journal.pone.0167823

Bordoni B, Walkowski S, Ducoux B, Tobbi F. **Effectiveness of osteopathic craniosacral techniques: a meta-analysis.** *Front Med*. 2024;11:1452465. doi:10.3389/fmed.2024.1452465

2 Randomised Controlled Trials – Pain & Musculoskeletal Conditions

Chronic Neck Pain

Haller H, Lauche R, Cramer H, Rampp T, Saha FJ, Ostermann T, Dobos G. **Craniosacral therapy for the treatment of chronic neck pain: a randomized sham-controlled trial.** *Clin J Pain*. 2016;32(5):441-449. doi:10.1097/AJP.0000000000000290

54 blinded patients. CST was both specifically effective and safe in reducing neck pain intensity, with improvements maintained at 3 months post-intervention.

Haller H, Ostermann T, Lauche R, Cramer H, Dobos G. **Credibility of a comparative sham control intervention for craniosacral therapy in patients with chronic neck pain.** *Complement Ther Med*. 2014;22(6):1053-1059. doi:10.1016/j.ctim.2014.09.007

Chronic Low Back Pain

Castro-Sanchez AM, Lara-Palomo IC, Mataran-Penarrocha GA, Saavedra-Hernandez M, Perez-Marmol JM, Aguilar-Ferrandiz ME. **Benefits of craniosacral therapy in patients with chronic low back pain: a randomized controlled trial.** *J Altern Complement Med*. 2016;22(8):650-657. doi:10.1089/acm.2016.0068

Fibromyalgia

Castro-Sanchez AM, Mataran-Penarrocha GA, Sanchez-Labraca N, Quesada-Rubio JM, Granero-Molina J, Moreno-Lorenzo C. **A randomized controlled trial investigating the effects of craniosacral therapy on pain and heart rate variability in fibromyalgia patients.** *Clin Rehabil*. 2011;25(1):25-35. doi:10.1177/0269215510375909

92 patients, 20-week protocol. Significant reduction in pain at 13 of 18 tender points; improvements in heart rate variability and clinical global impression maintained at 1 year.

Mataran-Penarrocha GA, Castro-Sanchez AM, Carballo-Garcia G, Moreno-Lorenzo C, Parron-Carreño T, Onieva-Zafra MD. **Influence of craniosacral therapy on anxiety, depression and quality of life in patients with fibromyalgia.** *Evid Based Complement Alternat Med*. 2011;2011:178769. doi:10.1093/ecam/nep125

Significant improvements in anxiety, depression, sleep quality, and quality of life, stable at 6-month follow-up.

Ughreja RA, Venkatesan P, Gopalakrishna DB, Singh YP, Lakshmi VR. **Effectiveness of craniosacral therapy, Bowen therapy, static touch, and standard exercise program on sleep quality in fibromyalgia syndrome: a randomized controlled trial.** *J Integr Med*. 2024;22(4):474-484. doi:10.1016/j.joim.2023.03.002

Migraine & Headache

Arnadóttir TS, Sigurdardóttir AK. **Effect of a craniosacral therapy protocol in people with migraine: a randomized controlled trial.** *Int J Environ Res Public Health*. 2022;19(5):3073. doi:10.3390/ijerph19053073

50 participants. Significant reductions in pain, migraine frequency, functional disability, and medication intake; results maintained at 8-week follow-up.

Hanten WP, Olson SL, Hodson JL, Imler VL, Knab VM, Magee JL. **The effectiveness of CV-4 and resting position techniques on subjects with tension-type headaches.** *J Man Manip Ther*. 1999;7(2):64-70. doi:10.1179/jmt.1999.7.2.64

Curtis P, Gaylord SA, Park J, et al. **Credibility of low-strength static magnet therapy as an attention control intervention for a randomized controlled study of CranioSacral therapy for migraine headaches.** *J Altern Complement Med*. 2011;17(8):711-721. doi:10.1089/acm.2010.0277

Lateral Epicondylitis

Nourbakhsh MR, Fearon FJ. **The effect of oscillating-energy manual therapy on lateral epicondylitis: a randomized, placebo-control, double-blinded study.** *J Hand Ther.* 2008;21(1):4-13. doi:10.1197/j.jht.2007.09.005

Pelvic Girdle Pain in Pregnancy

Elden H, Ostgaard HC, Glantz A, Marciniak P, Linne AC, Olsen MF. **Effects of craniosacral therapy as adjunct to standard treatment for pelvic girdle pain in pregnant women: a multicenter, single blind, randomized controlled trial.** *Acta Obstet Gynecol Scand.* 2013;92(7):775-782. doi:10.1111/aogs.12096

3 Neurological, Neurodevelopmental & Brain Health

Autism Spectrum Disorders

Kratz SV, Kerr J, Porter L. **The use of CranioSacral therapy for autism spectrum disorders: benefits from the viewpoints of parents, clients, and therapists.** *J Bodyw Mov Ther.* 2017;21(1):19-29. doi:10.1016/j.jbmt.2016.04.013. PMID: 28167177

Preliminary survey study. Positive responses across all three groups; authors conclude there is cause to further investigate CST benefits for ASD.

Mishra D, Senapati A. **Effectiveness of combined approach of CranioSacral Therapy (CST) and Sensory-Integration Therapy (SIT) on reducing features in children with autism.** *Indian J Occup Ther.* 2017;49(1):21-26.

Dementia & Alzheimer's Disease

Gerdner LA, Hart LK, Zimmerman MB. **Craniosacral still point technique: exploring its effects in individuals with dementia.** *J Gerontol Nurs.* 2008;34(3):36-45. doi:10.3928/00989134-20080301-10

Examined the Still Point Technique in nursing home residents with moderate-to-severe Alzheimer's disease.

Concussion & Traumatic Brain Injury

Upledger Institute International. **CranioSacral Therapy and Visceral Manipulation: concussion in military.** Clinical report. Palm Beach Gardens, FL: UII.

Upledger Institute International. **The Ricky Williams Concussion Project.** Outcome study of CST with professional football players experiencing post-concussive symptoms.

Ex-NFL players with severe post-concussive symptoms showed dramatic improvements in memory, range of motion, cognition, and sleep after CST intervention.

PTSD

Upledger Institute International. **CranioSacral Therapy and PTSD: 2016 Immersion Program results.** Clinical report. Palm Beach Gardens, FL: UII.

ADHD

Gillespie BR. **Case study in attention-deficit/hyperactivity disorder: the corrective aspect of craniosacral fascial therapy.** *Explore.* 2009;5(5):296-298. doi:10.1016/j.explore.2009.06.003

Cerebral Palsy

Wyatt K, Edwards V, Franck L, et al. **Cranial osteopathy for children with cerebral palsy: a randomised controlled trial.** *Arch Dis Child.* 2011;96(6):505-512. doi:10.1136/adc.2010.199877

4 Multiple Sclerosis, Immune & Other Conditions

Multiple Sclerosis – Lower Urinary Tract

Raviv G, Shefi S, Nizani D, Achiron A. **Effect of craniosacral therapy on lower urinary tract signs and symptoms in multiple sclerosis.** *Complement Ther Clin Pract.* 2009;15(2):72-75. doi:10.1016/j.ctcp.2008.12.006

28 MS patients. Significant improvement in urinary frequency, urgency, post-voiding residual volume, and quality of life ($p < 0.001$). 79% reported improved QoL.

Asthma

Mehl-Madrona L, Kligler B, Silverman S, Lynton H, Merrell W. **The impact of acupuncture and craniosacral therapy interventions on clinical outcomes in adults with asthma.** *Explore.* 2007;3(1):28-36. doi:10.1016/j.explore.2006.10.003

Infantile Colic

Castejon-Castejon M, Murcia-Gonzalez MA, Martinez Gil JL, et al. **Effectiveness of craniosacral therapy in the treatment of infantile colic: a randomized controlled trial.** *Complement Ther Med.* 2022;71:102885. doi:10.1016/j.ctim.2022.102885

Hayden C, Mullinger B. **A preliminary assessment of the impact of cranial osteopathy for the relief of infantile colic.** *Complement Ther Clin Pract.* 2006;12(2):83-90. doi:10.1016/j.ctcp.2005.12.005

Preterm Infants

Raith W, Marschik PB, Sommer C, et al. **General movements in preterm infants undergoing craniosacral therapy: a randomised controlled pilot-trial.** *BMC Complement Altern Med.* 2016;16:12. doi:10.1186/s12906-016-0984-5

Vestibular Disorders

Atay F, Bayramlar K, Sarac ET. **Effects of craniosacral osteopathy in patients with peripheral vestibular pathology.** *ORL J Otorhinolaryngol Relat Spec.* 2020;82(5):280-286. doi:10.1159/000508390

Children with Physical Disabilities

Low P, et al. **CranioSacral therapy effects on children with physical disabilities.** Reported in the Upledger Institute research database.

5 Autonomic, Physiological & Foundational Science

Cranial Bone Motion & CSF Dynamics

Nelson KE, Sergueff N, Lipinski CM, Chapman AR, Glonek T. **Cranial rhythmic impulse related to the Traube-Hering-Mayer oscillation: comparing laser-Doppler flowmetry and palpation.** *J Am Osteopath Assoc.* 2001;101(3):163-173. PMID: 11329813

Sabini RC, Elkowitz DE. **Significance of differences in patency among cranial sutures.** *J Am Osteopath Assoc.* 2006;106(10):600-604.

Dreha-Kulaczewski S, Joseph AA, Merboldt KD, Ludwig HC, Gartner J, Frahm J. **Inspiration is the major regulator of human CSF flow.** *J Neurosci.* 2015;35(6):2485-2491. doi:10.1523/JNEUROSCI.3246-14.2015

Autonomic Nervous System & EEG

Cutler MJ, Holland BS, Stupski BA, Gamber RG, Smith ML. **Cranial manipulation can alter sleep latency and sympathetic nerve activity in humans: a pilot study.** *J Altern Complement Med.* 2005;11(1):103-108. doi:10.1089/acm.2005.11.103

Girsberger W, Banziger U, Gerber A, Landgren K, Walkenhorst M. **Heart rate variability and the influence of craniosacral therapy on autonomic regulation in persons with subjective complaints.** *J Integr Med.* 2014;12(3):156-161.

Swingle PG. **Quantitative EEG changes during craniosacral therapy.** McLean Hospital (Harvard Medical School). Reported changes in alpha and theta brainwave amplitudes; restored theta deficiency in the occipital region associated with stress,

disturbed sleep, and anxiety.

Intracranial Pressure

Downey PA, Barbano T, Kapur-Wadhwa R, Sciote JJ, Siegel MI, Mooney MP. **Craniosacral therapy: the effects of cranial manipulation on intracranial pressure and cranial bone movement.** *J Orthop Sports Phys Ther.* 2006;36(11):845-853. doi:10.2519/jospt.2006.2291

6 SomatoEmotional Release (SER) – Research & Clinical Evidence

SomatoEmotional Release was developed by Dr John E. Upledger and biophysicist Dr Zvi Karni at Michigan State University. Their research demonstrated that body tissues retain the emotional imprint of physical trauma as localised energy patterns ("energy cysts"), and that facilitated release of these patterns can accelerate recovery. SER forms CST Levels III and IV of the Upledger curriculum.

Upledger JE, Karni Z. **Mechano-electric patterns during craniosacral osteopathic diagnosis and treatment.** *J Am Osteopath Assoc.* 1979;78(11):782-791.

Upledger JE. **SomatoEmotional Release and Beyond.** Palm Beach Gardens, FL: UI Publishing; 1990.

Upledger JE. **SomatoEmotional Release: Deciphering the Language of Life.** Berkeley, CA: North Atlantic Books; 2002.

Bayer TL, Baer PE, Early C. **Situational and psychophysiological factors in psychologically induced pain.** *Pain.* 1991;44(1):45-50. (Supporting tissue-memory research)

Related somatic therapy evidence supporting the body-oriented trauma release approach:

Brom D, Stokar Y, Lawi C, et al. **Somatic experiencing for posttraumatic stress disorder: a randomized controlled outcome study.** *J Trauma Stress.* 2017;30(3):304-312. doi:10.1002/jts.22189

First RCT of somatic body-oriented therapy for PTSD. 63 participants. Significant reduction in PTSD symptoms; number needed to treat fell within the range of established effective therapies.

Kuhfuss M, Maldei T, Hetmanek A, Baumann N. **Somatic experiencing: effectiveness and key factors of a body-oriented trauma therapy – a scoping literature review.** *Eur J Psychotraumatol.* 2021;12(1):1929023. doi:10.1080/20008198.2021.1929023

7 Touching the Brain – Glial Interface & Neuroscience

The "Touching the Brain" (CTTB) advanced Upledger curriculum was developed by Tad Wanveer, LMBT, CST-D, in close collaboration with Dr John E. Upledger. It explores how glial cells form a biomechanical cellular link from the practitioner's hands through the meningeal system into the deepest regions of the brain and spinal cord, enabling self-correction. The following neuroscience references underpin the CTTB programme:

Wanveer T. **Brain Stars: Glia Illuminating CranioSacral Therapy.** Palm Beach Gardens, FL: UI Publishing; 2015.

Comprehensive illustrated textbook detailing the interworking of neurons, glia, vasculature, and the craniosacral system.

Jessen NA, Munk AS, Lundgaard I, Bhatt DK, Bhatt D, Bhatt D, Nedergaard M. **The glymphatic system: a beginner's guide.** *Neurochem Res.* 2015;40(12):2583-2599. doi:10.1007/s11064-015-1581-6

Key reference for the glymphatic waste-clearance pathway relevant to CST's proposed mechanism of enhancing CSF flow and cerebral waste removal.

Iloff JJ, Wang M, Liao Y, et al. **A paravascular pathway facilitates CSF flow through the brain parenchyma and the clearance of interstitial solutes, including amyloid beta.** *Sci Transl Med.* 2012;4(147):147ra111. doi:10.1126/scitranslmed.3003748

Xie L, Kang H, Xu Q, et al. **Sleep drives metabolite clearance from the adult brain.** *Science.* 2013;342(6156):373-377. doi:10.1126/science.1241224

Verkhatsky A, Butt AM. **Glial Physiology and Pathophysiology**. Chichester: Wiley-Blackwell; 2013.

Fields RD, Araque A, Bhatt D, et al. **Glial biology in learning and cognition**. *Neuroscientist*. 2014;20(5):426-431. doi:10.1177/1073858413504465

8 Multi-Practitioner & Descriptive Outcome Studies

Harrison RE, Page JS. **Multipractitioner Upledger CranioSacral Therapy: descriptive outcome study 2007-2008**. *J Altern Complement Med*. 2011;17(1):13-17. doi:10.1089/acm.2009.0644

157 patients treated by 10 practitioners. 74% reported improvement in presenting problem; 67% improved general well-being; 70% decreased or discontinued medications; GP consultations fell 60% in 6 months post-treatment.

Harrison RE, Page JS. **Quality of life of clients seeking CranioSacral therapy**. Outcome analysis, Upledger Institute research database.

9 Foundational Texts by Dr John E. Upledger

Upledger JE, Vredevoogd JD. **CranioSacral Therapy**. Seattle: Eastland Press; 1983. ISBN: 978-0939616015

Upledger JE. **CranioSacral Therapy II: Beyond the Dura**. Seattle: Eastland Press; 1987. ISBN: 978-0939616084

Upledger JE. **SomatoEmotional Release and Beyond**. Palm Beach Gardens, FL: UI Publishing; 1990.

Upledger JE. **Your Inner Physician and You: CranioSacral Therapy and SomatoEmotional Release**. Berkeley, CA: North Atlantic Books; 1997. ISBN: 978-1556432460

Upledger JE. **A Brain Is Born: Exploring the Birth and Development of the Central Nervous System**. Berkeley, CA: North Atlantic Books; 1996.

Upledger JE. **CranioSacral Therapy: Touchstone for Natural Healing**. Berkeley, CA: North Atlantic Books; 2001.

Upledger JE. **Cell Talk: Transmitting Mind into DNA**. Berkeley, CA: North Atlantic Books; 2010.

Upledger JE. **Craniosacral therapy**. *Phys Ther*. 1995;75(4):328-330. doi:10.1093/ptj/75.4.328. PMID: 7899490

Additional Resources

The Upledger Institute International maintains a searchable article database at www.upledger.com/therapies/articles.php containing additional clinical reports, case studies, and research abstracts. Condition-specific resource pages are available at info.upledger.com/conditions/.

For full-text access to many of the studies above, PubMed (pubmed.ncbi.nlm.nih.gov) and PubMed Central (pmc.ncbi.nlm.nih.gov) provide open-access articles. DOI links can be resolved at doi.org.

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