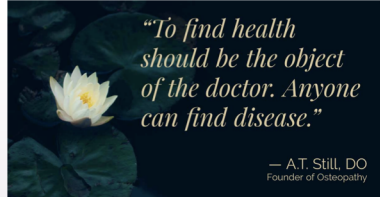


The Role Of Bodywork for the Breastfeeding Dyad

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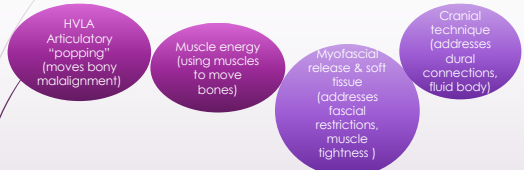
What is Bodywork?

- Definition: "therapeutic touching or manipulation of the body by using specialized techniques" – Merriam Webster
- Types of bodywork:
 - Chiropractic
 - Osteopathic manipulation (OMT – osteopathic manual therapy)
 - Physical therapy
 - Occupational therapy
 - Massage therapy
 - Craniosacral

Techniques

Direct Techniques
 (into the barrier)

Indirect Techniques
 (into the direction of ease)



Chiropractic (traditional) ----- Physical therapy ----- Massage ----- Osteopathic ----- CST -----

Cranial Osteopathy vs CST

Cranial Osteopathy

- Osteopathy in the Cranial Field was developed by William Sutherland D.O. in the 1930s.
- Performed by Osteopathic Physicians who have a board certification in their medical field
 - Example of board certification: neuromusculoskeletal medicine, family medicine, pediatrics
- Requires 40 hours of cranial specific coursework after Osteopathic medical school with 400 hours of hands-on treatment training
- Focused on diagnosis and treatment as directed by history and assessment
- Find a provider here: <https://cranialacademy.org/find-a-physician/>

Craniosacral Therapy

- John Upledger D.O.
- taught a version of Cranial Osteopathy to non-osteopaths in the 1970s
- Performed by massage therapists or licensed healthcare professional
- Requires a level 1 and 2 courses (4 days each)
- 100-125 protocols (sessions) to complete before certification
- Algorithm or protocol based
- After the above requirements are completed for certification there is a 3 step process: application, written test and hands on exam
- Find a practitioner here: <https://www.iahp.com/pages/search/index.php>

Cranial Concept

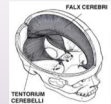
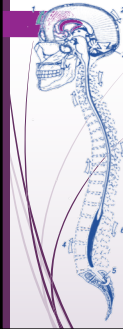
Dr. Sutherland



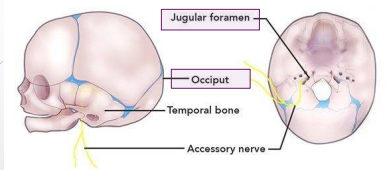
- Cranial Osteopathy and Craniosacral treatments rest on the principles of William Sutherland D.O. with a focus on the Primary Respiratory Mechanism

The Primary Respiratory Mechanism can also be thought of as the physical manifestation of the Health. It is a mechanically based concept that encompasses these five anatomic observations:

- There is inherent motility of the central nervous system
- This motility creates fluctuation of the cerebrospinal fluid
- Mobility of the fluid impacts the reciprocal tension within the dural membranes
- The cumulative motion that impacts the dura creates a subtle, rhythmic inhalation and exhalation of motion of the cranial bones
- This motion can be palpated to move involuntarily from the cranium to the sacrum

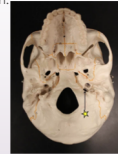


What makes babies different?

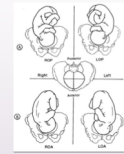


Why is the occiput in 4 pieces in babies? Why does it matter?

- The Occiput is in 4 pieces to get around the pubic bone and allow for vaginal birth
- Jugular Foramen contains - Cranial nerves IX (glossopharyngeal), X (vagus), and XI (accessory) and the internal jugular vein pass through the jugular foramen.



Highlight: foramen magnum

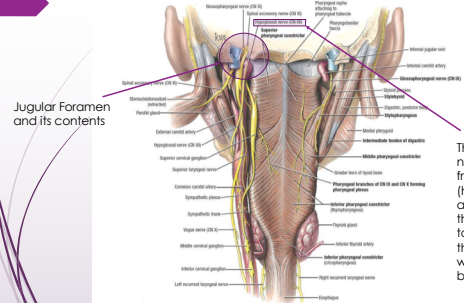


Nerves that impact the newborn – suck, swallow and digest

- Cranial nerves IX: The Glossopharyngeal nerve contributes to (sensory) gag reflex and (motor) with swallowing
- Cranial nerve X: The Vagus nerve contributes to gag reflex (sensory) and motor control to most palatal muscles, pharyngeal constrictors, laryngeal muscles and upper esophagus. Vagus innervation lower down in the digestive tract increasing stomach acid secretion and when dysfunction can contribute to reflux symptoms.
- Cranial nerve XI: The Spinal accessory contributes to control of the neck, trapezius and the sternocleidomastoid muscle which plays a role in torticollis and neck symmetry.
- Cranial nerve XII: The Hypoglossal nerve is motor control for the tongue



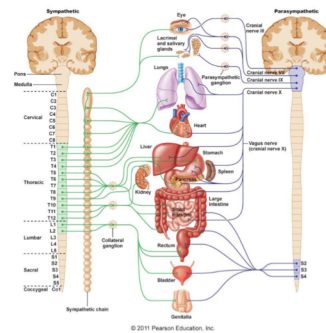
Path of the Glossopharyngeal Nerve CN IX



The hypoglossal nerve XII also exits from the occiput (hypoglossal canal) and innervates all of the muscles of the tongue, except for the palatoglossus which is innervated by the vagus.

Sympathetic and parasympathetic innervation

- Manual techniques can tonify or adjust nerve function
- Knowing access points, assessing imbalances and correction of asymmetries can impact nerve function.
- Structure and function are related, knowing where to access the structures you want to influence can change clinical outcomes
- Example:
 - Parasympathetic stimulation via the Vagus – can increase peristalsis (help with constipation), relax the pyloric sphincter and increase in stomach acid secretion.
 - Sympathetic innervation to the GI tract (T6-9) decreases peristalsis, closes the pyloric sphincter and decreases glandular secretion.



A case of the twins

C.S. and P.S. were born at 28 weeks and spent 99 days in the NICU

The girl, C.S. presented to clinic with inconsolable reflux. She had to be held or upright constantly. She aspirated feeds and could not latch or nurse at the breast. She was constipated and could not stool without the assistance of a suppository.

On exam, her occiput was restricted and in the neck she had right side gaze preference. She had soft tissue changes in paraspinals over the left T7-9 and sacral tethering of the cranial dura noted. Abdominal diaphragm was dysfunctional.



A case of the twins

At the end of the first treatment C.S. could lay flat. She went home and was reported to be more comfortable than she had ever been. The parents described this as "life changing" as she could finally be comfortable without being held.

Mom pumped for 4 months to maintain her milk supply so she could give her babies breastmilk when they were ready for it.

After the first treatment, C.S. had such improvement in her reflux that she began to be able to take breastmilk, thickened and from a bottle. Her constipation has improved and she brought her brother along for her next treatment because she liked it so much.



What does the evidence say?



EFFICACY OF AN OSTEOPATHIC TREATMENT COUPLED WITH LACTATION CONSULTATIONS FOR INFANTS' BIOMECHANICAL SUCKING DIFFICULTIES: A RANDOMIZED CONTROLLED TRIAL BY Juliette Herzhaft-Le Roy, MD, DO, IBCLC, 2017

- Single blind, randomized controlled trial with 97 mother-infant dyads using LATCH assessment and VAS pain scale assessment tools.
- Two groups: two lactation consultations and a 30-minute session of osteopathic assessment and sham manipulations (control) or two lactation consultations coupled with a single 30-minute session of osteopathic assessment and osteopathic treatment (Treatment).
- Consistent findings of cranial somatic dysfunction was noted with 97.9% of infants presenting with an occipital dysfunction.
- Cranial osteopathic treatment techniques such as balanced membranous tension, cranial sutures, and myofascial release were used in the treatment arm. Sham treatments (light touch to non dysfunctional areas) were used in the control arm.

EFFICACY OF AN OSTEOPATHIC TREATMENT COUPLED WITH LACTATION CONSULTATIONS FOR INFANTS' BIOMECHANICAL SUCKING DIFFICULTIES: A RANDOMIZED CONTROLLED TRIAL BY Juliette Herzhaft-Le Roy, MD, DO, IBCLC, 2017

- Babies were randomized and evaluated by an IBCLC who assessed latch with the LATCH assessment tool and mothers filled out the VAS pain scale for breastfeeding pain (Time 0). The babies then received the osteopathic treatment one time for 30 min or sham treatment.
- The IBCLC returned and assessed the infant a second time (Time 1) using the LATCH assessment tool and asked the mother to once again rate her nipple pain on the VAS. She then provided a lactation consultation.
- Two days later (Time 3) the dyad had a lactation consult alone and one week later (Time 10) an IBCLC called for breastfeeding follow up. During this call the IBCLC assessed treatment side effects and a maternal questionnaire was sent and completed.

Table 3. Mothers' Perceptions at Time 3.

	n (%)		χ^2	p
	Control group (n = 48)	Treatment group (n = 49)		
Biting the nipple*			9.90	< .042
Similarly	22 (47.9)	12 (25.0)		
Less	5 (10.9)	13 (27.1)		
No longer	1 (2.2)	3 (6.3)		
Opening the mouth†			12.18	< .016
Similarly	30 (62.5)	14 (28.6)		
Better	10 (20.8)	17 (34.7)		
No more trouble	4 (8.3)	11 (22.5)		
Slipping on the nipple‡			17.21	< .002
Similarly	31 (64.6)	14 (28.6)		
Less	5 (10.4)	20 (40.8)		
No longer	2 (4.2)	2 (4.1)		

Note: From the mothers' perspective at Time 3 (3 days), biting the nipple, opening the mouth, and slipping on the nipple were improved in the treatment group compared with the control group ($p = .042$, $p = .016$, $p = .002$, respectively).
 *Missing values biting the nipple = 3; opening the mouth = 2; slipping on the nipple = 2.

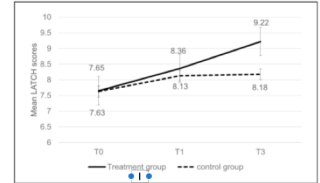


Figure 2. Comparison of mean LATCH scores at the three measurement times.

EFFICACY OF AN OSTEOPATHIC TREATMENT COUPLED WITH LACTATION CONSULTATIONS FOR INFANTS' BIOMECHANICAL SUCKING DIFFICULTIES: A RANDOMIZED CONTROLLED TRIAL BY Juliette Herzhaft-Le Roy, MD, DO, IBCLC, 2017

- **Summary:** There were consistent statistical and clinical differences in the mean LATCH scores between the treatment and the control groups. There was no change in VAS scale reporting of pain.
- "This study highlights that a single osteopathic treatment coupled with usual care (lactation consultations) for infants with biomechanical sucking difficulties is more effective to improve latch and sucking than usual care alone"
- **Limitations:** One isolated treatment, study size.

A PILOT STUDY: OSTEOPATHIC TREATMENT OF INFANTS WITH A SUCKING DYSFUNCTION BY MAXWELL FRAVAL D.O.

- 6 control infants with normal BF
- 6 experimental infants with sucking dysfunction
- Measured fat content of breastmilk "crematocrit" before and after feeds. Babies with normal latch have demonstrated extraction of milk with higher fat content. Babies with dysfunctional latch have been shown to have lower fat content milk extracted.
- In this pilot study, mothers and infants were first assessed by an IBCLC, given advice, and referred to an osteopath for 4 weeks of treatment (once a week). There was a significant change in creatamocrit (fat content of the milk) before and after the month of treatment.
- **Summary:** this study suggests that osteopathic treatments are more effective than lactation consultations alone at increasing latch effectiveness as measured by fat content of milk extracted.
- **Limitations:** study size

EFFICACY ASSESSMENT OF EARLY OSTEOPATHIC MANIPULATIVE TREATMENT (OMT) IN THE MANAGEMENT OF SUBOPTIMAL BREASTFEEDING BEHAVIOUR IN HEALTHY NEWBORNS. A PROSPECTIVE MONOCENTRIC RANDOMIZED DOUBLE-BLINDED STUDY BY NATES UNIVERSITY

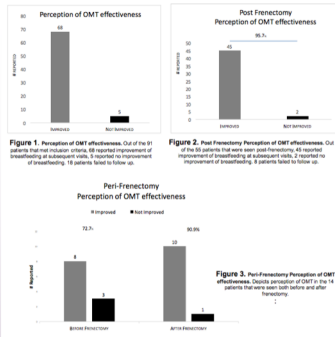
- Bigger sample size of 128 participants.
- Double blinded
- Currently an ongoing clinical trial, no results available at this time

RETROSPECTIVE CHART REVIEW OF PATIENTS WITH ANKYLOGLOSSIA TO DETERMINE EFFECT OF OMT WITH OR WITHOUT FRENECTOMY BY BRIANNA SEEFELDT D.O.; KATHERINE ROSE BORCHERDING; ZACHARY WAGNER

- Retrospective chart review of babies with tongue tie (ankyloglossia) that were treated pre or post frenectomy or both.
- 91 patients were included in the chart review, selected for suboptimal breastfeeding, all with history of ankyloglossia, either pre or post frenectomy.
- *Summary:* Post frenectomy perception of OMT effectiveness was measured and 95% of the patients seen post frenectomy that received treatment felt that breastfeeding was improved.
- *Limitations:* pilot study, retrospective, limited sample size, non standardized maternal reporting of improvement

Patient Demographics	
Male (%)	53 (38%)
Female (%)	38 (24%)
Received OMT (%)	51 (33%)
Age Range (mean)	2w-36m (11 m)
Frenectomy (%)	69 (76%)
No Frenectomy (%)	22 (24%)

Table 1. Depicts patient demographics, percentages are shown in parenthesis.



CONTRIBUTION OF CHIROPRACTIC THERAPY TO RESOLVING SUBOPTIMAL BREASTFEEDING: A CASE SERIES OF 114 INFANTS BY JOYCE MILLER DC

- Clinical case series of 114 infant cases of hospital-diagnosed or lactation consultant diagnosed feeding problems that were treated with chiropractic therapy in addition to routine care and followed to short-term result.
- The most common age of referral was 1 week (mean, 3 weeks; range, 2 days-12 weeks), and the most common physical findings were cervical posterior joint dysfunction (89%), temporomandibular joint imbalance (36%), and inadequate suck reflex (34%). Treatment was chiropractic therapy in addition to any support given elsewhere.
- The number of treatment visits ranged from 1 to 9 with a mean value of 4.
- The outcome after treatment was based on the mother's rating of improvement (or not) in their infant's symptoms. This was in the form of a 10-point numerical rating scale as well as discussion with the parents. For the purpose of this study a score of 8 to 10 was classified as "completely better" because it resulted in the ability of the infant to exclusively breastfeed and 5 to 7 as "better" but requiring both bottle and breast feeding.

CONTRIBUTION OF CHIROPRACTIC THERAPY TO RESOLVING SUBOPTIMAL BREASTFEEDING: A CASE SERIES OF 114 INFANTS BY JOYCE MILLER DC

- Summary:** Exclusive breast feeding was accomplished for 89 infants (78%). Twenty-three infants (20%) required at least some bottle feeding when released from care. Two infants were lost to follow-up. No negative side effects were reported.
- Limitations:** case series, non standardized maternal self reporting of improvement
- A nice conclusion from this study:
 - "Once the feeding problems were determined not to be pathological, genetic, or maternal in origin, care by a manual therapist was appropriate."**

COST, ACCESS AND AFFORDABILITY

- Osteopathic manipulation (OMT)**
 - Fees range from \$99-\$250 per session, average is likely around \$150 a session.
 - If 4 treatments are needed = \$600
 - Often covered by insurance, including Medicaid
- Know who in your referral network specializes in Cranial Osteopathic treatment. Denver area highlights:
 - Direct Osteopathic Primary Care (donation treatments available) www.mydenverDO.com
 - Osteopathic Integrative Medicine <http://www.oimcare.com>
 - Colorado Osteopathic Integrative Medicine Associates www.coointegrative.com
 - To find others: <https://cranialacademy.org/find-a-physician/>

COST, ACCESS AND AFFORDABILITY

- Chiropractic**
 - Fees per chiropractic session average \$65 for a general vertebrae adjustment, according to a recent survey in Chiropractic Economics magazine. Sessions can range from \$34 to \$106 per session depending on where you live, how many regions of the spine a chiropractor services and whether exams are required. (<https://health.costhelper.com/chiropractor.html>)
 - If 4 treatments needed = \$260 (average)
 - Often covered by insurance
 - Know who in your referral network specializes in babies. Denver area highlights:
 - Accelerate Health Dr. Brit Downing
 - <http://acceleratehealthdenver.com/meet-our-providers/>
 - Fearl Street Chiropractic Dr. Micaela O'Connor
 - <https://www.pearlstreetchiropractic.com/>

Occupational Therapy

- Denver's Unique Gem: Amaryllis Therapy Network**
 - Hands on treatments (cranial sacral therapy, neurovascular integration) included in occupational therapy assessments and targeted exercises for families with latch and nursing concerns
 - Insurance accepted, including Medicaid.
 - <http://www.amaryllistherapy.net/>

CONCLUSION:

- "The African proverb attributed to Margaret Mead, "it takes a village to raise a child," also should apply to healthcare professionals of different disciplines working together sharing knowledge and skills for the betterment of the child and the family. **We are the village—the IBCLC who helps to uncover the cause of the difficulty, the practitioner who revises, and the craniosacral therapist who, with an understanding that structure and function are reciprocally interrelated, can help the infant's body regain its optimal structure and fluidity of movement. We need to work in concert to raise the next generation so that they can rise to their highest potential.**"

- Patricia Berg-Drozyn, IBCLC, RLC, CSTIBCLC

Craniosacral Therapists Strange Bedfellows or a Perfect Match?

OSTEOPATHIC STUDIES

- Fraval, Maxwell. A pilot study: Osteopathic treatment of infants with a sucking dysfunction <http://osteomed.dr.contentdm.oclc.org/cdm/ref/collection/myfirst/id/10310>
- Lund, Greg et al. Osteopathic Manipulative Treatment for the Treatment of Hospitalized Premature Infants With Nipple Feeding Dysfunction. Case Report. JAOA; Jan 2011 V 111, 44-48 <http://jaoa.org/article.aspx?articleid=2094081>
- Nantes University Hospital (France). Efficacy Assessment of Early Osteopathic Manipulative Treatment (OMT) in the Management of Suboptimal Breastfeeding Behaviour in Healthy Newborns. A Prospective Monocentric Randomized Double-blinded Study. <https://clinicaltrials.gov/ct2/show/NCT01890668>
- Rose-Borcherding K; Wagner, Z; Seefeldt, B. Retrospective Chart Review of Patients with Ankyloglossia to Determine Effect of OMT With or Without Frenectomy http://files.academyofosteopathy.org/LBORC/Posters/2018/Rose_Frenectomy_Poster.pdf
- Juliette Herzhaft-Le Roy, MD, DO, IBCLC. Efficacy of an Osteopathic Treatment Coupled With Lactation Consultations for Infants' Biomechanical Sucking Difficulties: A Randomized Controlled Trial. Journal of Human Lactation. 2017 Feb; 33(1):165-172 <https://www.ncbi.nlm.nih.gov/pubmed/28027445>

CHIROPRACTIC STUDIES

- Miller et al. Contribution of Chiropractic Therapy to Resolving Suboptimal Breastfeeding: A Case Series of 114 Infants. Journal of Manipulative and Physiological Therapeutics, 2009-10-01, v 32 Issue 8: 670-674
- Vallone SA, Tow J. Collaborative Assessment and Management of Breastfeeding Difficulties by Lactation, Consultant and Chiropractor: A Case Series.
- Hewitt, EG. Chiropractic Care for Infants with Dysfunctional Nursing: A Case *Journal of Clinical Chiropractic Pediatrics*, Vol. 4, No. 1, 1999.