

# Breastfeeding Problems?:

## Enter Physical Therapy!



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*Pioneers in Pain Rehabilitation since 1973*

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## Objectives:

By the end of the presentation, the learner should be able to:

1. Discuss three types of breastfeeding difficulties that can be improved by a physical therapy intervention
2. Describe the tongue, jaw, and upper body movements necessary for an effective latch and suck function
3. Explain how mechanical irritations to the nervous system can be the result of musculoskeletal issues in an infant which interfere with proper breastfeeding.



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**Breastfeeding Rehabilitation?  
Breastfeeding Treatment?  
at a Pain Rehabilitation Program?**



**The Story:**  
There was (and still is) this Lactation Consultant.....



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**Physical Therapy can Address:**

- Consistently poor latching
  - Shallow Latching
  - Milk Leaking during feedings
  - Poor Mandibular opening
- Poor Suck Strength
  - Can feed better with bottle
  - Still requiring finger feeding facilitation
  - Maladaptive tongue use
  - Myofascial dysfunctions of the:
    - Tongue and sublingual musculature



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**Physical Therapy can Address:**

- Persistent Pain during Breastfeeding despite Pediatrician/ Lactation Consultant/ Surgical interventions
  - Education
  - Positioning
  - Ankyloglossia
    - Anterior Tongue Tie
    - Posterior Tongue Tie
  - Frenulectomy / Frenulotomy
    - Reattached lingual frenulum
    - Posterior Tongue-Tie
  - Lip Tie



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**Physical Therapy can Address:**

- Inadequate weight gains
  - Inadequate feeding duration
  - Inadequate Milk Transfer
- Less than Robust
  - Sucking reflex
  - Sucking strength
- Overly sensitive gag reflex



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**Physical Therapy can Address:**

- Torticollis
  - Which interferes with breastfeeding



The Head/ Neck is preferentially tilted and/ or turned to one side

Shortened or Tense Muscle



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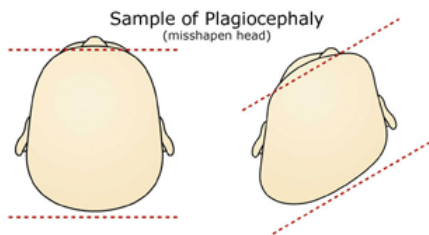
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**Physical Therapy can Address:**

- Plagiocephaly
  - Which is commonly associated with Torticollis



Sample of Plagiocephaly (misshapen head)



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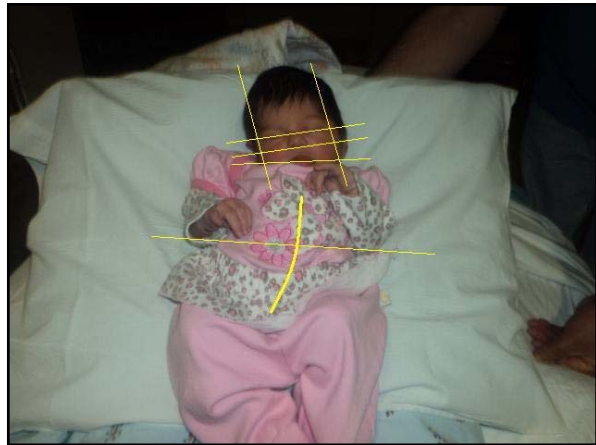
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### Physical Therapy can Address:

#### ■ Prenatal Biomechanics:

- Of the mother
  - PT normally gets involved when the mother experiences pain or other neuromusculoskeletal dysfunctions during her pregnancy
  - But not usually.....
- The fetus



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### Physical Therapy can Address: (But Rarely has the opportunity)

#### ■ Fetal Malposition Syndrome



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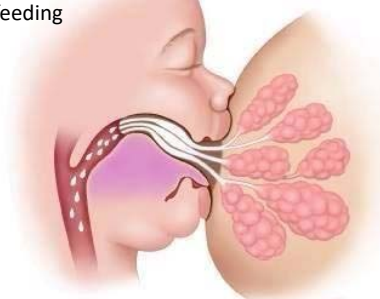
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### Jaw, Tongue, and Suck Function

- Normal tongue and jaw utilization during Breastfeeding



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### Jaw, Tongue, and Suck Function

- Common abnormal jaw function
  - The “shallow latch”
  - “Tight” jaw – can’t open sufficiently wide
  - Clamping/ Pinching/ Pain
    - Easier Breastfeeding or clamping on one side – think “axial skeleton”
    - Flattened / Blanched Nipples
    - Vasospasm



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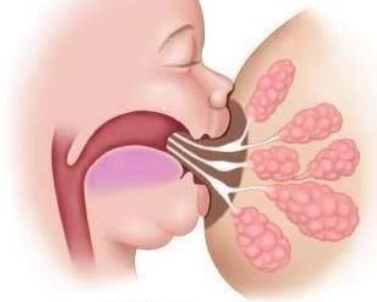
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### Jaw, Tongue, and Suck Function

- Abnormal tongue utilization during Breastfeeding



Tongue-tye



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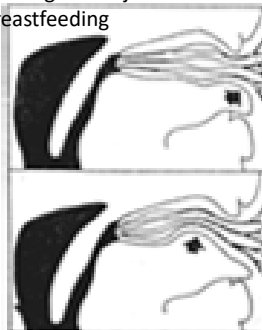
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### Jaw, Tongue, and Suck Function

- Abnormal tongue and jaw utilization during Breastfeeding



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### Jaw, Tongue, and Suck Function

- Normal jaw utilization during breastfeeding
- **The Jaw most commonly “follows the tongue movements and brain stem neural dynamics”**
- More on neural dynamics later .....



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### Jaw, Tongue, and Suck Function

- Normal body mobility necessary for effective latch and suck function includes:
  - **Cervical Spine Mobility**
    - Rotation – R to L
    - Lateral Flexion – R to L
    - Rotation with flexion
    - Spinal segmental mobility
    - Normal upper C-spine muscle tone



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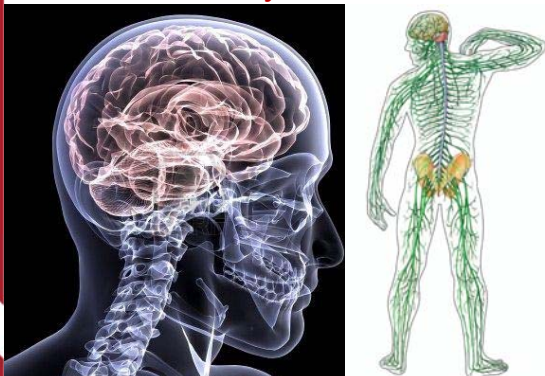
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### Neural Dynamics



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### Jaw, Tongue, and Suck Function

- **NEURAL DYNAMICS** needed for effective latch and suck function:
  - Spinal Dura mobility/ extensibility
  - Neuraxis mobility/ extensibility
  - Cauda Equina/ Filum terminale
  - Upper Limbs
  - Lower Limbs



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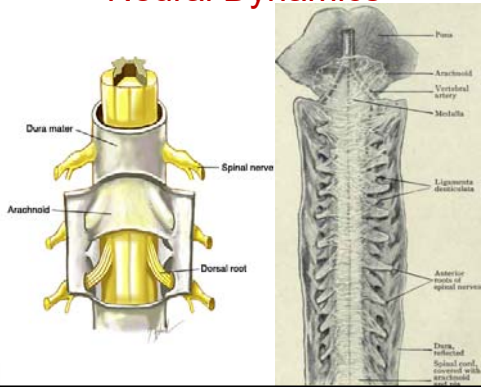
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### Neural Dynamics



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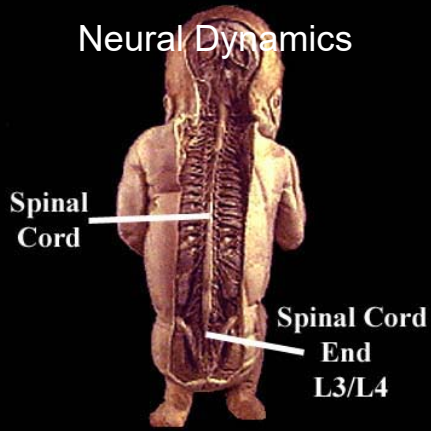
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### Neural Dynamics



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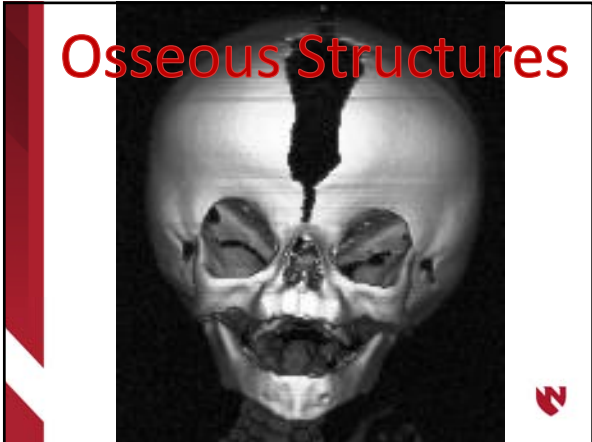
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**Jaw, Tongue, and Suck Function**

- **OSSEOUS RESTRICTIONS** Involve:
  - Loss of mobility between bony structures
    - Sphenoid/ Occiput
    - Sphenoid/ Maxillae
    - Occiput/ C1
  - Loss of the flexibility of living bone

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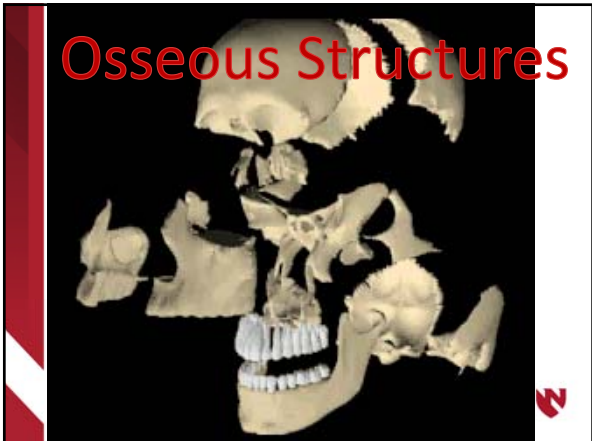
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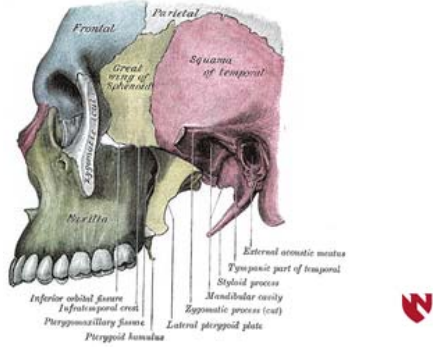
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# Osseous Structures




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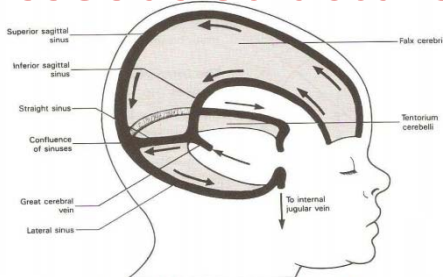
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# Osseous Structures



Cross-section of the fetal skull intracranial membranes and sinuses

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# Jaw, Tongue, and Suck Function

- **OSSEOUS RESTRICTIONS**
  - **INTERFERE** with the mobility, extensibility, and motility of the neuraxis
  - The cranio-cervical junction
  - The cranial base
  - The maxillae

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**Jaw, Tongue, and Suck Function**

- **OSSEOUS RESTRICTIONS** cause:
  - Losses of c-spine Range of Motion (ROM)
  - Increases in c-spine muscle tension/ tone
  - Losses of c-spine segmental mobility
  - Interference in mandibular opening
  - Losses of neuraxis mobility/ extensibility
  - Interference of brain stem control of SSB
  - Increased Jaw muscle tension
  - Excitability of the gag reflex



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**Jaw, Tongue, and Suck Function**  
The use of Cranial Osteopathic interventions



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**Jaw, Tongue, and Suck Function**

- Ankyloglossia



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**Jaw, Tongue, and Suck Function**

- **Ankyloglossia**
  - Definition
  - Clinical considerations:
    - Tongue function
    - SSB sequence/ mechanics
    - Mandibular opening/ maladaptive latching during breastfeeding



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**Jaw, Tongue, and Suck Function**

- **Ankyloglossia**
  - Degrees of frenulum shortness/ extensibility
  - Clinical considerations:
    - Referral to MD/ DDS for surgical consultation
    - Post-Frenulotomy care
      - Not all surgeons provide instructions



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**Jaw, Tongue, and Suck Function**

- **Ankyloglossia**
  - Re-attached and shortened lingual frenulum
    - Referral back to MD, DDS, or Surgeon for review
    - Parental preferences
    - Physical Therapy
      - Instructions, treatment, and follow-up
        - With or without frenulotomy revision



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### Jaw, Tongue, and Suck Function

- Lip-Tie(s)



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### A Word about Growth Spurts



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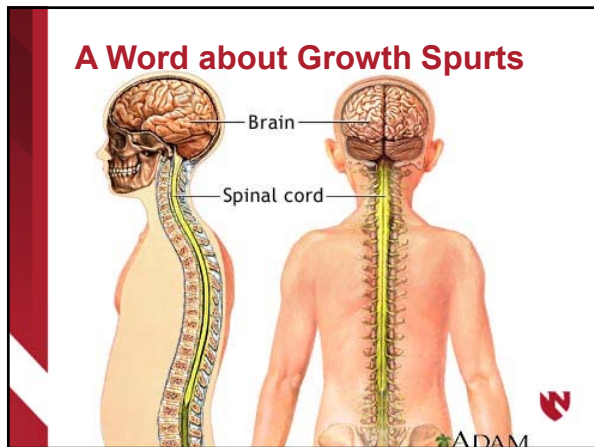
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### A Word about Growth Spurts



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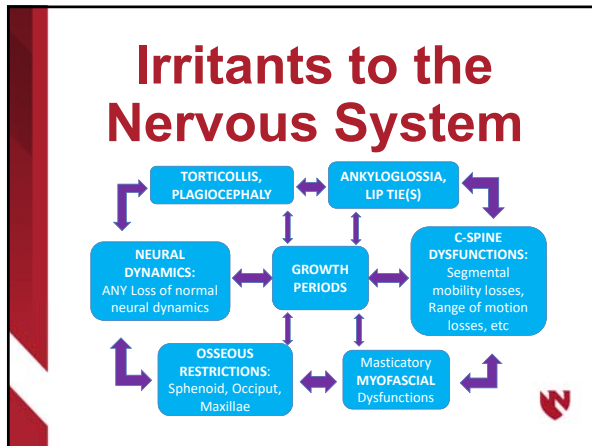
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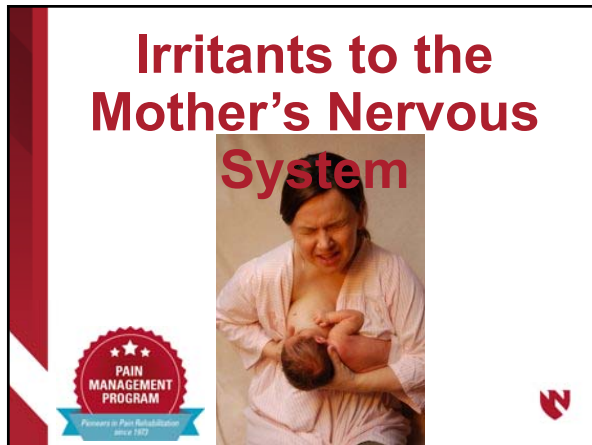
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- ## Cases
- A case of meningitis
  - A case of growth periods
  - A case of unconfirmed ankyloglossia
  - A case of undiagnosed Tongue-tie
  - A case of reattached Tongue-tie
  - A case of cranial restrictions
  - A case of Mother's Hyper-sensitive Nervous system
  - A case of infant behaviors as the breastfeeding barrier
  - A case of parental behaviors as the breastfeeding barrier

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## References

Ultrasound Imaging of Infant Sucking Dynamics during the Establishment of Lactation. *Journal of Human Lactation*. Vol 29, Issue 2, 2013. Vanessa S. Sakalidis, BHlth Sc (Hons), Tracey M. Williams, BSc, Catherine P. Garbin, CNM, IBCLC, Anna R. Hepworth, BSc (Hons), DipEd, Peter E. Hartmann, BSc, PhD, Michael J. Paech, MBBS, DRCOG, FRCA, FANZCA, FFPMANZCA, FRANZCOG (Hon), DM, Donna T. Geddes, DMU, Post Grad Dip (Sci), PhD <http://journals.sagepub.com/doi/abs/10.1177/0890334412452933>  
 Accessed 11 March 2018

Evaluation of breastfeeding promotion, support, and knowledge of benefits on breastfeeding outcomes. *Melanie Kornides, Panagiota Kitsantas* February 25, 2013  
<http://journals.sagepub.com/doi/abs/10.1177/1367493512461460>  
 Accessed 10 March 2018

Birth Trauma.  
<https://www.osteoworks.co.nz/Conditions++Osteoworks/Babies+Infants/Birth+Trauma+Osteoworks.html> Accessed 10 March 2018

Cranio-cervical junction abnormalities.  
<http://www.merckmanuals.com/professional/sec16/ch220/ch220a.html>  
 Accessed 10 March 2018




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## References


Endl J, Wolf G, Schaller A. Problems and results of skull x-ray following vacuum extraction (author's transl). [Article in German] *Geburtshilfe Frauenheilkd*. 1975 Dec;35(12):943-8.

Cranio-cervical Junction Abnormalities. Michael Rubin, MDCM, Professor of Clinical Neurology, Weill Cornell Medical College; Attending Neurologist and Director, Neuromuscular Service and EMG Laboratory, New York Presbyterian Hospital-Cornell Medical Center  
<http://www.merckmanuals.com/professional/sec16/ch220/ch220a.html>  
 Accessed 10 March 2018

Vacuum assisted birth and risk for cerebral complications in term newborn infants: a population-based cohort study. Cecilia EkëusEmail author, Ulf Högberg and Mikael Norman. *BMC Pregnancy and Childbirth*201414:36 <https://doi.org/10.1186/1471-2393-14-36> Accessed 10 March 2018

Holleman AC, MChiro, Nee J, Knaap SFC. Chiropractic Management of Breast-Feeding Difficulties: A Case Report. *J Chir Med*. 2011; 10 199-203

Miller JE, Miller A, Sulesund A-K, Yevtushenkob A. Contribution of Chiropractic Therapy to Resolving Suboptimal Breastfeeding: A Case Series of 114 Infants. *Journal of Manipulative and Physiologic Therapies* Oct 2009 32(8) 670-674




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## References

Geddes DT, Langton DB, Gollow I, Jacobs LA, Hartmann PE, Simmer K. Frenulotomy for breastfeeding infants with ankyloglossia: effect on milk removal and suckling mechanism as imaged by ultrasound. *Pediatrics* 2008;122:188-94


Westcott N. The use of Cranial Osteopathy in the Treatment of Infants with Breastfeeding Problems or Sucking Dysfunction. *Aust J Holistic Nurs*. 2004 11(1) 25-32

Fucile S, Gisel EG, McFarland DH, Lau C. Oral and non-oral sensorimotor interventions enhance oral feeding performance in preterm infants. *Dev Med Child Neurol*. 2011 Sep;53(9):829-35.

Gudmundsson G. Infantile colic: is a pain syndrome. *Med Hypotheses*. 2010 Dec;75(6):528-9. doi: 0.1016/j.mehy.2010.07.014.

Arvedson J, Clark H, Lazarus C, Schooling T, Frymark T. Evidence-based systematic review: effects of oral motor interventions on feeding and swallowing in preterm infants. *Am J Speech Lang Pathol*. 2010 Nov;19(4):321-40.

Lessen BS. Effect of the premature infant oral motor intervention on feeding progression and length of stay in preterm infants. *Adv Neonatal Care*. 2011 Apr;11(2):129-39.




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## References

Lessen BS. Effect of the premature infant oral motor intervention on feeding progression and length of stay in preterm infants. *Adv Neonatal Care*. 2011 Apr;11(2):129-39.

Adult Frenectomy For Pain Relief: Osteopathic Considerations

By Daniel Lopez, D.O. June 20, 2014 *Health, Medicine, Osteopathy*

<https://www.daniellopezdo.com/adult-frenectomy-from-an-osteopathic-perspective/> Accessed 10 March 2018



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