

Lactation Physical Therapy:

Biomechanical Interventions



1



**CHRONIC PAIN
MANAGEMENT
PROGRAM**

*Pioneers in Pain Rehabilitation
since 1973*

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2

Objectives:

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

1. Identify breastfeeding difficulties which reflect a likely biomechanical barrier to normal breastfeeding function.
2. Determine when a referral to lactation physical therapy is indicated based on identifiable movement asymmetry, structural asymmetry, or breastfeeding difficulty.
3. Identify breastfeeding difficulties which indicate a high likelihood for biomechanical dysfunction.
4. Describe how biomechanical interferences in normal nervous system movement interfere with breastfeeding function.
5. State the differences between functional ankyloglossia and anatomical ankyloglossia.
6. State three physical therapy interventions that can improve breastfeeding function



3

A Salute to Lactation Professionals



[180309-F-RD023-1141 \(af.mil\)](mailto:180309-F-RD023-1141@af.mil)



4

Lactation Professionals

.... Are best equipped to address breastfeeding difficulties, provide a mother with education, skills, guidance, and, when the breastfeeding experience needs additional resources.



<https://www.lvhn.org/healthy-you>



5

Lactation Interventions at a Pain Rehabilitation Program?



The Story:

There was this lactation consultant...



6

Common Reasons for a Lactation Physical Therapy Referral:

- Consistently poor latching
 - Shallow latching
 - Poor mandibular opening, 'tight jaw', retracted jaw
 - Painful latch, 'clamping down' or 'chomping' at breast
 - Milk leaking during feedings
- Poor suck strength
 - Can feed better with bottle
 - Maladaptive tongue use
 - Myofascial dysfunctions of the:
 - Tongue and sublingual musculature
 - Exterior oral muscles



7

Common Reasons for a Lactation Physical Therapy Referral:

- Inadequate weight gains
 - Inadequate feeding duration
 - Inadequate milk transfer
- Overly sensitive gag reflex
- Concurrent torticollis
- Concurrent, or development of, plagiocephaly



8

Common Reasons for a Lactation Physical Therapy Referral:

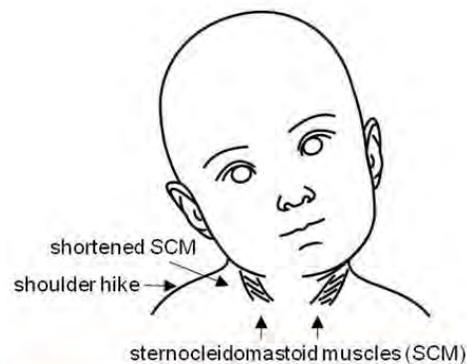
- Persistent pain during breastfeeding refractory to pediatrician, lactation consultant, surgical interventions
 - Ankyloglossia
 - Functional v Anatomical Tongue-Tie
 - Frenotomy
 - Post-Frenotomy Care
 - Reattached lingual frenulum
 - Ankylolabia
 - Buccal Ties



9

Common Reasons for a Lactation Physical Therapy Referral:

- Torticollis
 - Which interferes with breastfeeding



The head/ neck is preferentially tilted and/ or turned to one side

Medscape



10

Physical Therapy Can Address:

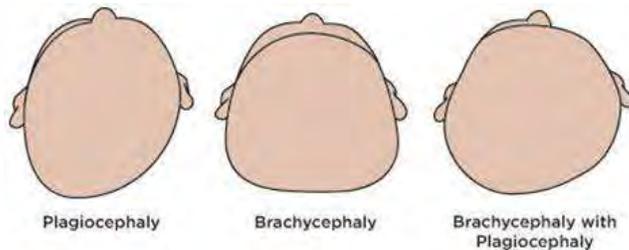
- Torticollis
- Congenital muscular torticollis
 - With early swelling
 - Without early swelling
- Classifications
 - Mild to severe
 - Early to late
- Treatment
 - Manual therapy, positioning and exercise interventions



11

Common Reasons for a Lactation Physical Therapy Referral:

- Plagiocephaly
 - Commonly associated with torticollis
 - Varies in presentation



www.boomeranghealth.com



12

Physical Therapy Can Address:

■ Plagiocephaly

- Best addressed as soon as observed
 - Prior to age 5 months
 - ☞ Manual therapy, positioning and exercise interventions
 - After age 5 months
 - Helmet therapy
 - Severity dependent
 - Course of physical therapy usually recommended prior and may continue in conjunction with helmet therapy



13

Clinical Observations Consistent with Biomechanical Dysfunction

- History of difficult delivery or birth trauma, including use of forceps, vacuum
- Concurrent torticollis and/or plagiocephaly
- Infant breastfeeds more effectively if the hold position is changed (i.e. unable to nurse on the right in cross cradle but able to nurse on the right when placed in football hold)
- Restricted or asymmetrical mandibular opening
- Excessive mandibular motion during sucking
- Maladaptive tongue use during suck
- Hyperactive gag reflex
- Infant prefers to position in neck or trunk extension at the breast, unable to flex their body comfortably around mom



14

Parental Observations Consistent with Biomechanical Dysfunction

- Pain with breastfeeding
- Family notices that infant has a head rotation preference
- Family notices a 'flat spot' developing
- Change in preference for bottle versus breast after breastfeeding has been established
- Sustained decline in breastfeeding function associated with periods of rapid infant growth
- Infant is excessively fussy during or after feedings
- Bloated stomach after feedings
- Infant has 'really good posture' or 'really good head control' at an earlier than developmentally normal age
- Infant lacks trunk flexibility when held, body feels tight or stiff



15

Mechanical Influences on Breastfeeding

- Oral Anatomy / Oral Ties
- Jaw, Tongue and Suck Mechanics
- Neural Dynamics: The Ability of the Nervous System to Move
- Cranial Osseous and Membrane Mobility



16

Oral Anatomy / Oral Ties

- Ankyloglossia

This requires a  surgical consultation !



<https://doctors.lightscalpel.com>



17

Oral Anatomy / Oral Ties

- Ankyloglossia
 - Degrees of frenulum shortness/ extensibility
- Clinical considerations:
 - MD, DO, or PT can differentiate between functional and anatomical ankyloglossia
 - Referral to MD/ DO/ DDS for surgical consultation
 - Post-frenotomy care
- No clear consensus on post-intervention instructions



18

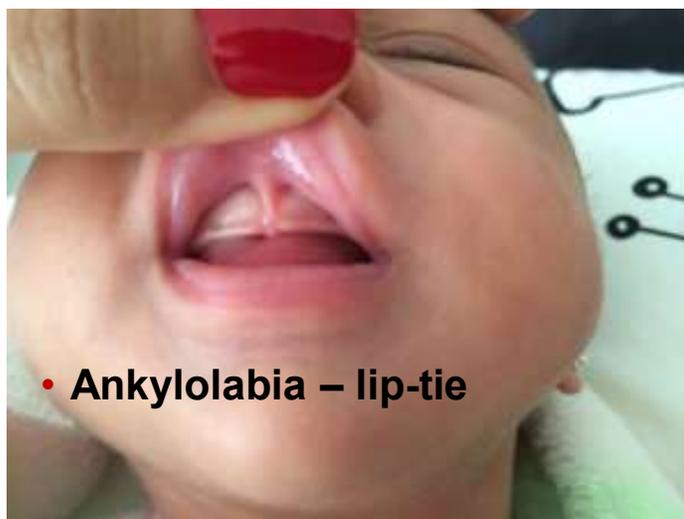
Oral Anatomy / Oral Ties

- 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 frenotomy revision



19

Oral Anatomy / Oral Ties



- Ankylolabia – lip-tie

<https://doctors.lightscalpel.com>



20

Oral Anatomy / Oral Ties

- Buccal Tie(s)



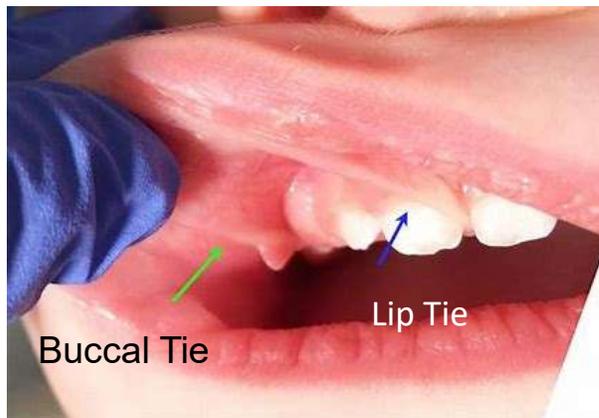
www.mobimotherhood.org



21

Oral Anatomy / Oral Ties

- Buccal Tie(s)



<https://doctors.lightscalpel.com>



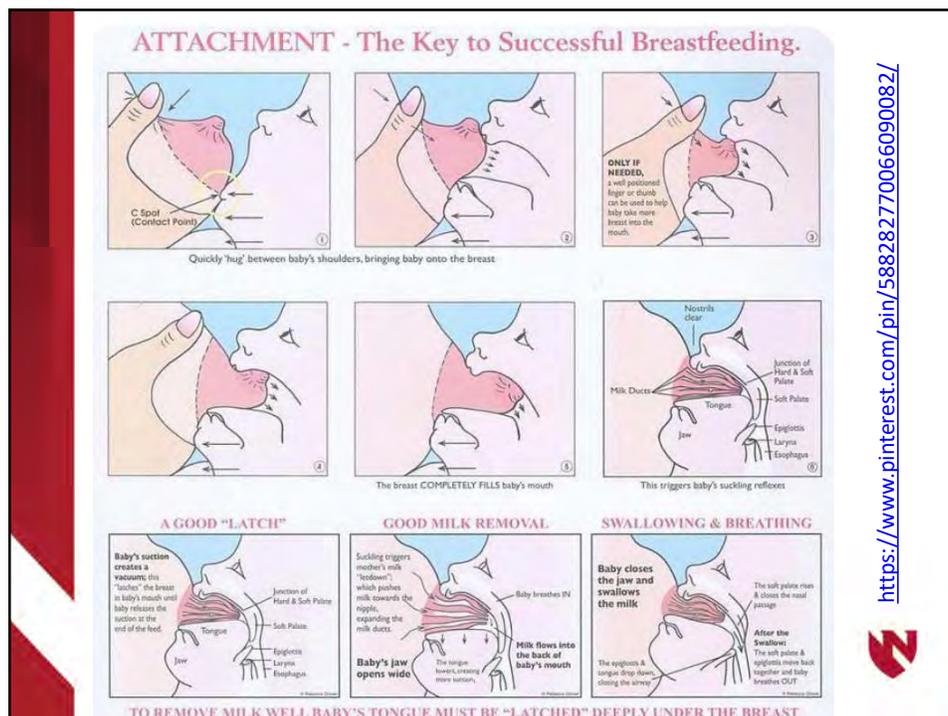
22

Jaw, Tongue, and Suck Function

- Normal jaw utilization during breastfeeding
 - *The jaw most commonly follows the tongue mechanics which can be influenced by numerous biomechanical barriers*



23



24

Jaw, Tongue, and Suck Function

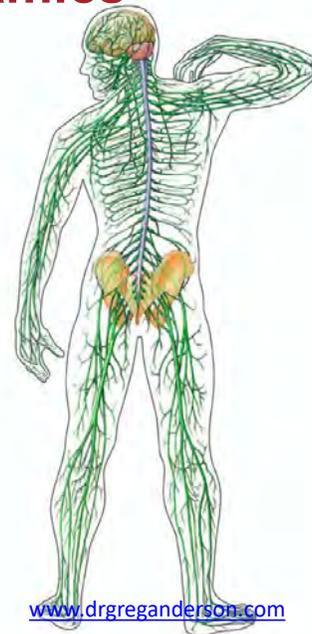
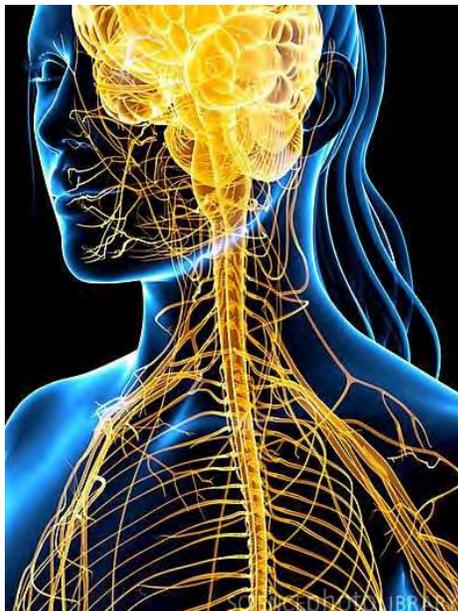
- *Normal musculoskeletal mobility is necessary for baby to be able to comfortably position the head, neck, jaw, and tongue in an optimal feeding position*
 - Cervical Spine
 - Thoracic Spine
 - Mediastinal Mobility
 - Lower Limbs
 - Upper Limbs are usually 'victims' of any of the above



25

Neural Dynamics

<https://www.pinterest.es/pin/nervous-system-artwork-stock-image-f0047558>



www.drgreganderson.com

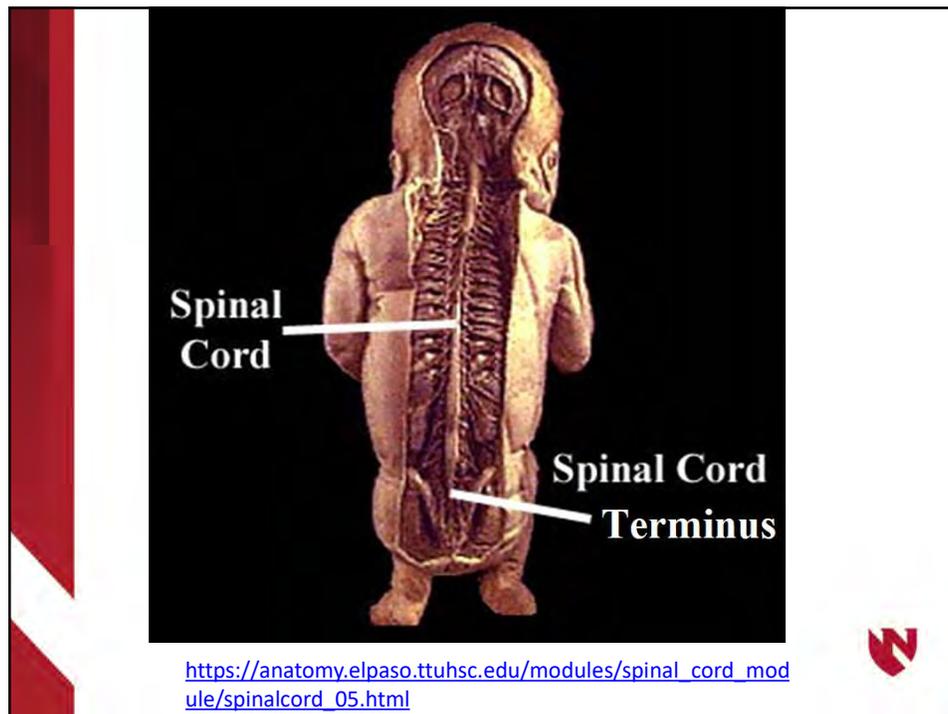
26

Neural Dynamics

- *Normal neural dynamics* are needed for baby's effective latch and suck function
 - Spinal Dura mobility/ extensibility
 - Neuraxis mobility/ extensibility
 - Cauda Equina/ Filum terminale
 - Upper Limbs
 - Lower Limbs
 - Mediastinum



27



28

Cranial Osseus and Membrane Mobility

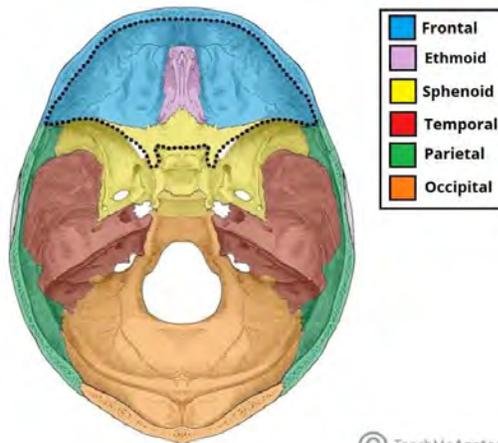


<https://anatomy.elpaso.ttuhs.edu>



29

Cranial Base



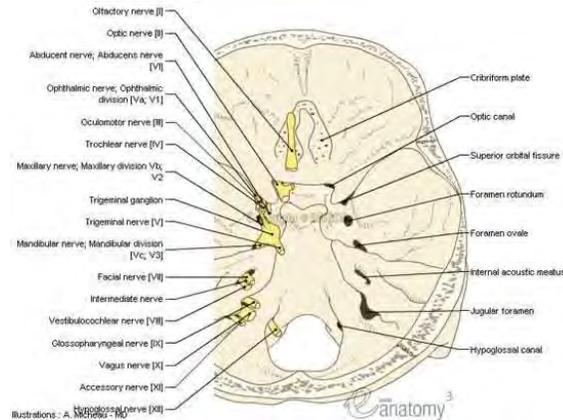
© TeachMeAnatomy



<https://teachmeanatomy.info/head/areas/cranial-fossa/anterior/>

30

Cranial Base and Cranial Nerves

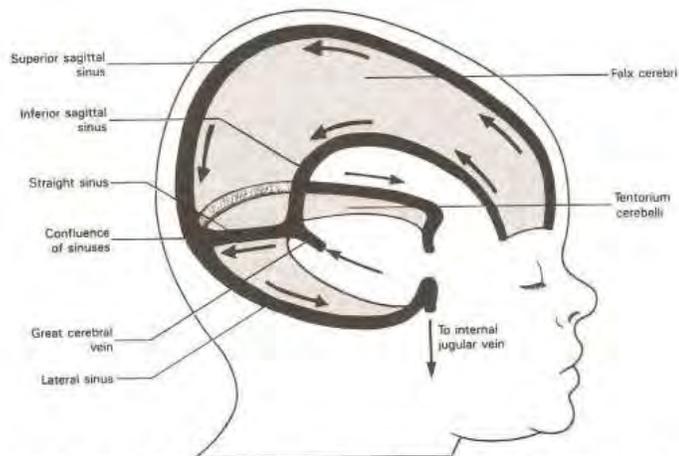


<https://i.pinimg.com/originals/f1/53/54/f153542c6367ff5a2851ff8e3008fca0.jpg>



31

Cranial Membranes



Cross-section of the fetal skull intracranial membranes and sinuses

www.brainkart.com



32

Jaw, Tongue, and Suck Function

- Osseus and/or membrane restrictions influence
 - Loss of mobility between bony structures
 - Sphenoid/ Occiput
 - Sphenoid/ Maxillae
 - Occiput/ C1
 - Loss of the flexibility of living bone
 - Cranial nerve mobility



33

Jaw, Tongue, and Suck Function

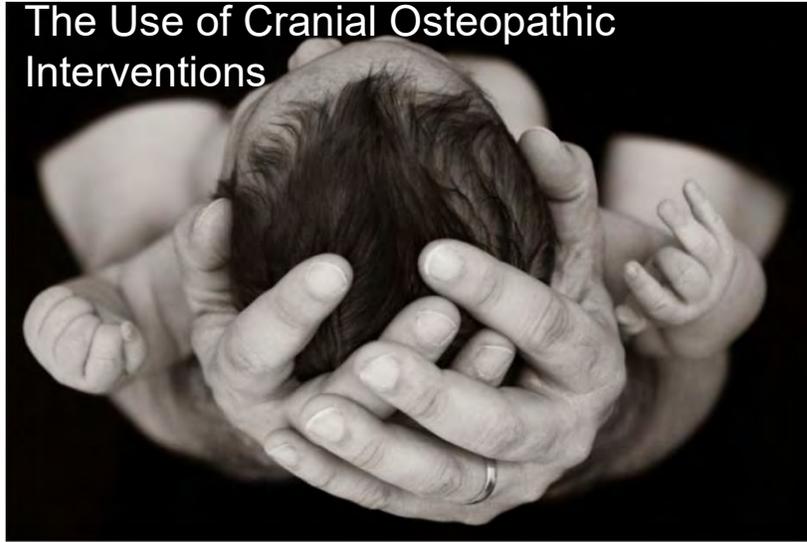
- Osseus and/or membrane restrictions can cause
 - Interference in mandibular opening
 - Shallow latch
 - Generalized stiffness
 - Increased resting muscle tone
 - Excitability of the gag reflex
 - Muscle tension of the neck, face, jaw or mouth
 - Interference of brain stem mediation of the SSB sequence



34

Jaw, Tongue, and Suck Function

- The Use of Cranial Osteopathic Interventions



<https://www.dreamstime.com/photos-images/baby-head-hand.html>

35

Physical Therapy Evaluation

- Medical History
 - Pregnancy, delivery
 - Medical diagnostics, infant surgeries
- Neural dynamics
 - Extremities,
 - Axial skeleton
- Range of Motion
 - Cervical, thoracic, lumbar spine
 - Head posturing preference right vs. left
 - Pelvic joint mobility



36

Physical Therapy Evaluation

- Skull
 - Symmetry
 - Sutures / Fontanelles
 - Osseous mobility
- Suck Mechanics
 - Frenulum status
 - Oral muscular tone and length
 - Mandibular mechanics
- Cervical segmental and muscular mobility



37

Physical Therapy Interventions

- Cranial Osteopathy – mobilization for osseous and/or membrane systems
- Neural Mobilization – via exercise or manual therapy interventions
- Muscular or myofascial stretching
- Neuromuscular retraining – oral proprioceptive training, gag reflex desensitization, suck training
- Home program recommendations – may include any of the above interventions



38

Physical Therapy Interventions

Exercise:

- To improve tissue/ muscle length and extensibility in the baby
- To monitor the status and effect change in muscular strength and muscular endurance related to breastfeeding function of the baby
- To monitor the status and effect change in the execution/ proprioception of proper breastfeeding function of the baby



39

Physical Therapy Interventions

Exercise:

To assist mothers and providers in decision-making regarding:

- Functional vs anatomical tongue tie
- Conservative treatment vs a frenotomy revision

And now a word about tongue stretching as seen on [Dr. YouTube](#) and [Dr. Google](#).....



40

Growth Changes

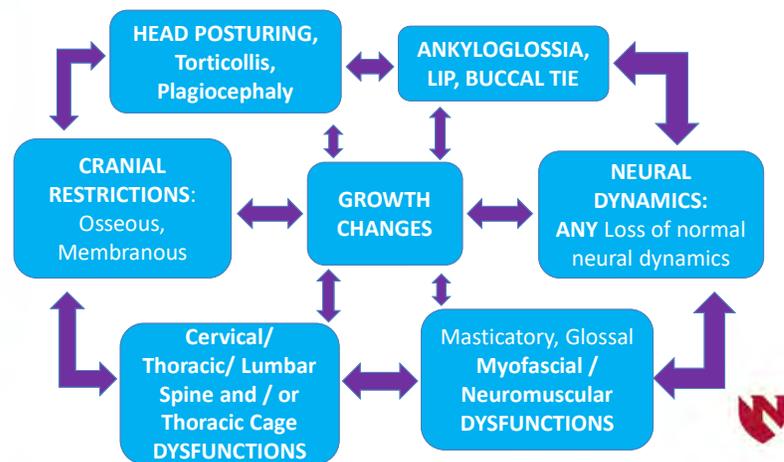


<http://www.tums2totsonline.co.za/know-baby-growth-normal/>



41

Irritants to the Nervous System



42

Thank you for venturing with us into the new territory!



43



QUESTIONS?



<https://www.dreamstime.com/stock-photo-father-holding-newborn-baby-son-nursery-image93539713>

44

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45

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46

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47

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48

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49

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50