Tongue Tie and Lip Tie: Anatomical Barriers to Optimal Breastfeeding

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Normal Oral Anatomy

Anatomy in Simple Terms:
2 Jawbones
2 Lips
1 Tongue
1 Palate
A lot of other structures holding them together.

Today, we will concentrate on the tongue and lips as it relates to breastfeeding.

Normal Anatomy

Frenulum = Frenum
Lingual - The Embryologic remnant of the tissue in the midline of the undersurface of the tongue and the floor of the mouth.
Maxillary Labial- The Embryologic remnant of the tissue in the midline of the undersurface of the lip and the gingival tissue.
Flexible, Covers Nostril

Normal Breastfeeding

- Tongue must be able to extend past gum ridge
- Tongue must be able to lift posteriorly to create vacuum.
- Tongue must be able to lateralize
- Lip needs to flange to create appropriate seal

The tongue is the major “player” in breastfeeding. It helps pull the breast into proper position in the mouth, then grooves along its length to make a channel to keep the breast in place in the mouth and to catch milk to hold it at the back of the tongue in preparation for swallowing. Cineradiographic (motion picture x-ray) and ultrasound studies have identified tongue movements during breastfeeding (Ardran 1958; Bosma 1990; Woolrich 1986). The tongue tip elevates and traps milk in the front of the breast, then a wave of compression moves back along the tongue from front to about halfway back, pressing milk from the areola toward the nipple. The back of the tongue drops toward the floor of the mouth to decrease the pressure in the mouth, and milk is expelled from the nipple by the combination of positive (compression) and negative (vacuum or suction) pressure. (Genna 2002)

No Restrictions

Abnormal Oral Anatomy

The tongue is a small thing, but what enormous damage it can do. -James 3:5

Caveat:

How is the Function?

Kotlow Classification of newborn abnormal lingual frenums: based upon the locations of the frenum’s attachment to the floor of the mouth and gingival sulcus.

- Numbers in parentheses = Immediate numbers outside parenthesis = LC

Anterior location to the salivary duct

Posterior location to the salivary duct

Type II (D). Distal to the masticatory tip of the tongue may cause it to slightly elevate normally.

Type IV (S). Posterior area which may not be obvious but is often involved some may be submucosally located.

Tight gutter string submucosal attachment

Smile... It confuses people. © 2018 Jiehliawu.com
Before and After ULT and TT

Preop and 2 months postop

Class 3 ULT

Cannot Flange/Evert Upper Lip

Anterior (Posterior?)

Thick but Flexible
Submucosal

Anterior Tongue Tie - Restriction in Elevation and Protrusion

Double Trouble

Posterior Tongue Tie - Submucosal

Symptoms of Dysfunctional Suck/Seal in Mother

- Sore/creased nipples/cracked nipples
- Vasospasm, restriction of blood flow leading to nerve damage
- Loss of milk supply due to improper drainage
- Susceptibility to mastitis and infection due to improper drainage
- Loss of bonding/enjoyment of breastfeeding
Breastfeeding with Lip and/or Tongue Tie

- Video of dysfunctional suck
  https://www.youtube.com/watch?v=lrD9cemJNyw

Symptoms of Dysfunctional Suck/Seal in infants

- Shallow latch
- Inability to move tongue in the mouth—extension, grooving, lateralization, and lifting of tip and/or posterior part of tongue
- Sucking blisters on lips that persist beyond the first month
- Dimpling while sucking (collapsing oral cavity to maintain suction)
- Clicking/smacking as baby resets seal with each suck
- Inability to transfer milk appropriately leading to early weaning/supplementation or Failure to Thrive
- Cough/gagging—ability to handle milk flow, sometimes leading to breast refusal
- Reflux symptoms due to inability to handle flow/suck dysfunction leading to GI upset
- Gassy/Colic due to GI dysfunction due to difficulties handling flow/GI disruption due to disrupted peristalsis
- Food sensitivities possibly linked to early exposure to antibiotics, early supplementation, or GI disruption
- Exceptionally long/frequent feeds (>45 min -1.5 hrs) due to difficulties in transferring milk.

Future Oral Health Issues

Long term consequences of Untreated Lip/Tongue Tie

- Increase in dental carries/cavities due to the inability to use the tongue to clean the teeth
- Changes to oral structures due to restriction of tongue movements resulting in a need for orthodontics
- Reflux/digestive dysfunction
- TMJ/Migraines due to restrictions of fascial tissue
- Loss of Breastfeeding relationship/bonding
- Changes in airway/Sleep Apnea/Sleep disturbances
- Speech impairments

Spacing and Crowding

Rotations
Abscess from Deep Caries

Revision Technique (Frenulectomy/Frenotomy)

Eye Protection

Tongue Director

Lip & Tongue Revision
Laser -vs- Scissors

Post Surgical Stretches

Laser -vs- Scissors

Post Surgical Stretches

Laser -vs- Scissors

Post Surgical Stretches

Nice and Flexible

After the Clip, Retraining Function and Preventing Reattachment

After revision, patient needs to restore normal function and prevent reattachment

- Several schools of thought on “stretches”, some more aggressive than others
- Need to be conscious of avoiding oral aversions/trauma
- There needs to be a release of any fascial restrictions through bodywork (chiropractic/CST/massage)
- Exercises to help retrain suck (oral myofacial therapy or speech therapy)
- Movements to retrain: lateralization, extension, tongue thrust, desensitization of the gag reflux, grooving, swallowing

Resources to Learn More

- http://drghaheri.squarespace.com/ Dr. Bobby Gaheri-ENT in Portland, OR
- http://www.kiddsteeth.com/ Dr. Laurence Kotlow-Pediatric Dentist in Albany, NY
- http://nurturedchild.ca/index.php/breastfeeding/challenges/tongue-tie-and-lip-tie/ Fleur Bickford, IBCLC has compiled an excellent group of resources
- Tongue Tie Babies (and local derivatives) on FB
- http://www.brianpalmerdds.com/ Brian Palmer, DDS (deceased) has lots of info, although it is not updated
### Bibliography


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**Thanks**

**Life is short; Smile while you still have teeth.**