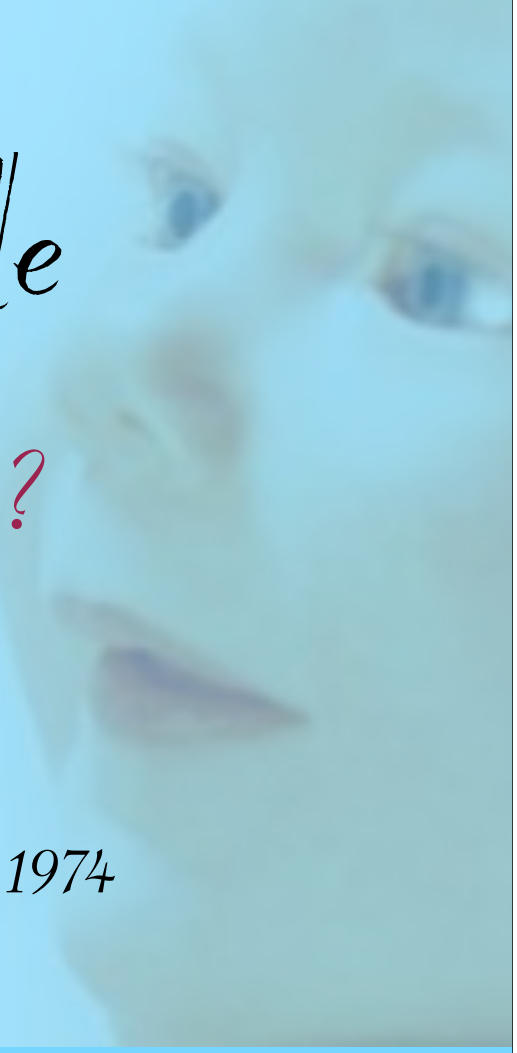
Breastfeeding should be fun and enjoyable

Why does it hurt when I breastfeed ?

Lawrence Kotlow DDS

Specializing in Pediatric Dentistry since 1974



Introduction

One of the earliest joys of parenthood is watching your newborn infant rest comfortably after a pleasurable breastfeeding experience, full, contented, and relaxed. Since the early 1970s mothers have understood the benefits of breastfeeding their newborns for both herself and her baby. Since that time, the percentage of mothers breastfeeding infants has climbed from approximately 22%, to over 85%. This has led to an increased awareness of the problems mothers and infants may develop associated with a poor latch. Often, this poor latch is the result of a combination a lip-tie of the upper lip to the upper gum tissue and a tight attachment of the underside of the tongue (ankyloglossia) to the floor of the mouth. This book will assist parents and health care providers in understanding how to evaluate infants for interfering attachments and how these attachments can cause a wide number of breastfeeding related difficulties.

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Practicing preventive and interceptive dental care for children since 1974

Using lasers since 2000

Lawrence Kotlow DDS 2013

518-489-2571

United States Surgeon General Report

The Surgeon General's Call to Action to Support Breastfeeding

2011

Regina M. Benjamin, M.D., M.B.A.
Vice Admiral, U.S. Public Health Service Surgeon General

"For nearly all infants, breastfeeding is the best source of infant nutrition and immunologic protection, and it provides remarkable health benefits to mothers as well. Babies who are breastfed are less likely to become overweight and obese. Many mothers in the United States want to breastfeed, and most try. And yet within only three months after giving birth, more than two- thirds of breastfeeding mothers have already begun using formula. By six months postpartum, more than half of mothers have given up on breastfeeding, and mothers who breastfeed one-year- olds or toddlers are a rarity in our society."

Message from the Secretary, U.S. Department of Health and Human Services

As one of the most universal and natural facets of motherhood, the ability to breastfeed is a great gift. Breastfeeding helps mothers and babies bond, and it is vitally important to mothers' and infants' health.

For much of the last century, America's mothers were given poor advice and were discouraged from breastfeeding, to the point that breastfeeding became an unusual choice in this country. However, in recent decades, as mothers, their families, and health professionals have realized the importance of breastfeeding, the desire of mothers to breastfeed has soared. More and more mothers are breastfeeding every year. In fact, three-quarters of all newborns in America now begin their lives breastfeeding, and breastfeeding has regained its rightful place in our nation as the norm—the way most mothers feed their newborns.

*"Infant breastfeeding should not be considered as a lifestyle choice, but rather as a basic health issue."

*"As such, the pediatrician's role in advocating and supporting proper breastfeeding practices is essential and vital for the achievement of this preferred public goal."

*Updated policy of the American Academy of Pediatrics March 1, 2013

Oral health is also an important part of the breastfeeding experience
Lawrence kotlow DDS

Why is breastfeeding an important issue in infant development ?

Benefits to infants

1. Benefits the infant's immune system
2. Allergy prevention
3. No preservatives always fresh
4. Emotional attachment
5. Protect against gastroenteritis constipation and other stomach illnesses
6. Reduced risks of SIDS
7. Promotes proper facial development
8. Reduced risk of heart disease as adults

**Benefits for mothers

1. Maternal fulfillment
2. Reduces risks for breast cancer
3. Reduces risks for uterine and ovarian cancers
4. Reduces risks for type 2 diabetes, rheumatoid arthritis and cardiovascular disease
5. Lessens osteoporosis
6. Promotes emotional health "body and mind"
7. Promotes post partum weight loss
8. Economic benefits of not using formulas

Environmental benefits

1. Less sick days off for mothers
2. Less energy and waste for manufacturing formula
3. Cost if all mothers breastfed exclusively for the first 6 months $13 billion dollars a year (from Pediatrics 2010 125(5)

**American Academy of Pediatrics-New Mother's Guide to Breastfeeding 2011

Placing an infant on formula, is like feeding your infant in a fast food restaurant, An infant will survive, but will not eat as healthy as from a mother's home made meal.

Brian Palmer December 27,. 2012
The evolution of malocclusion and sleep apnea

Malocclusions

High palates
Narrow dental arches
Anterior & posterior dental crossbites

The nipples are "Mother Nature's palate-expander: Babies push the nipple around the front teeth and push the palate forward (to develop) a wide and forward palate and enough room for the permanent teeth. ... Baby bottles are not promoting good growth."

"Breast-feeding can really prevent a lot of problems,

Kevin Boyd DDS

Why do mothers give up breastfeeding?

Two oral problems which result in creating a situation where often mothers will give up breastfeeding

Abnormal lip-tie

**Formerly referred to as the maxillary frenum*

Ankyloglossia or tongue-tie

Why does it hurt when I breastfeed my baby ?

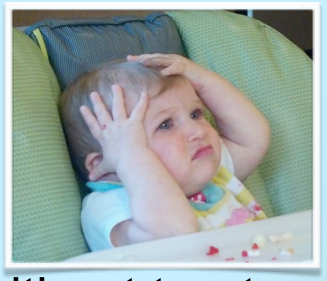
Many mothers are often told or mistakenly assume, that if they cannot successfully breastfeed, there is something wrong with them. The opposite is true. Infants may be born with a combination of conditions called a tongue-tie (ankyloglossia) and/or a lip-tie. A tongue-tie occurs when the embryological remnant of the tissue attaching the tongue to the floor of the mouth does not disappear when an infant is born. A lip-tie occurs when the upper lip remains attached to the upper gum and interferes with the lip's ability to adequately flange upward during an infant's latch.

Tongue-tie

Lip-tie

Lawrence Kotlow DDS 2013

Common myth(stakes) that interfere with proper care and treatment of newborns presenting with ankyloglossia



★Tongue-ties do not exist.

★Tongue-ties will correct themselves.

★Tongue -ties will not affect breastfeeding.

★A tight lingual frenum will stretch or tear without treatment.

★Ankyloglossia does not cause maternal discomfort.

★Ankyloglossia does not effect developing speech.

★Surgery must be completed in the operating room under general anesthesia.

★Children under age 3 months are too young to have surgery.

★Colic or reflux is not related to tongue-ties

★If you release the upper lip, it will effect the roots of the baby teeth.

★Revisions of tongue-ties are dangerous due to bleeding, cutting nerves or blood vessels.

★The upper lip is not important in breastfeeding.

How to determine if your newborn infant is tongue-tied

Before an infant or a mother develops breastfeeding difficulties, use the following steps to check to determine if your infant may have a problem with the lingual frenum attachment. Place your index finger ***under*** the tongue and sweep it across the ***floor*** of the infant's mouth from one side to the other.

- A smooth mouth floor = No problem
- A small speed bump = Potential problem may exist
- A large speed bump = Most likely will be a problem with the infant's latch
- A small, medium or large membrane = Definitely will develop into a problem
- If the membrane feels very thin and strong like fine wire, push on it and look for tongue tip indentation and a slight bow of the tongue tip (submucosal posterior tie)

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Identifying the submucosal posterior tongue tie

Under diagnosed thus the number of infants with ankyloglossia is under reported

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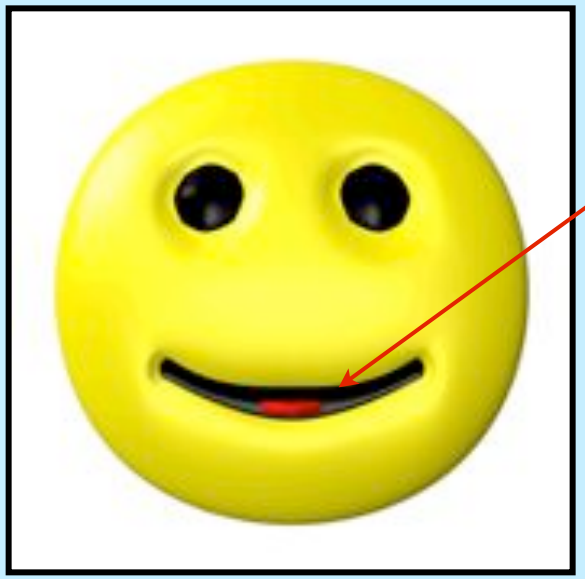
What to look for when examining an infant clinically

Ankyloglossia can be defined in Three ways

Anatomic & clinical appearance



Infant's and mother's symptoms

Ability to function

Kotlow Classification of newborn abnormal lingual frenums: based upon *the locations of the frenum's attachment to the floor of the mouth and underside of the tongue*

*Numbers in parenthesis = (Dr.Kotlow)
** Numbers outside parenthesis= LC

Anterior location to the salivary duct

Type **I(4*) -total tip involvement

Type -II (3) Midline-area under tongue (creating a hump or cupping of the tongue)

Posterior location to the salivary duct

Type III (2) Distal to the midline.The tip of the tongue:may appear to slightly elevate normally

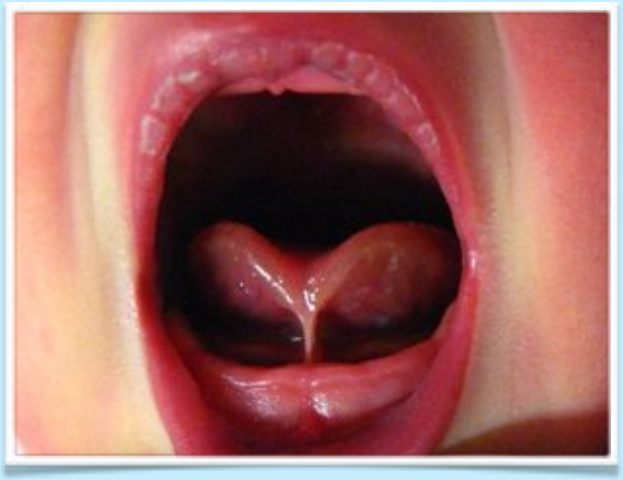
Type IV (I) Posterior area which may not be obvious and only palpable, some may be submucosally located

Tight guitar string submucosal attachment

Examine for functional problems

Total tie down of the tip of the tongue resulting in lack of up or down mobility

Cupping and hump formation on the sides and middle of the tongue



Heart shape, pointed tip

Unable to elevate and touch the hard palate with the tongue

No extension of the tip of the tongue beyond the lips

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Diagnostic symptoms as an aid for diagnosis

- *Infant Factors to consider
- No latch or unsustained latch
- Shallow latch, sliding off the breast
- Breaks latch seal,clicking or smacking sounds, gassy, colic, reflux
- Prolonged feeding durations
- Unsatisfied after prolonged feeds,leaks milk
- Falls asleep on the breast
- Gumming or chewing on the nipple
- Poor weight gain or failure to thrive
- Unable to hold pacifier

- Maternal Factors to consider
  - Creased or blanched nipples after feeding: flattened
  - Cracked, bruised or blistered nipples: gives it up
  - Bleeding nipples
  - Severe pain with latch
  - Maternal exhaustion & depression
  - Infected nipples
  - Plugged ducts
  - Mastitis & nipple thrush
  - Engorged or unemptied breasts

*Academy of Breast Feeding Medicine: Clinical Protocol #11: Guidelines for the Evaluation & management of neonatal Ankyloglossia under review and not up on the website. Presently under review.

http://www.bfmed.org/

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Examination by Dr.Kotlow and preparation for surgery

In order to adequately visualize the oral structures clearly, the infant should be examined on the examiner's lap ,head facing the parent.

**Examination on parent's lap facing parent.
critical to diagnose and view a posterior tongue-tie

Infant is gently placed in swaddling blanket to control movements during surgery

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Positioning the infant for laser surgery

Lawrence Kotlow DDS 2013

It is very important for the infant's safety & for good visualization of the surgical area for a well trained staff to properly hold the infant and assist in maintaining a good airway

Cradling the head to maintain open airway

A well trained and understanding staff is essential

1. **It is required, not optional, for protective eye glasses be placed on everyone in the surgical area
2. Excellent control of patient's airway
3. Excellent control of infant's movements
4. No chemicals, no injections or anesthetics
5. Completed in the dental office in less than 10 minutes

**Laser Safety falls under the ANSI 136.1 standard in the United States and the EN207/EN208/EC60825 standard in Europe.

Surgical release of the lingual frenum in the dental office using lasers

Stretching the tongue upward to expose the frenum using a *grooved director.

Completed frenum release.

Surgical site appearance approximately 1 week after surgery

*available through “Miltex” and your dental supply dealer

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Lingual frenum revision post surgical care

Method one

Placing both index fingers under the tongue and pushing upward and down toward the throat to keep surgical site from healing back together

or

Method two

Elevate the tongue by placing it into the surgical site and lifting the tongue apart from the floor of the mouth using a plastic tongue blade.

For approximately 14 days, physical therapy exercises of the surgical sites are completed-2-3 times daily,

*Significant pressure must be applied to open the surgical site in order to prevent healing of the surgical areas together

Pain medication, such as 80 mgs of acetaminophen or Hyland's teething gel, is ok to use for discomfort.

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Revising the tongue may only be treating part of the problem. The upper lip needs to elevate adequately for the infant to be able to have a strong sucking ability.

A sign of a lip-tie

Lip callous

Hyperplastic maxillary frena are associated with a diastema of the upper central incisors and traction of the attached gingiva. A diagnostic test for an abnormal frenum is to pull the upper lip forward to see whether blanching of the tissue occurs interproximally from the labial to the lingual.

What is a Lip-tie ?

A remnant of the tissue in the midline of the upper lip which holds the lip attached to the upper jaw's gum (gingiva) and may interfere with the normal mobility and function of the upper lip, thus contributing to poor latch by the infant onto the breast and in some cases when mothers elect to at-will breastfeed during the night, without cleaning off the teeth after nursing, may contribute to decay formation on the front surfaces of the upper teeth.

*Inability of the upper lip to adequately flange upward causing a poor latch

**Potential for decay formation the front surfaces of the top front teeth in infants who feed at-will during the night due to trapped mother's milk in the lip-tie folds of tissue

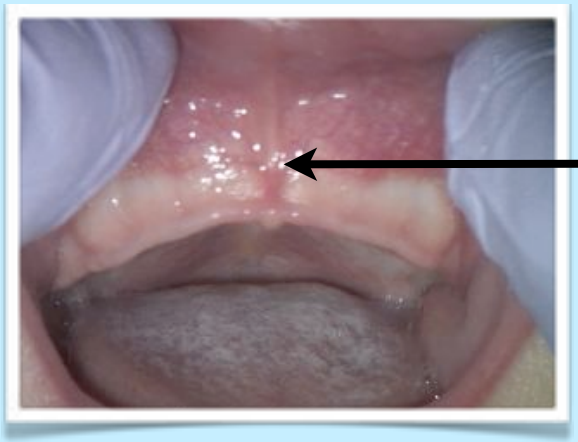
*

Diagnosing and Understanding the Maxillary Lip-tie (Superior Labial, the Maxillary Labial Frenum) as it Relates to Breastfeeding
Lawrence A. Kotlow
J Hum Lact published online 2 July 2013
DOI: 10.1177/0890334413491325

**

The Influence of the Maxillary Frenum on the Development and Pattern of Dental Caries on Anterior Teeth in Breastfeeding Infants: Prevention, Diagnosis, and Treatment
Lawrence A. Kotlow
J Hum Lact 2010 26: 304 originally published online 22 March 2010
DOI: 10.1177/0890334410362520

Kotlow infant and newborn maxillary lip-tie diagnostic classifications (based upon insertion location of the frenum to the upper jaw)



Class I
Minimal visible Attachment

Class II
Attachment into the area where the free and attached gingival tissue meet.

Class III:
Inserts just in front of anterior papilla

Class IV
Attachment just into the hard palate or anterior papilla area

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Three week old with mother having mastitis and poor latch

Example of a infant diagnosed with a posterior tongue-tie and lip-tie and the results of the surgical revision

Revision using lasers , quick healing, little bleeding,no stitches

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Revising the maxillary or labial frenum

Infant having colic symptoms :Aerophagia ?

Pre-surgery

Post-surgery

Pre-surgery

Post-surgery

The evening after surgery infant stopped crying mother nursed longer and was without discomfort

Infant Reflux and Aerophagia Associated with the Maxillary Lip-tie[1] and Ankyloglossia (Tongue-tie)

Lawrence Kotlow, DDS[1]

Successful breastfeeding depends on an infant's latching onto the mother's breast correctly. If an excessive amount of air reaches the stomach due to a poor latch, abdominal distension, belching, and flatulence often develop. This may be the result of pathologic aerophagia. Aerophagia (from the Greek word aerophagein: "to eat air") is excessive swallowing of air during feeding. A poor or incorrect latch may be the result of both a maxillary lip-tie and ankyloglossia. The author presents two cases where infants were being treated for reflux by their medical doctors. After revision of both the lip- and tongue-ties, the symptoms were significantly reduced, eliminating the need for medications.

Keywords: Ankyloglossia, tongue-tie, lip-tie, reflux, GERD, colic, labial frenulum

Clinical Lactation, 2011, Vol. 2:4, 25-29

Post surgical care for the successful of the maxillary lip-tie revision

Appearance four days after surgery, the white area is normal healing

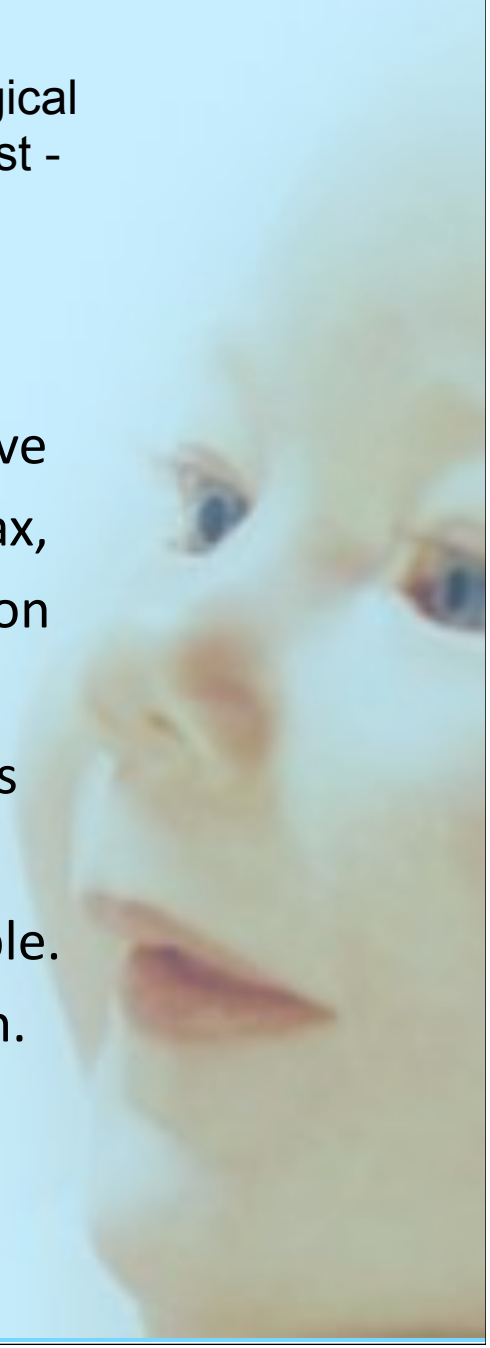
***To prevent the healing of the upper lip to the gum ,it is important to pull the upper lip upward to expose and open the surgical site at least two times a day for at least 14 days.

In the mid-point of the white area, a small red line may occur in either the tongue or lip revision site, this is healing together of the surgical sites and the area needs to be stretched more forcefully .

Manual Medicine Post-Surgical Care

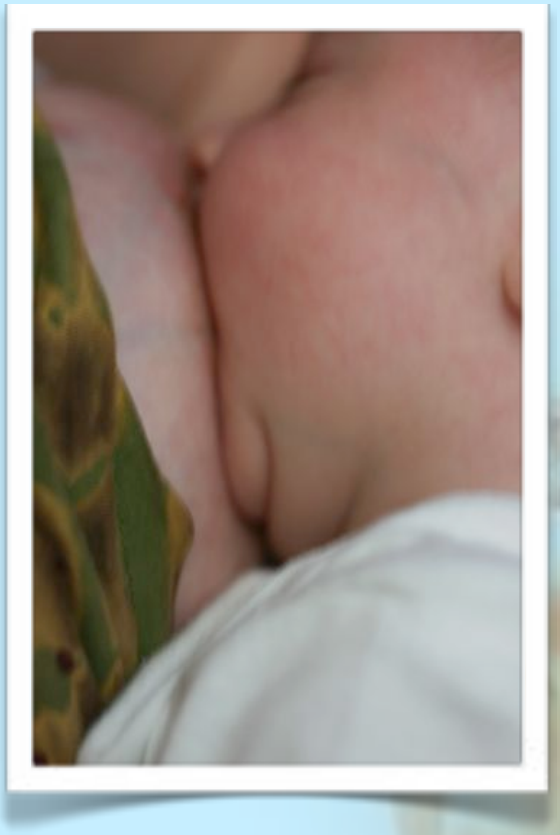
In addition to the post surgical maintaining opening of the surgical areas, it is often recommended that the infant has manual post - surgical therapy. Often called Cranial -Sacral therapy

Technique in manual medicine address the evaluation and diagnosis of structural dysfunction (a joint that does not move freely or in a full range of motion, a muscle that is short or lax, ligaments that have been injured, etc.). Structural dysfunction can simply cause a structural dysfunction, like, if the joint between the jaw and the skull (temporomandibular joint) is misaligned because of manipulation at birth to assist the delivery, the infant's jaw cannot open to encompass the nipple. Simple structural problem resulting in a feeding dysfunction.



Improved latch and new lip,chin and breast positions after surgery !

Pre-surgery with poor upper lip latch-on and tongue-tie



Immediately post-surgery with improved upper lip-latch on and improved painless breastfeeding

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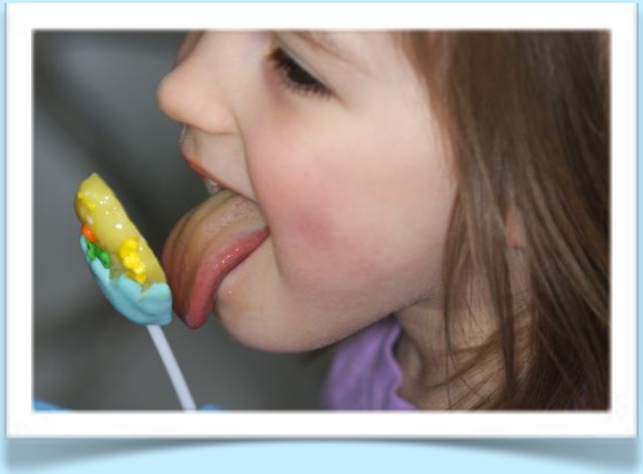
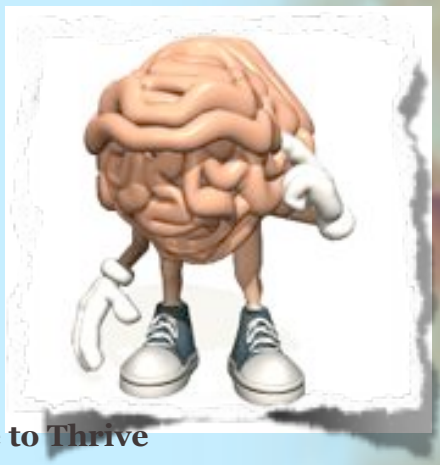
Simple pleasures that may be effected by a tongue that lacks proper function and mobility



Potential immediate as well as future problems that may occur when these attachments are allowed to remain untreated

- Gut and nutritional problems
- **There are suggestions,that in instances when an infant is in pain and crying continuously, possibly due to hunger or pain, the infant could be subject to failure to thrive or child abuse.
- Colic
- Reflux due to aerophagia(swallowing air due to a poor latch)
- Excessive drooling
- Gagging, swallowing and eating difficulties when solid foods are introduced
- Obstructive Sleep Apnea (OSA), with related learning and behavioral difficulties
- Changes in sleep patterns
- Speech problems
- Jaw growth & development abnormalities
- Dental caries



**Report Pediatrics vol. 125 no.6 June 2010

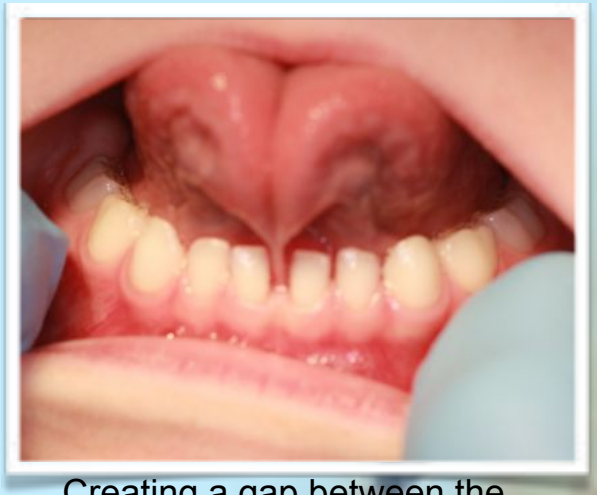
Ankyloglossia, Exclusive Breastfeeding, and Failure to Thrive

1. Gregory P. Forlenza, MD, Nicole M. Paradise Black, MD, Elayne G. McNamara, OTR/L, Sandra E. Sullivan, MD, IBCLC

Clinical examples of developmental problems due to tongue-ties

Heart shape,cupping
Clefting of the border of the tongue

Dental decay in lower back teeth



Creating a gap between the lower front teeth

Limited mobility and function of the tongue

Pulling the lower teeth towards the tongue

Orthodontics

challenges an adult with a tongue-tie may face

- ★Inability to open the mouth widely affects speech and eating habits.
- ★Inability to speak clearly when talking fast/loud/soft
- ★Clicky jaws
- ★Pain in the jaws
- ★Migraine headaches
- ★Protrusion of the lower jaws, inferior prognathism.
- ★Multiple effects in work situations.
- ★Effects on social situations, eating out, kissing, relationships
- ★Dental health, a tendency to have inflamed gums, and increased need for fillings and extractions
- ★Sensitivity about personal appearance
- ★Emotional factors resulting in rising levels of stress
- ★Tongue tie in the elderly often makes it difficult to keep a denture in place.

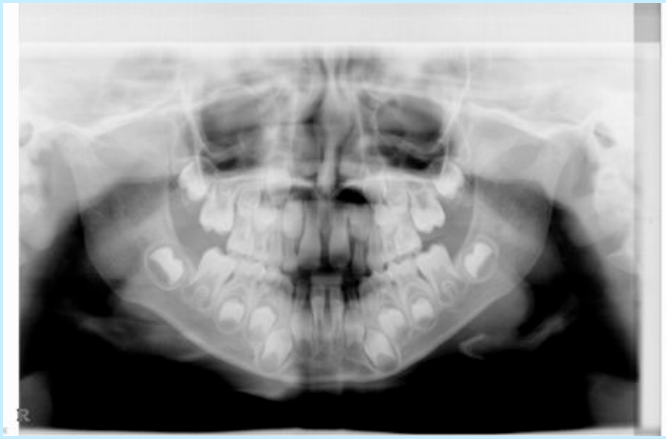
Older children who had lip-tie revisions completed and had no scarring and teeth naturally migrated together

Preoperative

One year later

Preoperative

One year later



In spite of many old concepts being repeated to parents, infants should not be left to fall and possibly spilt open the lip-tie to release it. The statement that when is surgically released,it may cause scaring, as well as the notion that treatment should be complete prior to any orthodontic treatment in older children are also misleading old unsupported concepts.

Lawrence Kotlow DDS 2013

Advantages of lasers over scissor revisions

More precise

Excellent hemostasis: risk of bleeding significantly reduced

Bactericidal : little chance of any type of infection

Has Photobiomdulation or Low Level Laser
Effect :reduces inflammation, improves healing

No need to place infant into the OR or sedation

Helpful Links to web sites that may help parents and professionals

- Dr.Kotlow's website — www.kiddsteeth.com
- Newman Breastfeeding site
- International Association of Tongue-tie Professionals website
- Carmen Fernando — www.tonguetie.net

You can email Dr.Kotlow @ KIDDSTEETH@AOL.COM

Information from this book may be used with proper acknowledgements for educational purposes when educating parents and other health care professionals

Tongue-tie and breastfeeding: a review of the literature.

Edmunds J, Miles SC, Fulbrook P. Breastfeed rev 2011 March 19(1) 19-26

Darling Downs West Moreton Health Service District. janet_edmunds@health.qld.gov.au

Abstract

One factor that contributes to early breastfeeding cessation is infant tongue-tie, a congenital abnormality occurring in 2.8-10.7% of infants, in which a thickened, tightened or shortened frenulum is present. Tongue-tie is linked to breastfeeding difficulties, speech and dental problems. It may prevent the baby from taking enough breast tissue into its mouth to form a teat and the mother may experience painful, bleeding nipples and frequent feeding with poor infant weight gain; these problems may contribute to early breastfeeding cessation. This review of research literature analyses the evidence regarding tongue-tie to determine if appropriate intervention can reduce its impact on breastfeeding cessation, concluding that, for most infants, frenotomy offers the best chance of improved and continued breastfeeding. Furthermore, studies have demonstrated that the procedure does not lead to complications for the infant or mother.

PMID: 21608523 [PubMed - in process]