





Texas Children's
Hospital®

Ankyloglossia/ Tongue-tie: Too Much Surgery?



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Tongue-tie = Ankyloglossia

Ankylo = “Stiff, stuck together”

Glossia = suffix meaning “related to the tongue”



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THREE Potential Effects of Ankyloglossia

- 1) **Breastfeeding problems**
- 2) Speech
- 3) Mechanical/Social issues:
 - Inability to lick lips, lick ice cream cone
 - Inability to keep teeth clean
 - Space between teeth
 - Inability to “French kiss”
 - Sense of social embarrassment



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Breastfeeding & Tongue-tie



Woodcuts
1679



18th century, midwives said to have kept fingernail sharp to tear lingual frenulum, promote breastfeeding

– Horton 1969

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Breastfeeding

Baby: Difficulty latching on
Mom: Prolonged sore nipples



- Typically NO difficulties with bottle feeding



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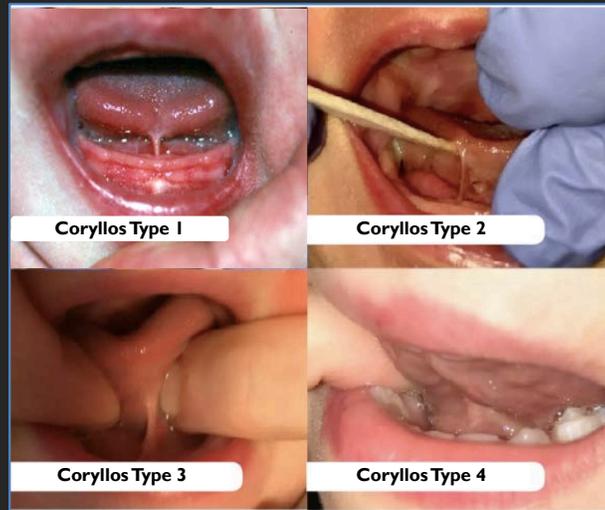
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Types of tongue-tie: no standard definition



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Joke (sort of) MY Definition of "Posterior Tongue Tie"

Anyone who does not have "anterior tongue tie"

BECAUSE EVERYONE HAS A FRENULUM!

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FIVE Randomized Controlled Trials Frenotomy for Tongue-tie/Breastfeeding

57 babies: 48 hours feeding support vs frenotomy + feeding support

- 96% of frenotomy group improved feeding vs 3% control group

- *Hogan et al J Paediatr Child Health 2005*

- *Dollberg et al J Pediatr Surg 2006*

- *Buryk et al. Pediatrics 2011*

- *Berry et al. Breastfeed Med 2012*

- *Emond et al. Arch Dis Child Fetal 2014* Division did not improve LATCH scores at 5 days.

**BOTTOM LINE: ALL showed at least
some positive effect on breastfeeding**



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AMERICAN ACADEMY OF
OTOLARYNGOLOGY-
HEAD AND NECK SURGERY

Clinical Consensus Statement (CCS) Ankyloglossia

CCS reflects opinions synthesized from an organized group of experts. A consensus method is a formal process that allows information to be synthesized into the CCS for topics where evidence is insufficient to support a formal guideline development.



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CCS Ankyloglossia Process

- Systematic literature search
 - 111 pertinent results
- Development of statements
- Delphi Survey – 9 point Likert scale
 - 1= strongly disagree to 9= strongly agree
- Consensus Statements



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Ankyloglossia (General)

Consensus Statements

Ankyloglossia is a condition of limited tongue mobility caused by a restrictive lingual frenulum. (Mean 8.18)

Category	Mean Score*	Outliers**
Consensus	≥ 7.00	and ≤ 1
Near Consensus	6.50 – 6.99	and ≤ 2
No Consensus	< 6.50	or ≥ 3

*9-point Likert scale from disagree strongly (1) to agree strongly (9)

**Outlier defined as any rating at least 2 points away from the mean

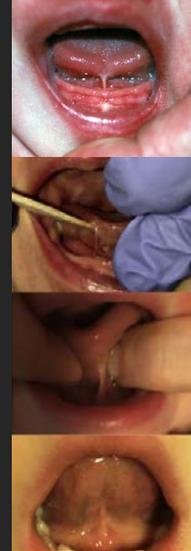


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Consensus Statements (General – Anterior vs Posterior)

In recent years, some practitioners have described ankyloglossia as being anterior or posterior. (Mean 8.18)

Those practitioners who describe ankyloglossia as being anterior or posterior typically use the term anterior ankyloglossia to refer to a lingual frenulum that extends to the tip of the tongue or near the tip of the tongue that restricts tongue mobility. (Mean 7.45)



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Consensus Statements

In some communities, infants and children are being over-diagnosed with ankyloglossia. (Mean 8.09, no outliers)

In some communities, a significant number of children are having unnecessary surgery on the lingual frenulum. (mean 7.82, no outliers)

Category	Mean Score*	Outliers**
Consensus	≥ 7.00	and ≤ 1
Near Consensus	6.50 – 6.99	and ≤ 2
No Consensus	< 6.50	or ≥ 3

*9-point Likert scale from disagree strongly (1) to agree strongly (9)

**Outlier defined as any rating at least 2 points away from the mean



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No Consensus

Breastfeeding difficulties are common in the newborn period and evidence shows that **posterior** ankyloglossia is a potential contributor to infant feeding problems (mean 4.36, 4 outliers)



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CONSENSUS STATEMENTS: Ank & Breastfeeding

The maternal and infant breastfeeding dyad should be recognized as a **vulnerable patient population** and care should be taken to ensure adequate support services, education and counselling, and shared decision making (Mean 8.82, no outliers)

Infants should ideally be evaluated by a lactation consultant prior to lingual frenotomy. (Mean 7.27, 1 outlier)



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CONSENSUS STATEMENT: Ank & Frenotomy

Before performing a frenotomy on an infant with breastfeeding difficulty, it is appropriate to evaluate the child for other potential head and neck sources of breastfeeding problems such as nasal obstruction, airway obstruction, laryngopharyngeal reflux, and craniofacial anomalies (e.g., cleft palate). (Mean 8.00)



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CONSENSUS: Frenotomy Indications & Consent

Potential benefits from lingual frenotomy in the infant with breastfeeding difficulties are relief of maternal symptoms (e.g., less pain) and maternal reported improvement in infant feeding. (Mean 8.18)

Frenotomy is not always effective in relieving maternal pain and breastfeeding difficulty. (Mean 7.91)



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CONSENSUS: Frenotomy indications

It is not necessary to perform lingual frenotomy in an infant **with little or no restriction** in tongue mobility to prevent a future **feeding disorder** (Mean 8.55)

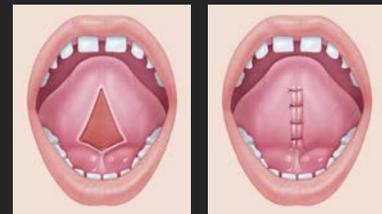
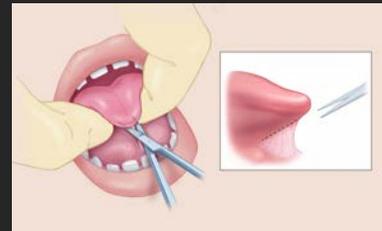
It is not necessary to perform lingual frenotomy in an infant **with little or no restriction** in tongue mobility to prevent a future **speech disorder**. (Mean 7.91)



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Terminology

- **Frenotomy = Frenulotomy:** incision of the lingual frenulum
- **Frenuloplasty:** Horizontal to vertical, z-plasty
- **Frenectomy:** Excision of the frenulum



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CONSENSUS: Pain Control

Topical anesthetic agents are **not** recommended prior to infant frenotomy. (Mean 7.82)

Injected anesthetic agents are **not** recommended prior to infant frenotomy. (Mean 7.82)

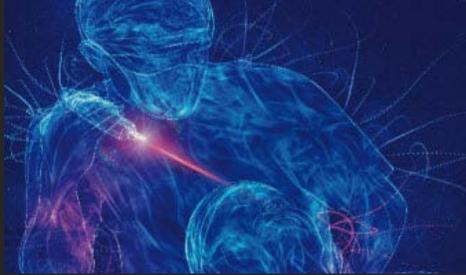
Oral sucrose has been shown to decrease pain response in infants undergoing procedures and can be given to an infant prior to undergoing frenotomy. (Mean 7.73)



CONSENSUS: Technique

There is insufficient evidence to support claims that one technique of frenotomy, such as laser, is superior to other techniques. (mean 8.09)

Lasers



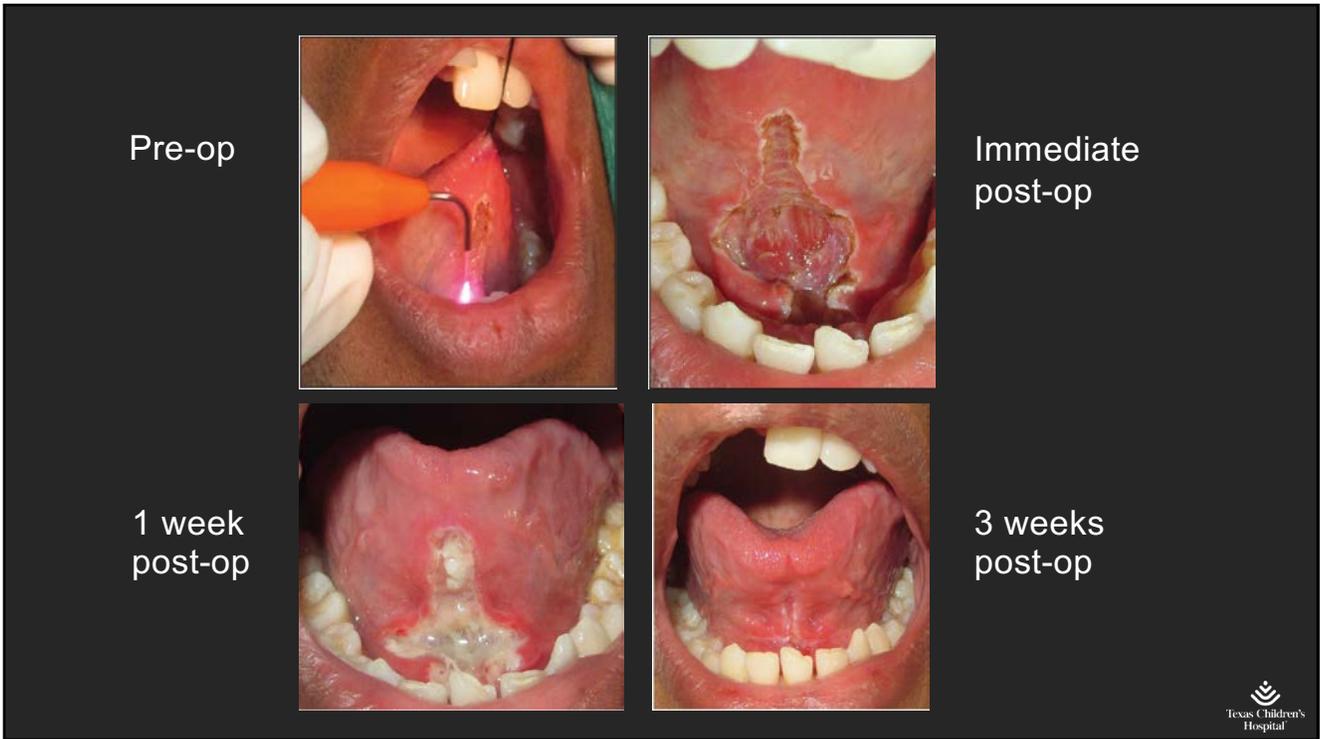
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Barot VJ, Vishnoi SL, Chandran S, Bakutra GV. Laser: the torch of freedom for ankyloglossia. Indian J Plast Surg 2014 47(3): 418.



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Following dental laser frenotomy:
oral aversion, ranula



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Personal Opinion

~~Lasers and tongue-tie~~



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CONSENSUS: Post-procedure care

After frenotomy is performed for ankyloglossia there is no evidence to support a standard post-procedure care regimen (eg stretching, massaging, manual elevation of the tongue by the parents). (Mean 7.36)



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Consensus Statement: Buccal Tie

Surgery to release a “buccal tie” should not be performed
(Mean 8.64)



<https://www.pinterest.com/pin/452752568773016635>



<http://www.mobimotherhood.org/does-it-hurt-to-have-ties-released-and-other-frequently-asked-questions.html>



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Consensus Statement: Obstructive Sleep Apnea

Ankyloglossia does not cause sleep apnea. (Mean 8.36)



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Consensus: Ankyloglossia in Older Children

Ankyloglossia does not typically affect speech. (Mean 7.82)

A consultation with a speech pathologist is encouraged before frenotomy/frenuloplasty in an older child who is undergoing the procedure for speech concerns. (Mean 7.73)



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CONSENSUS: Older Children

Ankyloglossia may cause social/mechanical issues in older children (difficulty licking, difficulty keeping teeth clean, lower central incisor diastema, sense of social embarrassment) (Mean 7.55)



Some older children with social/mechanical issues related to ankyloglossia will experience improved quality of life after frenotomy/frenuloplasty. (Mean 7.91)

Consensus: Maxillary Labial Frenulum

Presence of an upper lip frenulum is normal in an infant. (Mean 8.45)



CONSENSUS: Upper Lip Tie

Upper lip tie is an inconsistently defined condition.
(Mean 7.91)

Upper lip tie has an unclear relationship to breastfeeding difficulties. (Mean 7.27)

In some communities upper lip tie is being over diagnosed.
(Mean 8.18)



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CONSENSUS: Upper Interincisal Diastema

Upper lip frenotomy in infants or children with primary dentition will **not** prevent the occurrence of an upper interincisor diastema. (Mean 7.82)



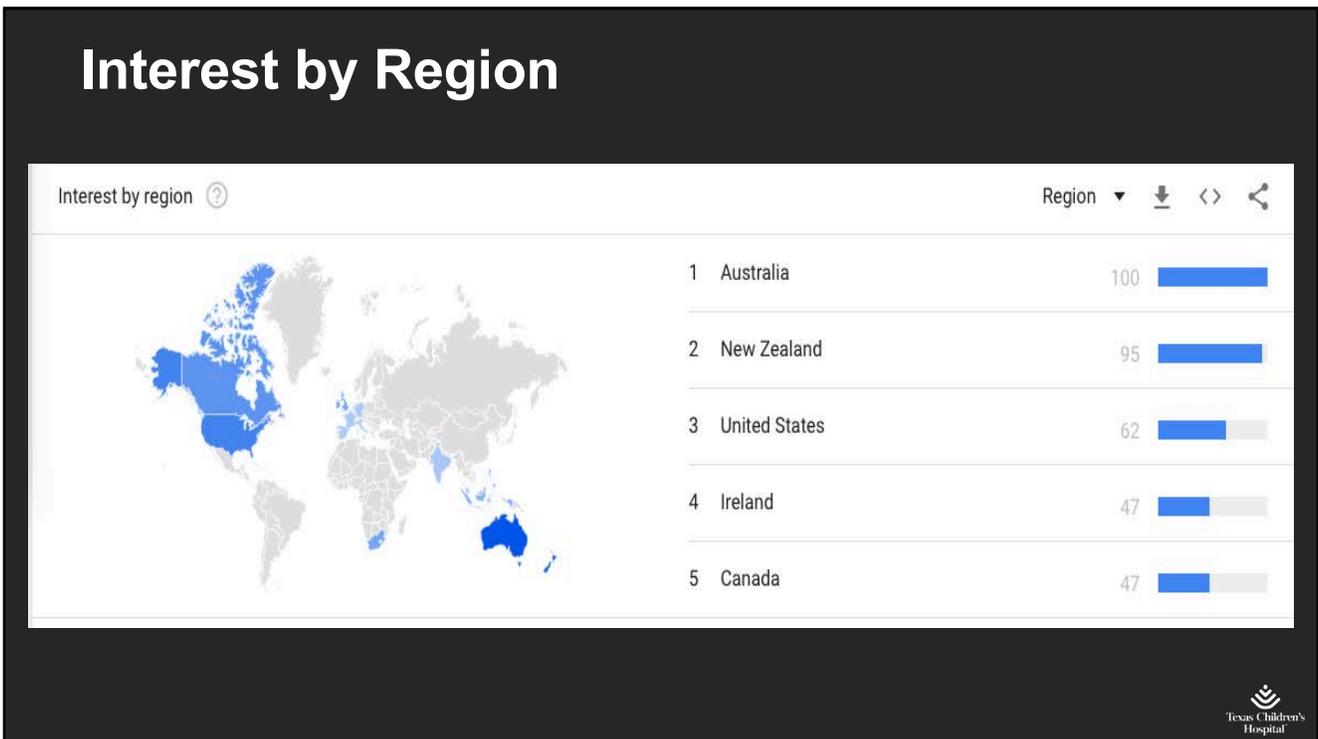
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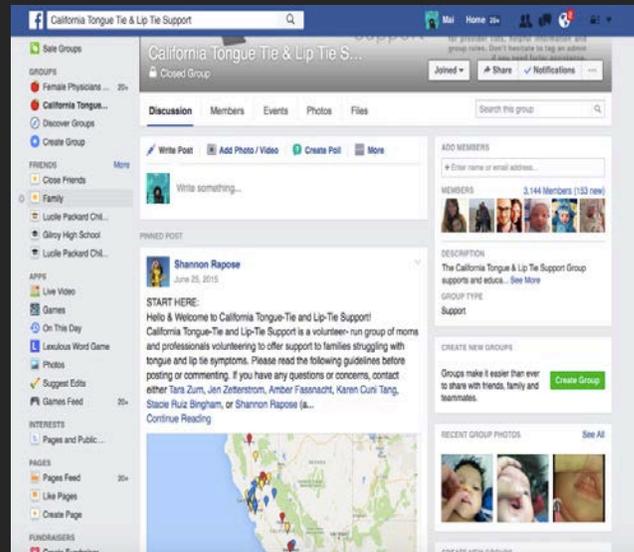


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Social Media and Tongue-tie and Lip-tie



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Social Media & Medical Professionals

- Social media has a sentiment of mistrust of medical professionals who do not follow the “standard protocol” shared on sites such as Facebook
- Social media is a means for mothers to find practitioners who are “preferred”

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5,740,000 results for lip tie and breast feeding



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Issues that may result from tongue or lip ties include:

<u>Baby's symptoms...</u>	<u>Mom's symptoms...</u>	<u>Young children and later in life...</u>
*poor latch or no latch	*painful nursing	*speech delays or difficulty with certain sounds
*chewing on or gumming the nipples	*blocked ducts	*gap in front teeth requiring braces
*reflux	*mastitis	*tooth decay due to food traps
*gassiness	*cracked, bleeding & blistered nipples	*receding gums on tongue side of front teeth
*poor weight gain	*sleep loss due to frequent feedings	*upper body tension
*clicking noise while nursing	*thrush	*self-confidence problems
*excess drooling	*compromised milk supply	*intimacy issues
*frequent feedings	*feelings of guilt or depression	*sleep apnea
*long nursing sessions (30+ minutes)	*lipstick-shaped nipples after feedings	

<http://fosterdentistry.net/id81.html>



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FAMILY

Why So Many Babies Are Getting Their Tongues Clipped

In recent years, surging numbers of infants have gotten minor surgeries for “tongue tie,” to help with breastfeeding or prevent potential health issues. But research suggests many of those procedures could be unnecessary.

RACHEL MORGAN CAUTERO MAR 12, 2019



Texas Children's Hospital

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Bristol Tongue Assessment Tool

(score ≤ 3 severe tongue restriction)

	0	1	2	Score
Tongue tip appearance	Heart shaped	Slight cleft/notched	Rounded	
Attachment of frenulum to lower gum ridge	Attached at top of gum ridge	Attached to inner aspect of gum	Attached to floor of mouth	
Lift of tongue with mouth wide (crying)	Minimal tongue lift	Edges only to mid-mouth	Full tongue lift to mid-mouth	
Protrusion of tongue	Tip Score < 3 stays behind gum	Tip over gum	Tip can extend over lower lip	

Ingram et al. Arch Dis Child Fetal Neonatal Ed 2015

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Key Points

- Ankyloglossia often (but not always) affects breastfeeding
 - (Lots of other causes for breastfeeding problems)
- Frenotomy is an effective treatment for tongue tie with significant improvements in the latch, and decreased nipple pain
- Posterior tongue-tie is controversial, is poorly defined, and has not been proven to affect breastfeeding
- Lysis of the maxillary lip tie is unproven to affect breastfeeding
- Surgery to release a “buccal tie” should not be performed
- Ankyloglossia does not cause sleep apnea

