Tongue-tie and Lip-tie: Fact or Myth

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Tongue-tie = Ankyloglossia

Ankylo = “Stiff, stuck together”
Glossia = suffix meaning “related to the tongue”
Audience Question
In the last 6 months have you seen an infant/child that in your opinion had ankyloglossia which was negatively affecting your patient?
• Yes – frequently
• Yes – occasionally
• No – not yet
• No – the tongue-tie phenomenon is a scam and should be outlawed
THREE Potential Effects of Ankyloglossia

1) Speech

2) 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

3) Breastfeeding problems

Breastfeeding & Tongue-tie

Woodcuts 1679

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

– Horton 1969
Breastfeeding

**Baby:** Difficulty latching on  
**Mom:** Prolonged sore nipples

- Typically NO difficulties with bottle feeding

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**Audience question**

Are you comfortable diagnosing anterior versus posterior tongue-tie?

- Yes – it’s obvious
- Yes – but diagnosis can be difficult
- No – what on earth is anterior vs posterior tongue-tie
- No – the posterior tongue-tie phenomenon is a scam and should be outlawed
To show this poll

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2. Start the presentation

Still not working? Get help at pollev.com/app/help
or
Open poll in your web browser

Types of tongue-tie: no standard definition
My Definition of “Posterior Tongue Tie”

Anyone who does not have “anterior tongue tie”

BECAUSE EVERYONE HAS A FRENULUM!

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
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.

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
Ankyloglossia (General)

Consensus Statements

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

<table>
<thead>
<tr>
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<th>Mean Score*</th>
<th>Outliers**</th>
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</tr>
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<td>&lt; 6.50</td>
<td>≥ 3</td>
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*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

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)
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)

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

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)
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)

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)
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)

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)
**Terminology**

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

**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)
Following dental laser frenotomy: oral aversion, ranula

Personal Opinion

Lasers and tongue-tie
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)

Question: Have you had a patient undergo release of a “buccal tie”? 

• Yes – frequently
• Yes – rarely
• No – what on earth is a buccal tie?
• No – buccal ties are a scam and surgery on them should be outlawed
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-often-asked-questions.html
Consensus Statement: Obstructive Sleep Apnea

Ankyloglossia does not cause sleep apnea. (Mean 8.36)

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)
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)

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)

https://link.springer.com/chapter/10.1007/978-3-319-24361-0_2
Social Media and Tongue-tie and Lip-tie

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

http://fosterdentistry.net/id81.html
## Bristol Tongue Assessment Tool

(score $\leq 3$ severe tongue restriction)

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tongue tip appearance</td>
<td>Heart shaped</td>
<td>Slight cleft/notched</td>
<td>Rounded</td>
<td></td>
</tr>
<tr>
<td>Attachment of frenulum to lower gum ridge</td>
<td>Attached at top of gum ridge</td>
<td>Attached to inner aspect of gum</td>
<td>Attached to floor of mouth</td>
<td></td>
</tr>
<tr>
<td>Lift of tongue with mouth wide (crying)</td>
<td>Minimal tongue lift</td>
<td>Edges only to mid-mouth</td>
<td>Full tongue lift to mid-mouth</td>
<td></td>
</tr>
<tr>
<td>Protrusion of tongue</td>
<td>Tip Score $&lt; 3$ stays behind gum</td>
<td>Tip over gum</td>
<td>Tip can extend over lower lip</td>
<td></td>
</tr>
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*Ingram et al. Arch Dis Child Fetal Neonatal Ed 2015*
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