

**Tongue Tie Assessment:
Developing a Collaborative
Plan of Care**

Minnesota Breastfeeding Coalition Workshop
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Objectives

At the completion of this session, participants will be able to:

- ▶ Review current research regarding tongue tie and its assessment
- ▶ Discuss evaluation of the frenulum using the Martinelli Lingual Frenulum Protocol for Infants
- ▶ List advantages of using an objective tool for assessment of the lingual frenulum
- ▶ Develop a care plan that incorporates relevant members of the family's health care team

<p>What this presentation will NOT cover:</p> <ul style="list-style-type: none">○ Which is the best type of intervention - scissors or laser?○ Do posterior ties need frenotomy?	<p>What this presentation will cover:</p> <ul style="list-style-type: none">○ One organization's care plan given the current best recommendations○ An objective assessment using a valid, reliable tool
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Ankyloglossia

- ▶ Tongue-tie (ankyloglossia) is a condition in which the lingual frenulum has an anterior attachment near the tip of the tongue and may be unusually short, tight and thick (Jackson, 2012).
- ▶ The absence of agreement on the criteria used for evaluation and anatomical classification of the lingual frenulum may be the cause of the variation in the reported incidence rates of ankyloglossia, which is between 0.88% and 12.8% (Martinelli, 2012).



Photo courtesy of Breastfeeding Basics

Why the controversy?

- Lack of high-quality research
- Dramatic increase in diagnosis and frenotomy
- Ongoing breastfeeding challenges

Tongue-tie in the media

HUFFPOST
Are We Overdiagnosing Tongue-Tie In Breastfeeding Newborns?

90.9 wbur BOSTON'S NPR NEWS STATION
To Improve Breastfeeding, Babies Get Their Tongues Clipped. Is It Necessary?

The New York Times
Is Tongue-Tie Surgery Necessary For Breastfeeding Success?

The Atlantic
Why So Many Babies Are Getting Their Tongues Clipped

USA TODAY
Most babies referred for tongue-tie surgeries to breastfeed unnecessary, study says

What do the experts say?

▶ **Academy of Breastfeeding Medicine Protocol #11 (2004)**

"Conservative management of tongue-tie may be sufficient, requiring no intervention beyond breastfeeding assistance, parental education, and reassurance. For partial ankyloglossia, if a tongue-tie release is deemed appropriate, the procedure should be performed by a physician or pedodontist experienced with the procedure; otherwise a referral should be made to an ear, nose, and throat specialist or oral surgeon."

▶ **Cochrane Review (2017)**

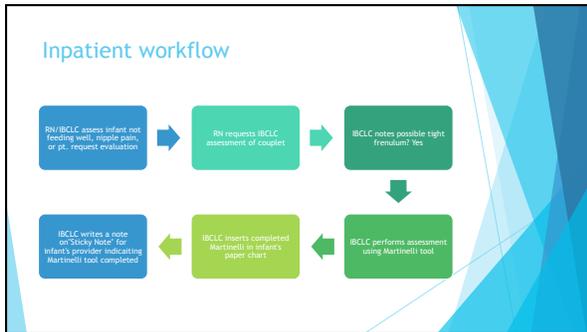
"Frenotomy reduced breastfeeding mothers' nipple pain in the short term. Investigators did not find a consistent positive effect on infant breastfeeding. Researchers reported no serious complications, but the total number of infants studied was small. The small number of trials along with methodological shortcomings limits the certainty of these findings. Further randomised controlled trials of high methodological quality are necessary to determine the effects of frenotomy."

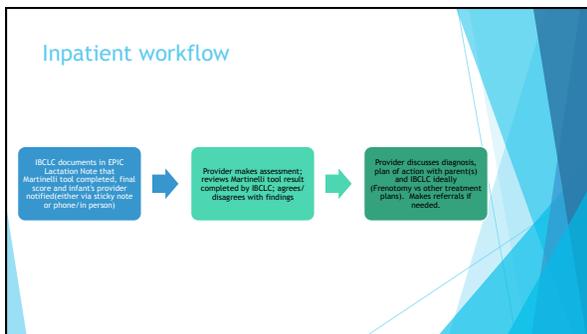
Lack of consensus among providers from different fields

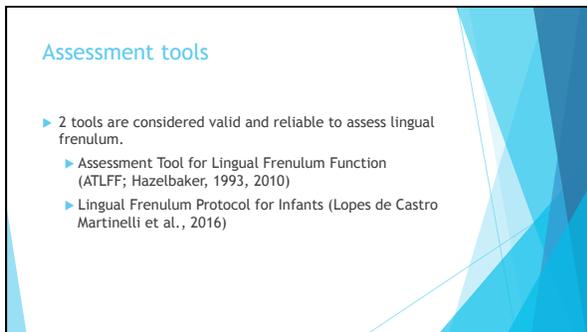
▶ A minority of surveyed pediatricians (10%) and otolaryngologists (30%) believe it commonly affects feeding, while 69 percent of lactation consultants feel that it frequently causes breastfeeding problems. (Agency for Healthcare Research and Quality, 2014)

Team Approach

- ▶ HealthEast formed a working group comprised of Pediatricians, Nurse-Midwives, Pediatric Nurse Practitioners, and International Board Certified Lactation Consultants.
- ▶ Met via conference call to develop a collaborative plan for assessment and management of patients with tight frenulum impacting breastfeeding.
- ▶ Developed an algorithm to guide practice.
- ▶ Presented plan at various council meetings and by e-mail.







Martinelli Protocol

- ▶ Two-part protocol
 - ▶ Clinical history with specific questions about family history and breastfeeding.
 - ▶ Clinical examination: anatomic-functional, non-nutritive and nutritive sucking evaluations.
- ▶ Our organization chose the Martinelli protocol as it is more thorough, includes history taking, pictures, and parent's perception of symptoms
- ▶ It considers function as well as appearance.

LINGUAL FRENULUM PROTOCOL FOR INFANTS
Mazzoni, 2015

HISTORY

Name: _____
 Examination Date: ___/___/___ Birth: ___/___/___ Age: _____ Gender: M () F ()
 Mother's name: _____
 Address: _____
 City: _____ State: _____ Zip: _____
 Phone: Home () _____ Office () _____ Cell () _____
 Email: _____

Family history (any digital frenulum alterations):
 Yes () No () Yes () No () Other: _____

Other health problems:
 Yes () No () What: _____

Breastfeeding

• Clinical breast findings: () 2 hours or more () 1 hour or less ()
 • Nipple soreness? () Yes () No ()
 • Nipple in baby's mouth? () No () Yes ()
 • Size of nipple? () Yes () No ()
 • Nipple shape? () No () Yes ()

History taken across Best result: () Best result: ()

INLET - ANATOMO-FUNCTIONAL EVALUATION

1. Lip position at rest



() closed () Half open () Open ()

2. Tongue position during crying



() normal () Elevated () Elevated with lateral movement ()

3. Shape of the apex of the tongue when elevated during crying or during elevation maneuver



() normal () Heart-shaped () Heart-shaped ()

LINGUAL FRENULUM PROTOCOL FOR INFANTS
Mazzoni, 2015

4. Lingual Frenulum



() normal () Thick () Thick with attachment

Thick, short, and just below the ridge.
 If the frenulum is visible, the FIMET (Frenulum Insertion, Mobility, and Extension) evaluation is performed.

4.1. Frenulum thickness



() normal () Thick () Thick ()

4.2. Frenulum attachment to the tongue



() normal () Between ridge and apex () Apex ()

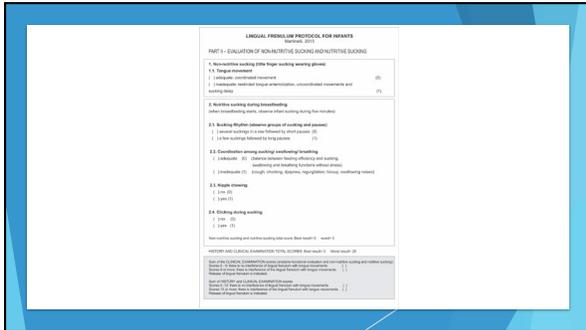
4.3. Frenulum attachment to the base of the mouth



() normal () Below the ridge () Below the ridge ()

Anatomofunctional evaluation Best result: () Best result: ()

When the apex of the tongue is in contact with the palate, the position of the frenulum is evaluated as normal or problem. The position of the frenulum is also evaluated as normal or problem. The position of the frenulum is also evaluated as normal or problem.



Communicating with parents and providers

- ▶ Clear tool with photographs allows good communication with parents while going through the protocol
- ▶ Use of objective assessment offers parents a clearer path which relieves anxiety
- ▶ Parents receive a photocopy of the assessment to bring to follow up appointments
- ▶ Inpatient IBCLCs communicate with providers via the chart, or ideally, directly during rounds
- ▶ A copy of the Martinelli tool is available on the maternity floor, and IBCLCs include their scoring evaluation in their notes
- ▶ Outpatient IBCLCs communicate with providers via note in the baby's electronic chart and a letter directly to the provider
- ▶ If the provider is outside of the system, a copy of the note with a letter is sent via electronic fax

Benefits of using an objective tool to evaluate the lingual frenulum

- ▶ Allows parents to see exactly what is being evaluated
- ▶ Objective measurement fosters trust in the IBCLC as a professional
- ▶ Promotes use of a shared language among providers
- ▶ When done serially, allows for seeing change over time
- ▶ Can give objective support for calling in therapies such as OT/suck therapy
- ▶ Encourages IBCLCs to use consistent measures to evaluate infants

Case Study: Day of Birth

- ▶ Baby born at 38 weeks to 32 year old first-time mother with hypertension, obesity, and infertility due to endometriosis. Birth complicated by long labor, meconium-stained fluid and vacuum-assisted delivery
- ▶ Respiratory distress at birth requiring CPAP
- ▶ Difficulty latching to breast, hypoglycemic to 25 at 10 hrs of age: given dextrose gel and donor milk
- ▶ 16 hrs of age: remains tachypneic, mother breastfeeding but using nipple shield, has LATCH score of 5. Referred to lactation consultant, massage and acupuncture

Day One of Life

- ▶ Baby transferred to Special Care for TTN: receiving antibiotics & phototherapy. Also has significant cephalohematoma.
- ▶ IBCLC visit in SCN:
 - ❖ baby with difficulty latching to breast
 - ❖ requires nipple shield
 - ❖ tongue is not visible at gumline when nursing
 - ❖ Martinelli protocol was not used at this time
 - ❖ Mother advised to discuss options with pediatrician while continuing to work on latch
 - ❖ Mother encouraged to pump after feedings and seek outpatient support

Day Three—remains in SCN

- ▶ Mother pumping and putting baby to breast
- ▶ Second IBCLC visit:
 - ❖ Baby struggling to latch and gets quickly frustrated
 - ❖ Describes tight posterior tongue frenulum with limited excursion and elevation
 - ❖ Tucks in lower lip when nursing
 - ❖ IBCLC did suck training exercises to assist baby with bringing tongue forward
 - ❖ Noted baby able to cup tongue around finger and maintain seal past gumline
 - ❖ Did note baby able to latch using nipple shield and swallowing at breast

Discharge from Hospital: Day 4-5

- ▶ Baby discharged on day 4, just 3.5 oz below birthweight
- ▶ Neonatology note documented that outpatient frenectomy was being considered
- ▶ On day after discharge, baby was seen for follow-up with pediatrician
- ▶ Parent reported difficulty latching, and baby impatient at breast. MD noted that mother reported tongue tie and baby unable to flange lower lip. Documented normal exam.

1 ½ weeks of age: Outpatient IBCLC visit

- ▶ Mother reports baby nursing every 2-3 hours but not content, so supplementing with donor milk. Mother also pumping.
- ▶ Baby gaining well, within 1.5 oz of birthweight, good output
- ▶ Frenulum slightly taut, baby can lateralize tongue, but has somewhat decreased lift; can protrude past gumline.
- ▶ **Martinelli Protocol Findings:** History 5/8; Anatomic-Functional Eval: 4/12; Suck Evaluation 2/5, for Total Score of 11/25. High but not abnormal.
- ▶ Difficulty with initial latch, required shield for most of feeding, and kept lower lip tucked in spite of efforts to bring lip out. Nipples slightly bruised. Baby transferred 1.6 oz.
- ▶ IBCLC advice: consult with pediatrician re: borderline Martinelli findings, and sent consultation note to ped. Decrease supplementation given mother's good supply and baby's gain, try switch nursing, assisted with positioning and latch.

Pediatric care: 2 - 6 weeks

- ▶ 2 weeks: Pediatric visit with no concerns noted. Regained birthweight
- ▶ 5 weeks: Pediatrician noted "very mild" tongue tie, but given continued feeding difficulty and mother's request, referred family to ENT for release
- ▶ Offered OT referral if ENT unable to successfully snip tongue
- ▶ Baby started on medication for reflux, due to frequent spitting up and "screaming" after feeding
- ▶ Gaining -0.7 oz/day: pediatrician encouraged mother to increase the fat in her diet to try to increase fat in milk
- ▶ Mother attending parent group with IBCLC support, and after discussion with IBCLC at group, decided to have baby's tongue released by pediatric dentist rather than ENT

2nd outpatient lactation visit: 6 ½ wks

- ▶ Laser tongue tie release done one day prior to visit
- ▶ Mother feels lower lip flanges better and feedings more go more quickly, but tearful: "I feel like she's starving."
- ▶ Baby nursing every 2 hours and receiving 3 oz of additional pumped milk daily, but weight gain slowing, to about 0.5 oz/day
- ▶ Lower lip well-flanged and tongue visible when nursing, but uncoordinated suck, baby still not able to grasp breast without shield. Infrequent swallows at breast, minimal increase in swallows with letdown. Transferred 1.6 oz.
- ▶ **Martinelli Protocol:** History: 3/8; Anatomic-Functional: 0/12; Suck: 2/5 for total of 5/25
- ▶ IBCLC advice: OT for help with suck and measures to increase supply: increase pumping, moringa, goat's rue. Increase supplements offered to baby—provided with nursing supplementer tube for use at breast.

3rd outpatient lactation visit: 7 weeks

- ▶ Mother successfully increased supply and now nursing every 3 hours, plus supplying baby 14 oz of pumped milk daily.
- ▶ Baby gaining 1 oz/day over past week
- ▶ Baby continues to use nipple shield and be slow at feeding, with frequent popping on & off breast
- ▶ Exam: suck still uncoordinated but improving. Did not use Martinelli protocol this visit. Suck: swallow ratio > 3:1, no increase noted with letdown. Transferred 1.8 oz.
- ▶ Plan to request OT evaluation for help with suck, and slowly decrease supplementation

Last IBCLC visit: 9 weeks

- ▶ Baby maintaining gain of 1 oz/day, nursing 6-7 times/day and swallowing well
- ▶ Supplementing 3 times/day between feedings, with 2.5 oz of pumped milk. Baby content after nursing sessions. Nursing 6-7 times/day, and no longer supplementing after every feedings
- ▶ Continues to use nipple shield. Baby still on & off breast frequently, and has OT appt scheduled for next day for suck evaluation
- ▶ Breasts full and leaking. Baby's tongue does not fully cup gloved finger at first, but after about one minute is able to grasp finger and suckle deeply. Needs several attempts to attain good latch, but once established, baby can sustain latch through feeding and in multiple positions. Suck:swallow ratio < 3:1, with increase in suck after letdown. Transferred 4.6 oz!
- ▶ **Martinelli:** Hx: 2/8; Anatomic-Functional 0/12; Suck 2/5 for total 4/25

Thoughts from Case Study

- ▶ Illustrates how the Martinelli Protocol can follow progress over time: here, from 11 to 5 to 4. What would we see if it had been done inpatient?
- ▶ This tool can show progress, but not what made the difference: frenotomy, time, change in milk supply, etc
- ▶ Illustrates some gaps in assessment/collaborative care: IBCLC-neonatologist-pediatrician-parent
- ▶ Other thoughts?

Nine months in...

- ▶ IBCLCs are the only providers using the protocol
- ▶ Barriers to its use exist, especially inpatient: time, newness of baby
- ▶ Not all IBCLCs apply it the same way
- ▶ Gaps in communication of the results are still present
- ▶ Lack of provider knowledge regarding the use and approval of the protocol remains
- ▶ Perceived disadvantages of this tool: are there "false negatives?"

Learnings from our approach

- ▶ Talk with baby's primary care provider, if possible in the hospital
- ▶ Good to have pediatric advocates (PNP, helpful peds)
- ▶ Make use of openings for conversation—via meetings, in-person conversation
- ▶ Existence of tool has opened conversations

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