

## Ankyloglossia and Sublingual Frenotomy

Charlotte Lewis, MD, MPH, FAAP

WCAAP Key Contact for Oral Health

Ankyloglossia is characterized by a short lingual frenulum, which results in restriction of tongue movement and function. In the newborn period, ankyloglossia is believed to interfere with effective latch at the breast, decreasing efficiency of milk transfer and/or causing maternal nipple pain and injury.

Pediatricians increasingly face questions from parents about whether a baby has ankyloglossia (also known as tongue-tie) and then, whether a baby should undergo a sublingual frenotomy to address it. Evidence-based guidance on treatment of ankyloglossia is lacking while social media advice to parents—often leaning strongly towards overdiagnosis and overtreatment of tongue tie—is abundant.

The lack of high quality evidence about the diagnosis and treatment of ankyloglossia combined with exaggerated and unsubstantiated claims on social media about myriad health problems attributable to ankyloglossia can place pediatricians in a quandary when parents bring concerns about ankyloglossia to their attention.

Unfortunately for pediatricians, research to date has not fully answered the key question of **which baby will benefit from a sublingual frenotomy?** Other unanswered questions about sublingual frenotomy include: What is optimal timing? What is the best technique (laser vs. incision with surgical scissors)? And what are the short and long term desired outcomes? There is reasonable quality evidence that sublingual frenotomy can decrease maternal nipple pain during breastfeeding and increase breastfeeding self-efficacy, yet there remain many other unknowns.

Given the lack of evidence and ongoing questions about the impact of ankyloglossia on breastfeeding and on other outcomes such as future speech, some clinicians and researchers have decided that treatment for ankyloglossia in infancy is not indicated. However, rather than concluding that there is no benefit of sublingual frenotomy, it is probably better to say that the studies to date have not been of adequate quality, in either design or number of subjects, to provide the evidence needed to answer important questions about ankyloglossia.

Underlying some flawed studies is the fact that there are many causes of breastfeeding difficulties and a sublingual frenotomy is likely to help only a small proportion of mother-baby dyads with breastfeeding problems. Our lack of understanding of the best candidates for sublingual frenotomy and inadequate selection and diagnostic criteria in research studies mean that any benefit of a sublingual frenotomy in a subpopulation of study subjects is diluted by the lack of benefit in subjects whose breastfeeding problems are due to other causes beside ankyloglossia.

It also seems that parents and clinicians alike are often hopeful that a sublingual frenotomy will fix any and all breastfeeding problems when, in reality, breastfeeding challenges are often complicated and require a variety of strategies to evaluate and manage.

Anecdotal reports are not entirely without merit, and from these, it is clear that there are some mother-baby dyads who experience immediate relief from maternal nipple pain and/or

improvement in breastfeeding efficiency following sublingual frenotomy. No single factor—appearance, ability to extrude or lift the tongue, or maternal symptoms is adequate to perfectly predict the need for sublingual frenotomy.

In the face of concerns about overdiagnosis and overtreatment of ankyloglossia, studies have shown that multidisciplinary evaluation can help determine whether sublingual frenotomy is indicated or whether other interventions, for example from a lactation consultant and/or feeding therapist, would be more helpful.

Both New Zealand and US studies using a multidisciplinary model, to closely assess all factors contributing to breastfeeding difficulty, dramatically decreased the number of frenotomies performed on patients who had been referred for concerns about ankyloglossia.

Using experience, available resources and evidence, an algorithm is proposed (Figure 1). A small proportion of infants have very anterior frenum attachment on the tongue underside combined with a short frenum length that prevents the baby from lifting or extruding the tongue at all. Photo A on the algorithm demonstrates severe anterior ankyloglossia, which, based on clinical experience, is likely to benefit from empiric management with sublingual frenotomy.

While distinctions are made about other forms of ankyloglossia (posterior tongue ties etc), these distinctions have not yet been demonstrated to help in identifying the best candidate for sublingual frenotomy. Thus, for simplicity's sake, all other presentations (Photo B) except the very anterior, very restrictive form of ankyloglossia, deserve a more in-depth evaluation using directed questions and observation of tongue movement and frenum attachment prior to any procedure.

The New Zealand multidisciplinary study (Dixon, 2018) used a scoring strategy called the Bristol Tongue Ties Assessment Tool (BTAT; or a related visual tool by the same authors—TABBY- Figure 2), with scores less than or equal to 4, to identify patients most likely to benefit from a sublingual frenotomy.

Combining specific breastfeeding concerns suggestive of ankyloglossia (persistent maternal nipple pain, inadequate milk transfer despite adequate maternal milk supply, frequent latching and relatching of the breast or a shallow latch) along with a BTAT/TABBY score of 4 or less is one strategy to identify patients who are more likely to benefit from sublingual frenotomy. Higher BTAT/TABBY scores and other feeding concerns should be evaluated by a lactation consultant before consideration of a sublingual frenotomy.

#### References:

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## **FIGURES**

Figure 1. A suggested algorithm for evaluation and management of suspected ankyloglossia in breastfed infants.