

## Featured Blog - Mouth Development and Function

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### TETHERED ORAL TISSUE: WHAT IS THAT?

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Tethered oral tissues are abnormal tissues of the tongue, lips, and cheeks. They are frequently referred to as frenula. However, professionals in the areas of dentistry, medicine, and child development have used differing terminology to identify these associated tissues and did not compare the established verbiage across professions until recently. In fact, some measurement systems for tethered oral tissues have been developed in the various fields that directly conflict with one another.

The new terminology of *tethered oral tissues* is an attempt to create uniformity across professions by identifying structural deviations and associated concerns with feeding development for professionals treating these anomalies. This current push to standardize the terminology among medical, dental, and child development communities is vital to the creation of collaborative relationships between the fields.



#### Tethered Oral Tissue of the Tongue

Tethered oral tissue of the tongue, otherwise known as ankyloglossia or tongue-tie, is the most commonly known tethered oral tissue. Tongue-tie affects appropriate lingual movements for food management, swallowing, natural oral cleansing, and resting tongue posture. It may also result in speech pattern deficits.

Lingual (i.e., tongue) restriction inhibits appropriate oral movement needed during the natural progression of feeding, swallowing, and speech skill acquisition. Deficits are often noted in the oral swallowing processes of bolus formation, lingual-palatal suction, oral posturing, tongue strength and movement, as well as jaw, tongue, and lip dissociation. Additionally, a lingual restriction may impact the dental structure by pulling the gingival tissue away from the teeth, malpositioning the teeth, as well as inhibiting palatal molding/shaping and one's ability to appropriately clean residue from the surface of the teeth.

However, it should also be noted that less than 10 percent of patients exhibiting tongue restriction have speech or articulation deficits. This is likely related to the fact that speech sounds can be produced in a number of ways, and people with tongue restrictions probably produce affected speech sounds by using

compensatory oral movements.

### **Tethered Oral Tissue of the Lips**

Tethering of the lip (commonly called lip-tie) may involve the upper, lower, or both lips. Lip tethering may restrict the movements needed for lip closure, pursing, flanging, rounding, and retraction. These restrictions often affect a baby's ability to latch and express milk from the breast and bottle. When restriction is evident, typical signs reported by mothers are usually related to the feeding process. These include difficulties with nursing in conjunction with mastitis, infantile reflux, and displeasure with the overall feeding process secondary to the associated difficulties. Lactation consultants and feeding specialists are typically the first to identify lip tethering. A new mom typically reports concerns with latching or inconsistent sucking patterns.

### **Tethered Oral Tissue in the Cheek Areas**

The least commonly known type of tethering is the buccal tie, lateral frenula, or buccal frena. The term "buccal ties" is most commonly used by feeding specialists and lactation consultants. These are restrictions or taut fibers that are abnormally attached from the gums to the inside of the cheeks.

The difference between buccal frena and the other types of tethered oral tissue is that muscle bundles are not found in these lateral tissues. Therefore, these tissues are not typically treated unless they significantly impact the person's ability to create oral suction or move the cheeks and lips (cheeks help to move the lips). However, when lesser-involved buccal ties are observed, one may notice a reduced or decreased strength in the sucking motion and in bolus propulsion.

### **Revisions of Tethered Oral Tissues**

Revisions of the tethered oral tissues are typically recommended for the lingual and labial ties. Buccal ties are seldom revised; however, revision may be necessary if the restriction significantly impacts the infant's ability to suck and feed. When considering revision, the parent needs to consider the types of procedures used for revision.

Carmen Fernando discussed various surgical options in her book, *Tongue Tie: From Confusion to Clarity* (1998). She identified four options:

"-Snipping the frenum (sometimes referred to as 'frenotomy') of neonates.

-Surgical revision of the frenum (sometimes referred to as 'frenectomy,' 'frenulectomy,' or 'frenuloplasty') under a general anaesthetic at or after 6-months of age

-Revision of the frenum by laser without a general anaesthetic.

-Revision by electrocautery using a local anaesthetic.

All these methods are equally successful when used in appropriate circumstances."

### **Summary**

A basic understanding of current practices in the identification of tethered oral tissues will greatly impact the provider's ability to implement appropriate intervention, explain the tethering to referral sources, and obtain surgical intervention when it is appropriate for the person exhibiting the tethered tissues. During oral mechanism examinations, the clinician identifies the tethered oral tissues, as well as assesses the

presence of restriction and the impact of the tethering on the oral phase of the swallow. Referrals to outside professionals require understanding of these changes to the oral cavity and the impact on the person's ability to appropriately feed, manage/manipulate food, clear/clean the mouth, and swallow. With basic knowledge of what is considered normal verses abnormal, consist terminology usage, and appropriate identification, the professional can make recommendations for revisions as necessary for an individual.

## Reference

Fernando, C. (1998). *Tongue tie from confusion to clarity: A guide to the diagnosis and treatment of ankyloglossia (tongue tie)*. Sydney, Australia: Tandem Publications.

## Other Resources

Here are some other resources on this topic.

Publications by Dr. Lawrence Kotlow - <http://www.kiddsteeth.com/articles.php?mode=desktop>:

Kotlow, L. (2015, March). TOTS - Tethered oral tissues: The assessment and diagnosis of the tongue and upper lip ties in breastfeeding. *Oral Health*, 64-70.

Kotlow, L. (2013, July). Diagnosing and understanding the maxillary lip-tie as it relates to breastfeeding. *Journal of Human Lactation*, 1-7.

Kotlow, L. (2013). Breastfeeding should be fun and enjoyable: A book all about fixing abnormal lingual and maxillary frenum attachments. Power Point Presentation.

Kotlow, L. (2011). Infant reflux and aerophagia associated with the maxillary lip-tie and ankyloglossia (tongue-tie). *Clinical Lactation*, Vol. 2-4, 25-29.

Kotlow, L. (2010, March). The Influence of the maxillary frenum on the development and pattern of dental caries on anterior teeth in breastfeeding infants: Prevention, diagnosis and treatment. *Journal of Human Lactation*, 26, 304-308.

Publications by Others:

Hazelbaker, A. (2010). *Tongue-Tie: Morphogenesis, impact, assessment and treatment*. Columbus, Ohio: Aidan and Eva Press.

Devishree, Sheela Kumar Gujjari, & Shubhashini P.V. (2012). Frenectomy: A review with the reports of surgical techniques. *Journal of Clinical and Diagnostic Research*. 6(9), 1587-1592.

Kashyap, R., Zareena, S., Hedge, S., & Kumar, A. (2015). Management of aberrant frenum: A case report, *Journal of Dental and Medical Sciences*, 14, 10-13.

Marchesan, I.Q. (2004). Lingual frenulum: Classification and speech interference. *International Journal of Orofacial Myology*, 30, 31-38.

Martinelli, R., (2012). Lingual frenulum protocol for infants. *International Journal of Orofacial Myology*, 38, 104-112.

## About the Author

[Kristie](#) is a certified orofacial myofunctional therapist and speech-language pathologist in the greater Houston area who has focused her clinical practices on etiologies associated with the oral phase of the swallow. She currently is the owner of [The Speech and Language Connection](#) and has the pleasure of working with nineteen, extremely talented, speech-language pathologists of varying specialties. Kristie is also the author of the book [Understanding the Orofacial Complex: Muscle Manual](#).

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