

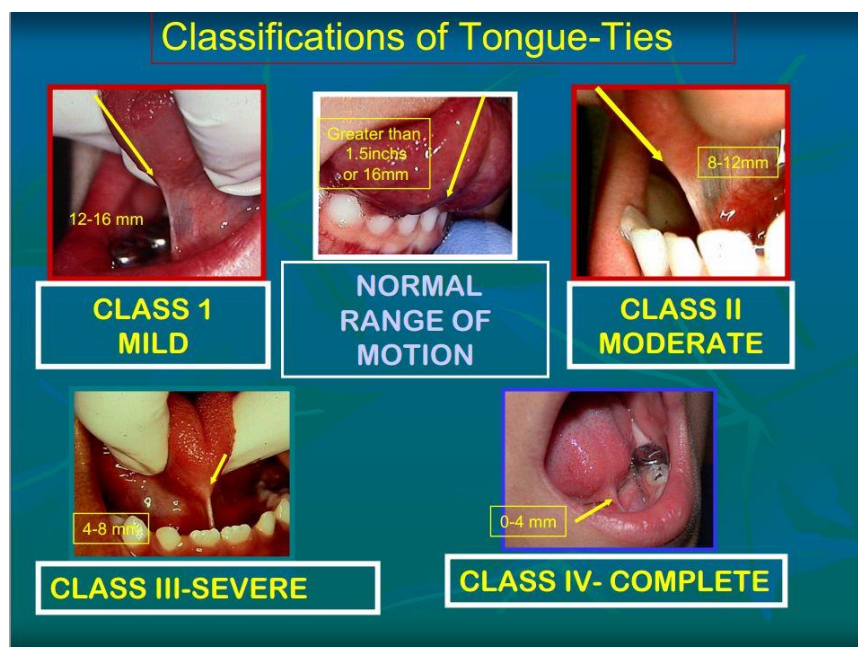
## Revision of the Lingual Frenulum (Tongue-Tie)

Early diagnosis and treatment of an abnormal frenulum attachment with the simple and quick revision technique using a diode laser can help prevent, airway, sleep, snoring, speech and orthodontic problems.

### When Lingual Frenulum Needs Revision

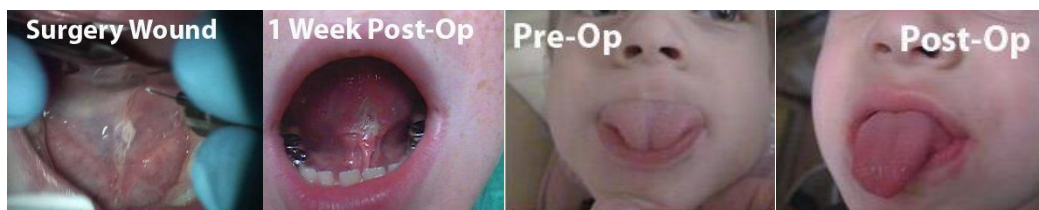
The lingual frenulum attachment is a membrane attaching the middle of the tongue to the floor of the mouth. When this membrane attaches too close to the tip of the tongue, revising the attachment may prevent the formation of:

- 1) Sleep apnea, snoring, airway problems
- 2) Swallowing problems with a sensitive gag reflex
- 3) Small upper jaw (maxilla) and large lower jaw (mandible).
- 4) Breastfeeding problems with infants.



Type I & II frenulums generally do not need revision. Type III & IV frenulums can be part problems listed above and need revision.

### Revision Treatment



The procedure is completed easily using a local anesthetic to numb the area followed by the laser energy to vaporize and remove the abnormal attachment. Using the laser allows for faster healing, very little or no post-operative discomfort and in most cases, no stitches.

### Post-Operative Care

Successful revision of the frenulum depends on care after the completion of the office procedure

1. After numbing is gone, use Tylenol or similar medications if there is some slight discomfort.
2. The Front teeth **must be brushed** daily to remove plaque or the tissue will not heal correctly
3. Place **Vitamin E, Vaseline, or Aquaphor** on the revision site in the morning and at bedtime.
4. At least 2 times per day, push into the wound **up and down** to prevent the reattachment.
5. 1-2x a day use peroxide rinse (Peroxyl) or warm salt water rinse on the surgical site.
6. Return to the office in **one week** for a post treatment evaluation.

## Does Your Child Need a Revision of the Lip Frenulum?

Early diagnosis and treatment of an abnormal frenulum attachment with the simple and quick revision technique using a CO<sup>2</sup> laser can prevent misdirection, spaces, and decay of maxillary teeth and does not present any significant risks to the child.

## When Maxillary Frenulum Needs Revision

The maxillary frenulum attachment in most individuals is positioned above the upper front teeth. When the tissue inserts or attaches between the two central incisors or just in front of the incisors, revising the attachment may prevent the formation of a gap as the permanent teeth erupt. In some cases, the tightness of the lip to the teeth may also be a contributing cause of:

- 1) Decay formation on the front surfaces of the upper teeth.
- 2) Gaps (diastemas) forming between front teeth with crowding of neighbors.
- 3) Breastfeeding problems with infants.
- 4) Periodontal or gum disease in adults.



Pictures A & B are type I & II frenulums and generally do not need revision. Pictures C & D are type III & IV frenulums. They are dropping between the teeth making them hard to brush. Space is starting to occur between the teeth and brushing can be difficult.



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## Post-Operative Care

Successful revision of the frenulum depends on care after the completion of the office procedure

1. After numbing is gone, use Tylenol or similar medications if there is some slight discomfort.
2. The Front teeth **must be brushed** daily to remove plaque or the tissue will not heal correctly
3. Place **Vitamin E or Vaseline** on the revision site in the morning and at bedtime.
4. At least 2 times per day, pull the lip **upward** to prevent the reattachment of the lip to the gum.
5. 1-2x a day use peroxide rinse (Peroxyl) or warm salt water rinse on the surgical site.
6. Return to the office in **one week** for a post treatment evaluation.

## Treatment of Tongue Tie and Lip Tie

### **Tongue Tie - Ankyloglossia (Lingual Frenum):** mild, moderate, or severe

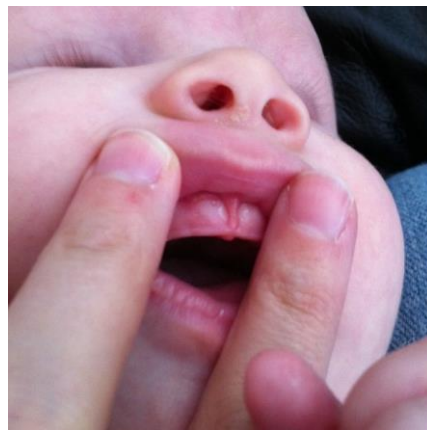
- The lingual frenum is the cord that stretches from the tongue to the floor of the mouth. If the tongue is attached too close to the tip of the tongue or too tight to the floor of the mouth its mobility is restricted often causing difficulty with breastfeeding, chewing, speech, oral hygiene, etc.
- Tongue tie release (frenectomy) may improve these problems when followed by stretching exercises and follow up with your Lactation Consultant

### **Lip Tie (Maxillary frenum):** mild, moderate or severe

- The maxillary frenum is the membrane between the lip and the gum. When it is very tight this may interfere with a baby's ability to latch correctly on the breast, and interfere with the ability to maintain good oral hygiene and proper dental development.
- Lip tie release may improve feeding, brushing, gum recession, spaced teeth, etc.



**Tongue Tie**



**Lip Tie**

## Introduction

Thank you for having confidence in my office and staff to provide your child's oral health care today. It is extremely important for you to recognize the importance of following all the post-surgery exercises to make sure the final results are successful.

1. **Hyland's Teething gel** can be applied to the surgical site as needed after surgery.
2. **Tylenol or Motrin** type medications can be given every four hours if needed, the usual amount would be **(80mg) 1/4 the dosage** recommended for a two year old. (infants over 1 month)
3. After today's surgery: Consult with your Lactation Consultant (IBCLC) and in many cases see a person knowledgeable in craniosacral therapy (CST) on infants, such as a pediatric chiropractor, CST, or osteopath who can aid in restoring full oral function and mobility.

## Facial Massage



Use facial massage as often as you want. Using your fingers will also help relax and aid your infant in learning a new sucking method.



Your finger should feel pressure at the fingernail, not the knuckle during sucking.



## Post Surgery Appearance of the Surgical Areas

White appearing diamonds are the normal appearance 24 to 48 hours after surgery.

***The white color is not any type of infection.***





## Daily Stretching Exercises

### The Tongue-Tie



**Stretching exercises:** This is the most important part of your infant's successful healing after I complete the surgical procedure. Failure to follow these stretching methods may lead to reattachment and the need for additional office visits and redoing the surgery if the area heals back together. Use enough force to make sure the area does not close. Begin this tonight and continue for at least 10-14 days.

Place your index fingers on each side of the tongue and forcefully open the diamond shaped area. You need to use sufficient gentle force to totally reopen the surgical site to prevent the re-attachment. Gently push or pull downward towards the infant's throat. Some bleeding may occur and this is not a concern.



**TIP:** *(This is often easier for parents)*

Reopen the surgical area by placing a tongue blade above the area and push the lower jaw down and the underside of the tongue backward and upward using sufficient force to open the entire surgical area.

### The Upper Lip-Tie



Grasping the upper lip with two hands, gently pull the upper lip upward until it touches the infant's nose using enough force to open the entire surgical site and prevent the lip from becoming tied again.



## Stretching Posture

The correct way to do stretching is with your infant's head in your lap facing the same direction as your head.



## Phases of Wound Healing

Many wonder why frenulums grow back. One primary underlying reason is the body tenaciously and persistently attempts to close a wound it has experienced for as long as 7-12 months. Here is a synopsis on wound healing phases:

### 1. First 3-4 days - Inflammatory Phase - Fast and Furious First Responders



**Immediately**, Tissues remaining in the wound get leaky, swell (edema) and a high protein fluid combined with water and some other chemicals form a gel that coagulates into a scab.

**Within 6 hours**, blood vessels and cells are proliferating and crossing the wound to close it down.

**After 24 hours**, small blood vessels sprout around the edge of the wound creating a pinkish-reddish appearance of the developing scar.

**By Day 4**, As the scar matures, capillaries stop forming and the wound develops a pale look. **This "white" look is normal and IS NOT an infection.**



**Frenulum note:** Most of this time, not enough fiber has formed to restrict the frenulum. The patient still usually enjoys the freedom of movement that the initial surgery provided.

## 2. Day 4-20 - Proliferation Fibroblastic Phase - Frenulum Filament Forming Factory (FFFF)



An all-out attempt at wound contraction is going on. The frenulum now has a white look as the original scab has matured in to well-connected roof over “granulation tissue” that is a furnace of activity.

**The next two weeks**, an army of chemicals and tissue cells on missions get busy.



Little pain is present during stretching after a week.

Of interest to the **frenulum** is **The frenulum filament forming factory (FFFF)**. This is a collection of fibroblasts and accompanying vessels (blood and lymph) that spin a web of collagen that is now crisscrossing the surgical wound and attempting to close it.

**Frenulum note:** This is when the symptoms that existed before surgery may start to return. The frenulum is starting to re-attach itself. Stretching exercises are critical here to breakup these filaments and keep the FFFF from closing this wound and taking away the new found freedoms of the lip and/or tongue.

## 3. Next 6-12 Months - Maturation “Remodeling” Phase



Stretching exercises are still important.

**At a month**, the scar has matured with no inflammation (edema/pain) present. This scar is complete with a skin (epithelial) cover now. Underneath this scar look what’s happening!

**Wound contraction persists!** Collagen filaments are replaced by a stronger interwoven type tissue. Granulation tissue slowly disappears, and the resulting healed tissue is a product of adaptations stresses and tensions during this phase.

**Frenulum note:** Stretching and supportive habits are critical here to resist the body’s persistent will to close the wound. Coupled with growth factors present in a growing child these frenulums want to close!

## Post Treatment Care of Frenectomy

The **laser frenectomy** which was just completed for your child, is currently the most up to date way of surgically removing frenular tissue. It was treated because it was:

1. Anatomically : impeding normal growth and eruption of teeth.
2. Causing a limit to proper lip or tongue mobility.
3. Causing speech or feeding problems.
4. Causing a periodontal defect in the gingival and bone support.

Recovery from this bladeless procedure is usually rapid and causes minimal discomfort.

Immediately after the procedure you should bring your child home and give an **age appropriate** dose of **non-prescription** pain medication (Tylenol, Motrin, Advil brand name **OR** Generic equivalent is of course adequate- BUT **NOT** Aspirin). *It is very rare to require a prescription pain control medication.* One dose is usually adequate but if you feel that your child requires a second dose 6-8 hours later please give your child a second dose. (or call me if there are ever any questions...).

**There are minimal food and activity restrictions.** However, it is advised **not** to give you child any **spicy** foods, large seeds or crunchy pieces or acidic drinks ( i.e. orange juice, tomato juice or pineapple juice) for the first 24-48 hours because these foods may irritate the treated area.

You must keep the area **clean** with salt water rinsing. This needs to be done **3 times a day for 4 days**. Either rinsing the treated area or apply a cotton ball soaked in salt water to the treated area for approximately 30 seconds.. **Or**, you may wipe the treated area by using vitamin E from a vitamin E capsule. Please pierce the capsule and squeeze an **apple seed size** amount on the gel onto your finger and apply to the treated site. You may also use olive oil or coconut oil.

**Additionally**, at that time your child should press his tongue into the area for an additional 30 seconds or else pull up on the lip after these cleaning times to stretch the area and keep the tissue loose. This should be done for **10 days**. It is extremely rare to have complications, but if you feel that the area is not healing (it **will** look white for the first few days and should **not** be swollen) please call my office for advice and answers.

If we treated a tongue tie, then you must perform **tongue stretching** exercises. Practice *pointing the tongue* out for 15 seconds, then, *lift the tongue* to the roof of the mouth and press behind the gums of the top front teeth for the same time allotment. Then complete this exercise by practicing sticking the tongue out then *tapping the corners* of the outside of the mouth for 15 seconds on each corner. This must be completed 3-5 times a day for **14 days**



## Frequently Asked Questions or Concerns

**Begin Stretching exercises tonight. You do not have to wake infant up during the night. Do the stretching during awake time. You do not need to wear gloves.**

**1. Massage the surgical sites at every nursing session.** Massage the face externally as often as you want.

**2. How often do we need to stretch the tongue and lip?**

**a.** At least **2-3 times a day for 10-14 days** starting tonight. Gloves are not needed at home.

**b.** Stretching can be completed before you breastfeed, after nursing on one breast and before nursing on the other breast or after breastfeeding.

**3. How hard do we stretch?**

**a.** Use enough force to make sure the area does not close. If you see a red line in the healing area, you are not stretching adequately. A red line means the area is reattaching. Bleeding may occur if re-healing is occurring.

**4. How long do I stretch for each time we open the area?**

**a.** Long enough to make sure the entire diamond is opened up. Usually **5-10 seconds**.

**5. It is not uncommon for the upper lip to begin to swell after the lip-tie is revised.** If this occurs, you can place a cold compress on the outside of the upper lip. Do not place ice directly on the lip. This should gradually disappear after a few days. It is not a sign of an infection!

**6. If your infant has any post-surgery bleeding, it is not an emergency.** Place a regular teabag on the area for three to five minutes. Herbal tea does not work.

**7. Please keep in contact the day after surgery and for a few days post-surgery with Brecksville Kids Dentistry 440-838-5445**

**8. If your infant appears to have excessive drooling, this is normal after surgery due to your infant's increased tongue mobility, which will stimulate salivary flow.**

**9. If your infant cries about three hours after surgery, it is normal.** This may occur when the analgesic effects of the laser wear off. You can use an infant pain medication if desired. You may apply the teething gel if discomfort continues

**10. When should we see improvements in breastfeeding?**

**a.** Many infants will show an improved latch on the breast immediately after surgery, however in some instances this may take as long as a week. If you see immediate improvement and then a week or so discomfort returns, you may not have used adequate force when opening the surgical sites and the sites may need to be re-treated by Dr. Hechko. In many instances, you will not experience full improvement unless you have scheduled follow-up care with a lactation consultant.

**b.** Some newborn infants may take a few days to develop a good latch on, as they begin to gain strength.

**c.** You cannot make the surgical sites bigger or cause any damage when you stretch either the lip or the tongue revisions.

**d.** The white area that develops within the surgical site is normal, this is not an infection. Lasers kill bacteria during the procedure.

**11. After revision of the lip-tie, you may also assist in improving the latch by pulling up the upper lip outward when your infant first starts to latch-on.**

**12. After surgery, it is important to see your Lactation Consultant (IBCLC) and specialist in infant craniosacral therapy (CST).**

**\*\*\*\*It is not often, but for a variety of reasons, EITHER THE LIP OR TONGUE AREA MAY NEED TO BE REDONE DUE TO RE-GROWTH OR ATTACHMENT DURING THE HEALING PROCESS. If there is such a need to redo the surgery within the six months post-surgery for any area previously charged there will not be any additional fees charged.**