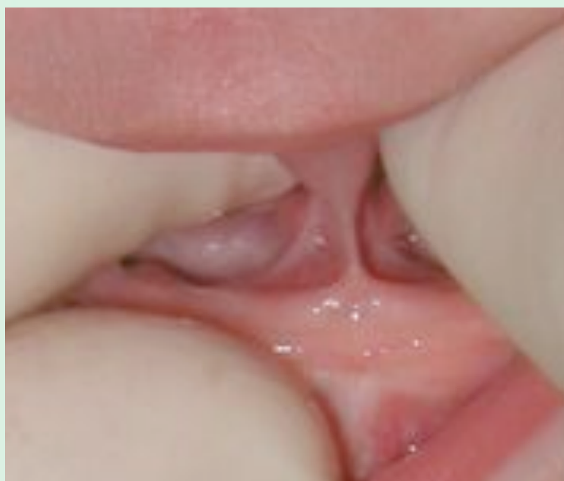
Newborn infants Dental concerns

Lawrence Kotlow DDS
Board certified specialist in pediatric dentistry
In private practice since 1974
340 Fuller Road
Albany,New York
Web site KIDDSTEETH.COM
Founding member of the IATP
(International Affiliation of
Tongue-tie Professionals)

11/14/09

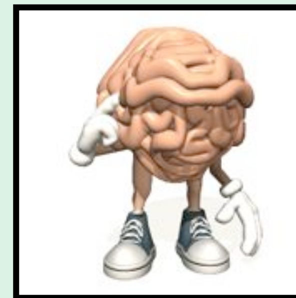
Oral exam no later than age 1

Complete oral evaluation

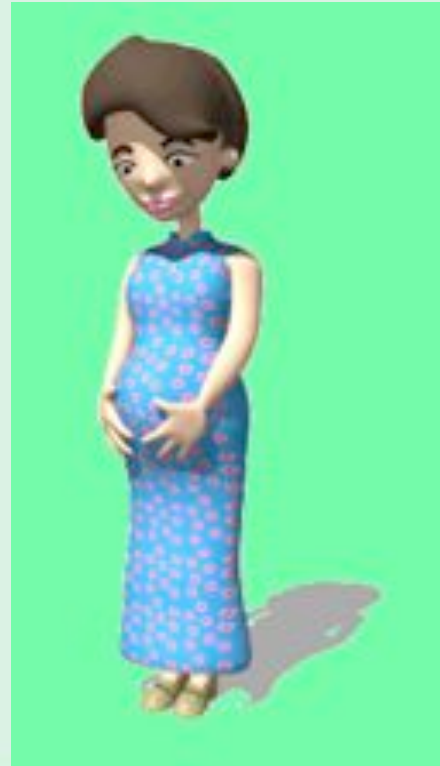


Understanding, diagnosing & treatment associated with abnormal oral development

Care that may begin at birth



The start of pediatric oral care begins with mom !



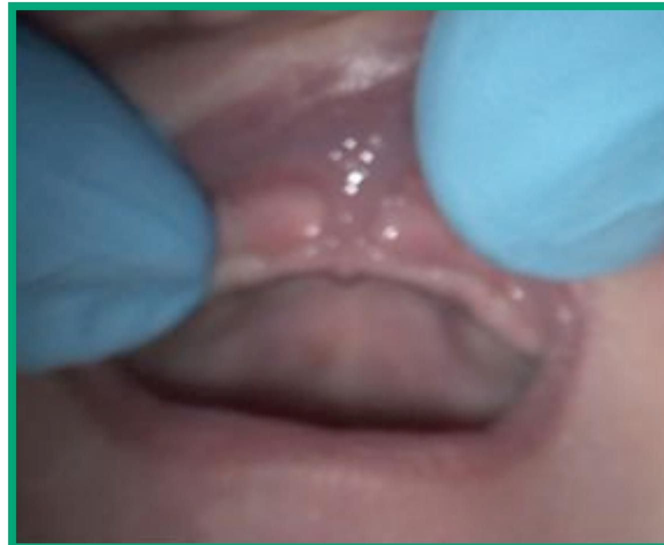
Poor oral health, periodontal disease is a cause of spontaneous abortions in pregnant women and premature births. This may be due to increase formation of biological fluids that induce labor.

Multiple refs : www.health.state.ny
Oral health care during pregnancy and early childhood

2 problems apparent at birth

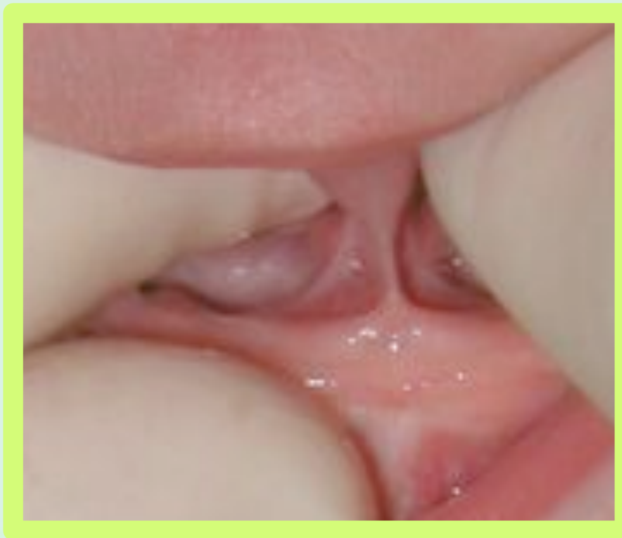
Abnormal frenum attachments

Ankyloglossia (tongue-ties)



Abnormal (4 week-old)maxillary frenum attachment

Today's discussion ankyloglossia or tongue ties



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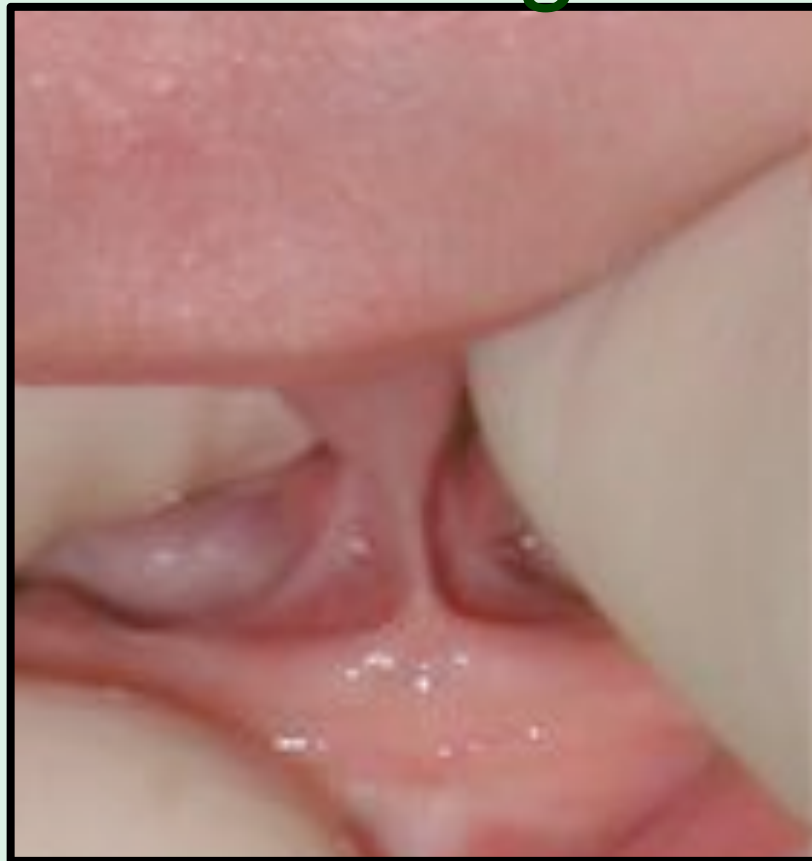
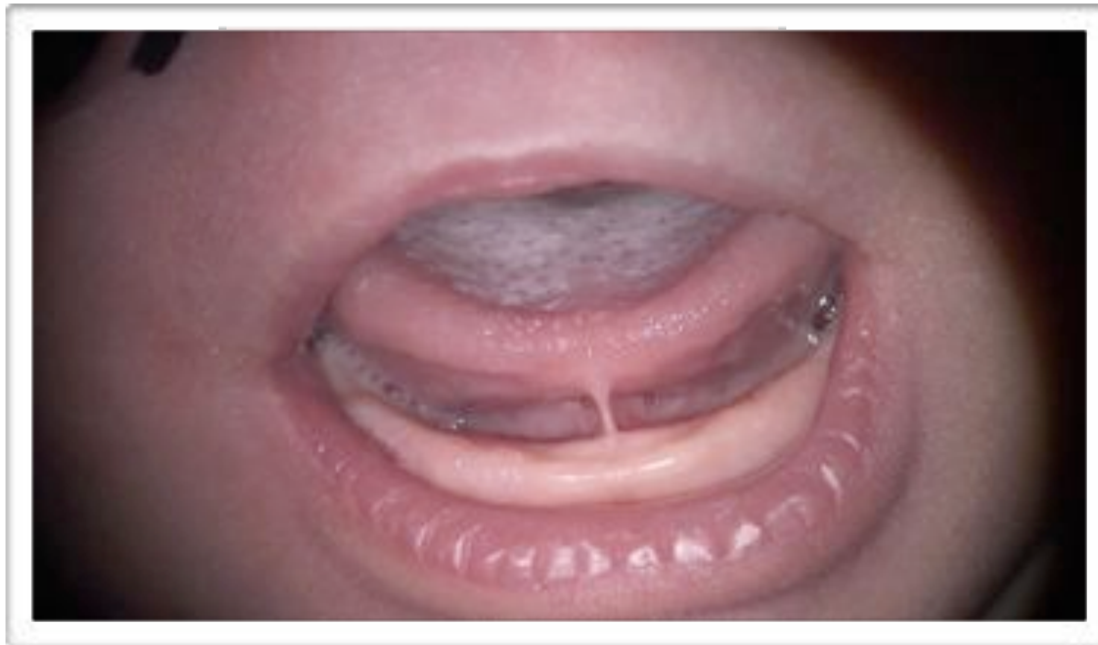
Is this a problem or a lot of fuss about nothing ?

Ankyloglossia (tongue-ties)

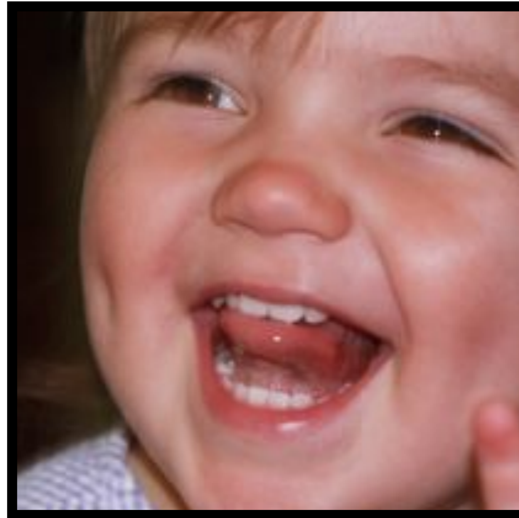


Ankyloglossia (tongue-tie)

An *abnormal attachment* of the *membrane* or *frenum* that fastens the tongue to the floor of the mouth, which may interfere with the normal *functions* and *mobility* of the tongue.



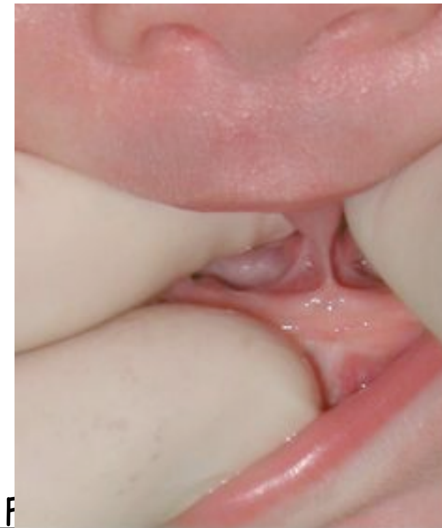
The normal clinical appearance of the tongue and asymptomatic frenum attachment



The normal functioning tongue has a full range of motion which allows for comfortable, effective nursing. No gagging, colic, GI problems, or pain to the mother. A normal tongue protrudes easily outside the mouth, is able to easily elevate and touch the hard palate, corners of the mouth ,will not contribute to orthodontic, growth and development of the upper and lower jaws or speech.

Ankyloglossia & Nursing

- "Ankyloglossia in breastfeeding infants can cause ineffective latch, inadequate milk transfer, and maternal nipple pain, resulting in untimely weaning."
- Unrecognized ankyloglossia associated with failure to thrive.
- 3.2 % -4.5 % of children in studies had significant ankyloglossia.



Ankyloglossia: Assessment, Incidence, and Effect of F
on the Breast feeding Dyad Jeanne Ballard Pediatrics Vol. 110 No.5 November 2002 pp. e63

Premature infants and tongue-ties

A preterm, weak, breathing compromised, neurologically immature baby has many impediments to nursing, and any type of ankyloglossia might be enough to make it impossible, so we need to take it out of the equation. It is not uncommon for babies in the NICU to go home on bottle feeds, because the length of stay would be prolonged if they waited until full nursing was achieved. Many babies don't get a chance to express the tongue-tie problem because of lack of opportunity to nurse by the time they are physically and developmentally ready.

Changing attitudes

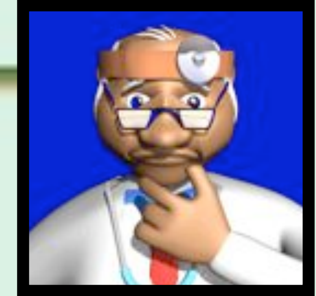
American Academy of Pediatrics Summer 2004

"Many of today's practicing physicians were taught that treatment of tongue tie is an outdated concept-a relic of the past. Among breast feeding specialists tongue-tie has emerged as a recognized cause of breast feeding difficulties "

American Academy of Pediatrics

Section on Breastfeeding

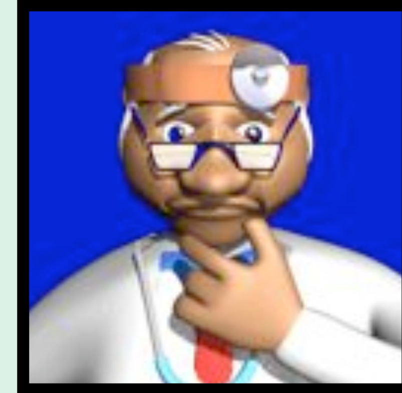
Breastfeeding: Best for Baby and Mother



Common ideas and myths that interfere with proper care and treatment of newborns presenting with ankyloglossia

- ➡Tongue-ties do not exist.
- ➡Tongue -ties will not effect nursing
- ➡Tongue-ties will correct themselves.
- ➡A tight lingual frenum will stretch or tear without treatment
- ➡Ankyloglossia does not cause maternal discomfort
- ➡Ankyloglossia does not effect developing speech.

Confusion of descriptions and treatments due to terminology



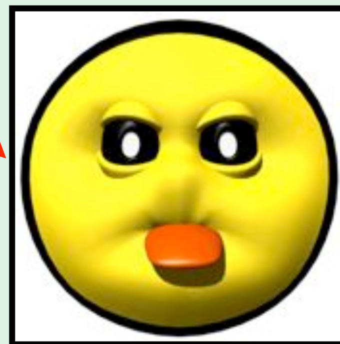
- These terms are often used Interchangeably

✓ *Frenum* = Frenulum = Frena (plural)
✓ *Frenectomy* =Frenotomy = Frenulotomy = Frenulectomy

What are the best criteria we can use to diagnose ankyloglossia ?

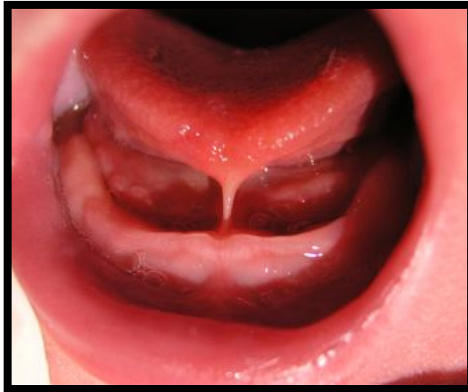
Ankyloglossia can be defined in two ways

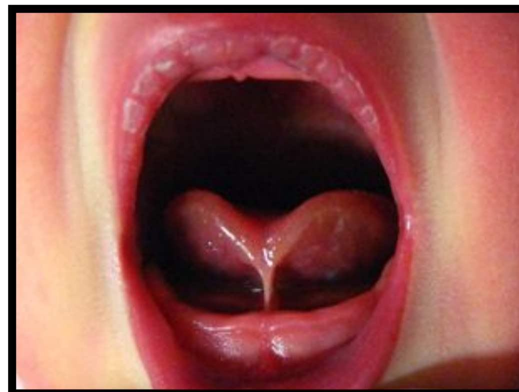
Anatomic appearance



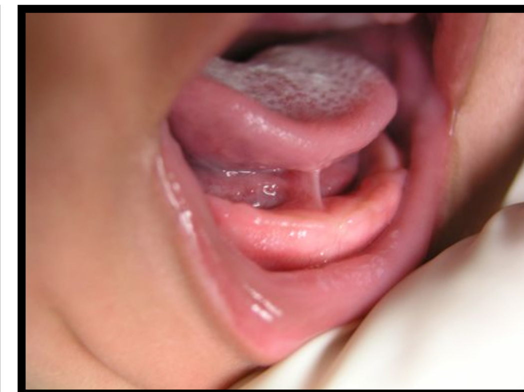
Ability to function

Classification of newborn abnormal lingual frenums:based upon *anatomic appearance*

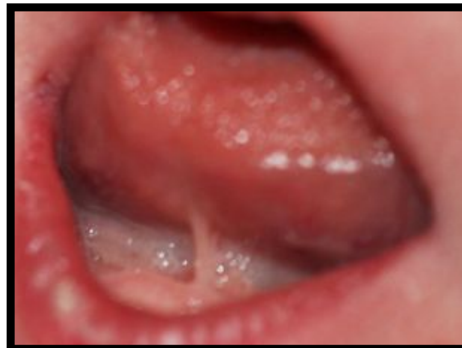




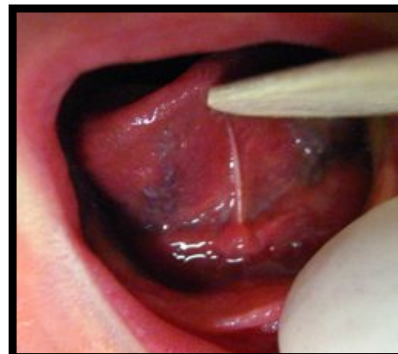
Type 1(4) -total tip involvement



Type -II (3) Midline-area under tongue (creating a hump or cupping of the tongue)



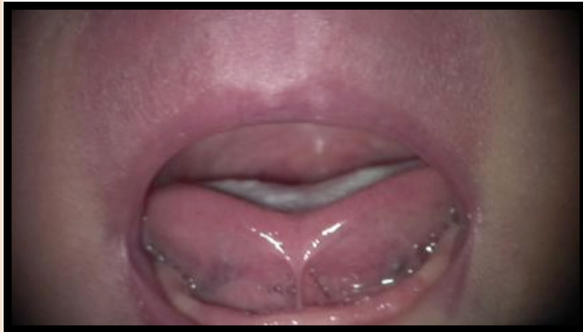
Type III (2) Distal to the midline.The tongue:may appear normal



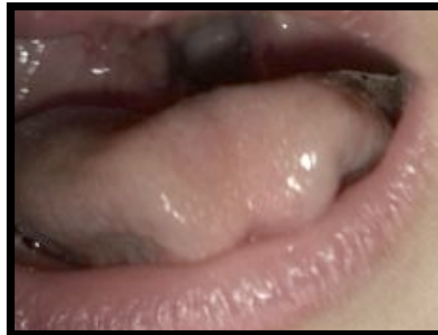
Type IV (I)
Posterior area which may not be obvious and only palpable, Some are submucosally located

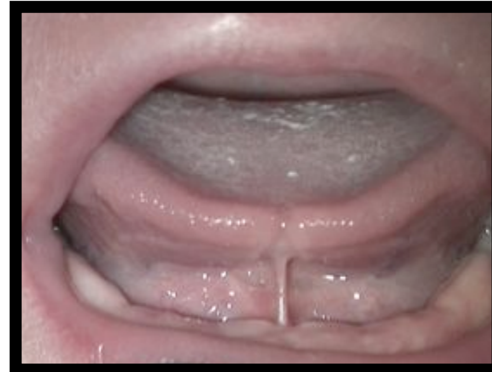
or should we be just concerned about *function* ?

Diagnosis based on function or lack of function

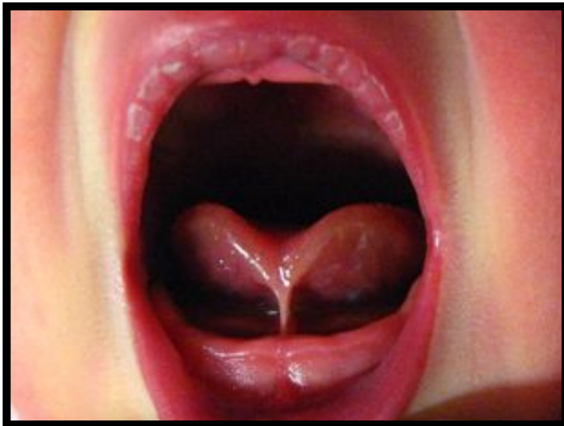


Total tie down resulting in No up or down function

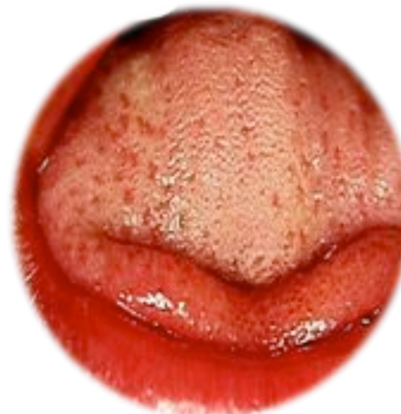




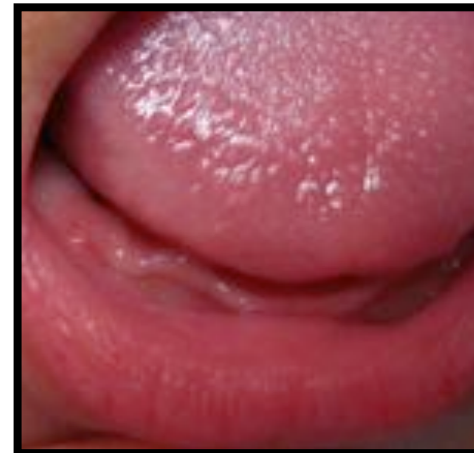
Cupping and hump



Heart shape, pointed tip



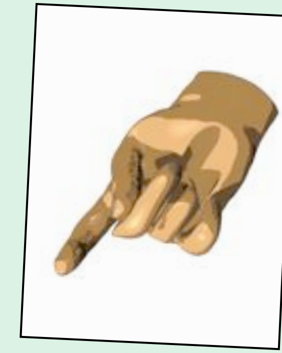
Unable to elevate and touch the hard palate



No extension beyond the lips

James G. Murphy, MD, FAAP, FABM
Assistant Prof of Pediatrics
F. Edward Hébert Medical School
USUHS Bethesda, Maryland

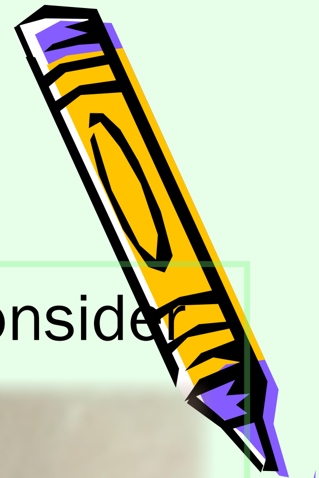
An excellent source of diagnostic criteria for newborn nursing difficulties



*Academy of Breast Feeding Medicine: Clinical Protocol #11: Guidelines for the Evaluation & management of neonatal Ankyloglossia

http://www.bfmed.org/

Diagnostic criteria for neonatal tongue frenum revision



*Infant Factors to consider

- No latch
- Un-sustained latch
- Slides off nipple
- Prolonged feeds
- Unsatisfied after prolonged feeds
- Falls asleep on the breast
- Gumming or chewing on the nipple
- Poor weight gain or failure to thrive
- Unable to hold pacifier

Maternal Factors to consider

- Creased or blanched nipples after feeding: flattened
- Cracked, bruised or blistered nipples: gives it up
- Bleeding nipples
- Severe pain with latch
- Incomplete breast drainage
- Infected nipples
- Plugged ducts
- Mastitis & nipple thrush

*Academy of Breast Feeding Medicine: Clinical Protocol #11: Guidelines for the Evaluation & management of neonatal Ankyloglossia

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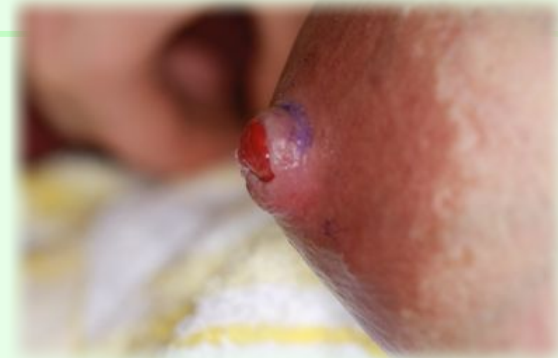

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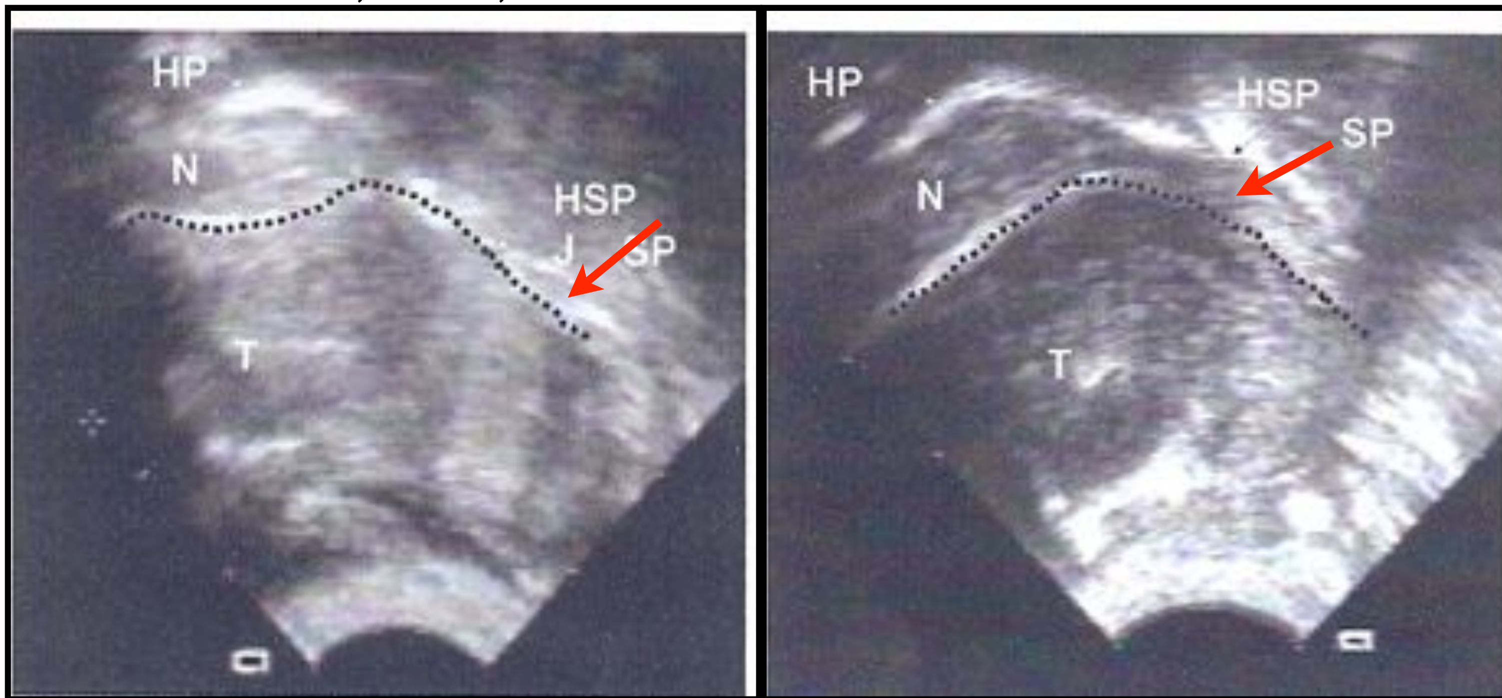
Show me the proof

Ultrasound imaging of the effect of frenulotomy (frenectomy)
On breastfeeding infants with Ankyloglossia: Ramsay D,langton D jacobs eta,l Univ Western Australia and Women's and Children's Health Service,Perth ,western Australia



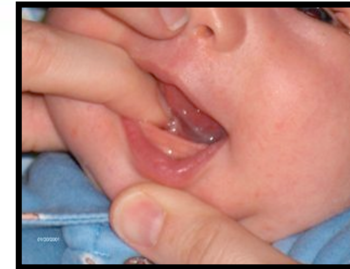
N=nipple compressed into hard palate, short of hp/sp junction,shape of tongue
More of a tremor

N=nipple less compressed, closer to HP/SPjunction,smooth shape of tongue

Clinical assessment tools

Feel for the “speed bump” or “web like interference” when you move your finger across the floor of the mouth.

Clinical diagnostic tools



Feel for problems !

- Use the little finger facing down while infant is upright
- A smooth mouth floor = No Problem
- A small speed bump = Potential Problem
- A large speed bump = Most likely will be a problem
- A small, medium or large fence = Definitely will develop into a problem
- If the membrane feels very thin and strong like fine wire, push on it and look for tongue tip indentation and a slight bow of the tongue tip

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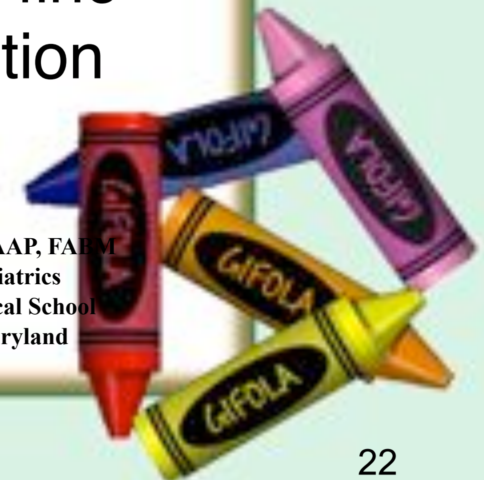
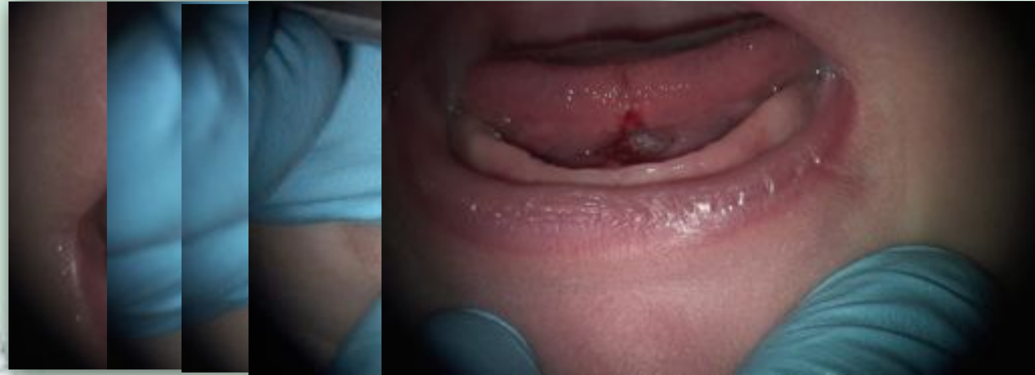
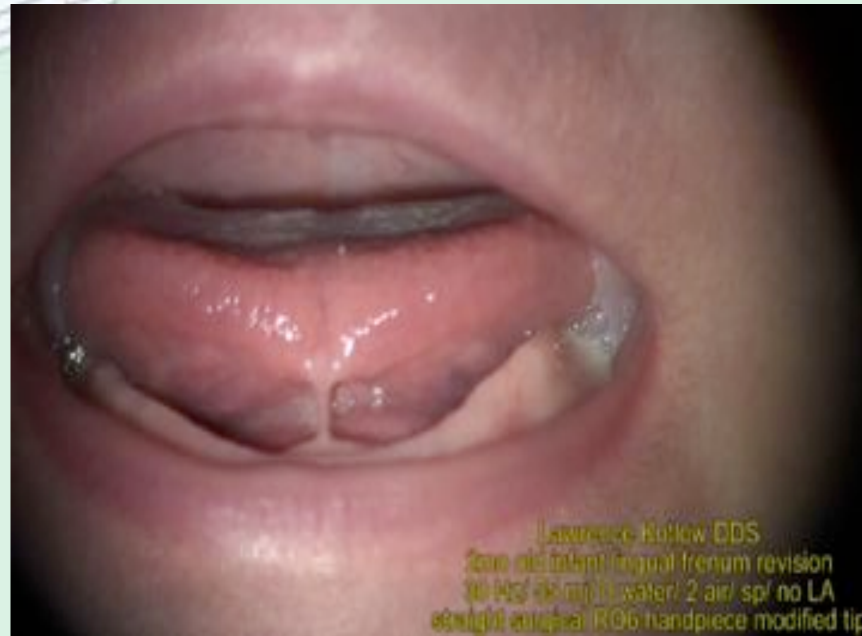


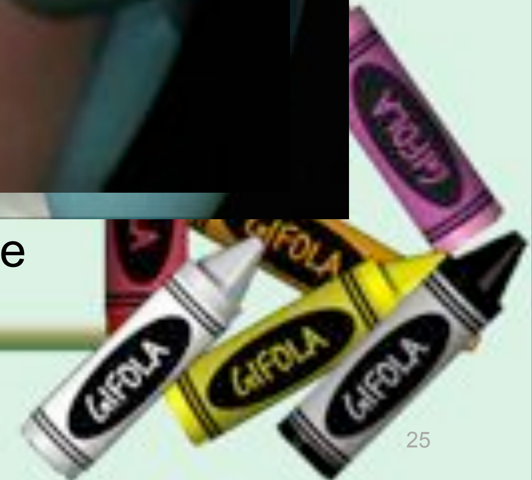
One Day old frenum revision: erbium Laser





2 month old infant frenum revision: erbium Laser

Testing for any remaining interference



5 week old infant frenum max and lingual revision: erbium Laser

Initial frenum revision using scissors

Clefting

Lack of mobility and extension

Interview with parent (infant 2 days old)

Interview with parent

Australian Channel 9 news

Letter from a parent

Our son was diagnosed as being tongue tied at eleven days. The main reason we discovered this condition was because I was nursing and finding it very painful. I sought the advice of a lactation consultant who confirmed he was tongue tied and unable to latch on correctly. As a result, my nipples were cracked and sore. We took our baby to the pediatrician and he reconfirmed that our baby was severely tongue tied but said he would not cut the frenum and didn't know of any doctor who would on such a young infant. He recommended that I start the baby on a bottle.

My husband and I were distraught and started searching the internet for a solution. That is when we discovered Dr. Lawrence Kotlow and his willingness to perform this simple procedure using the erbium laser. We sent him an email on Sunday morning and heard back from him that afternoon and scheduled an appointment for 8:00 the next morning. We were impressed with his understanding the severity of the situation and my desire to continue breast feeding. We drove 2 hours to Albany the next day and Dr. Kotlow performed the procedure. The baby wasn't even crying when he came back 5 minutes later. I immediately started nursing him and noticed a huge improvement over previous attempts at latching on correctly. By that afternoon, the baby was nursing well and his mild fussiness had subsided. That night he slept 6 hours straight, having eaten substantially more than he had previously in his 2 weeks of life.

One week later, the baby has gained 18 ounces! We are so happy that we decided to rectify his being tongue tied and that we had the good fortune of finding Dr. Kotlow to do the job. Breast feeding and the numerous benefits that go with it would not have been possible had the baby remained tongue tied.

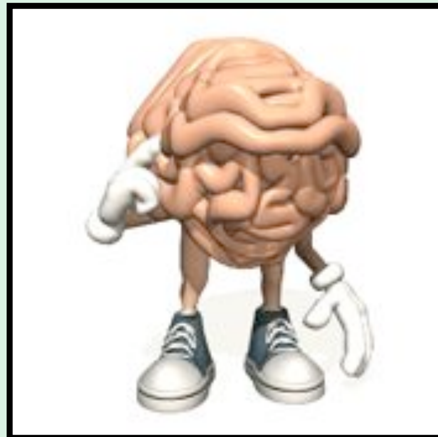
Sarah S.

What if we do not treat ?

Problems that may evolve as newborn infants grow older

What we may not see immediately

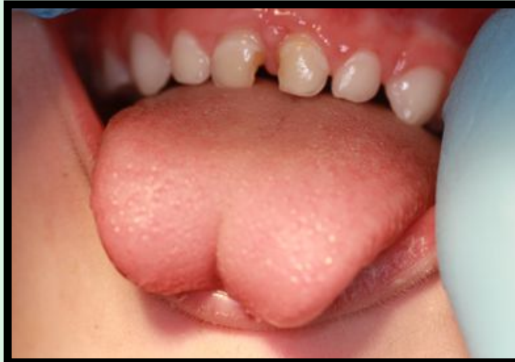
- Nutritional problems
- Colic
- GI problems: reflux
- Drooling
- Gagging
- Sleep apnea (??SIDS)
- Changes in sleep patterns
- Speech problems
- Jaw growth & development



Pediatric reflux

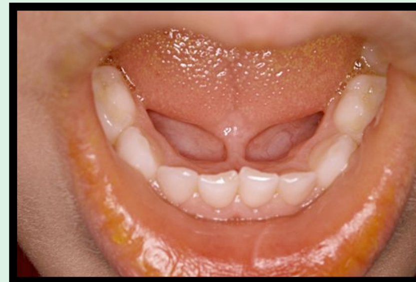
After a a lingual frenectomy is completed the reflux often goes away immediately especially with the "posterior" tongue ties. The tongue is held down in the center of the tongue causing the posterior tongue to hump up. The baby can not extend the tongue to remove it from the back of the mouth therefore causing gagging. The gagging causes the baby to regurgitate. This appears to be reflux. Release of the tongue may lead to elimination of gagging and and thus no reflux. In toddlers when the frenum has not been released, suggested medical treatment may be to put the baby on medication. if we wait until after the frenum is revised to treat the infant using medication, the physician may not have to place the infant in them.

Clinically observable problems

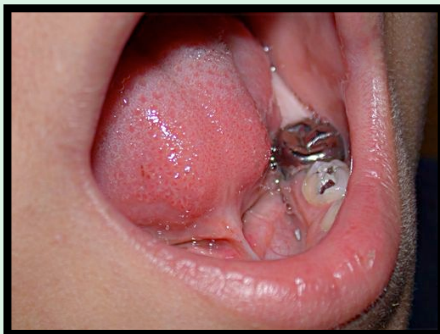


Heart shape,cupping

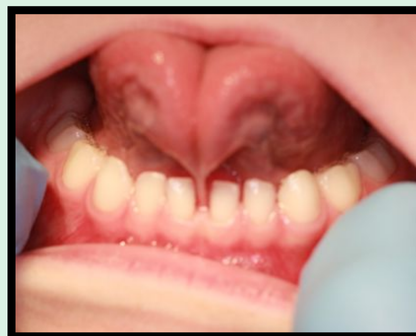
clefting



Limited mobility



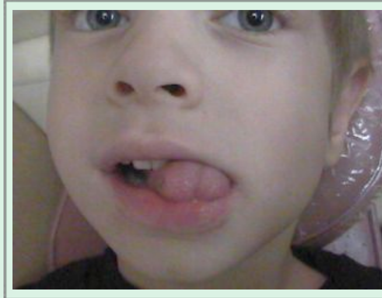
Dental decay



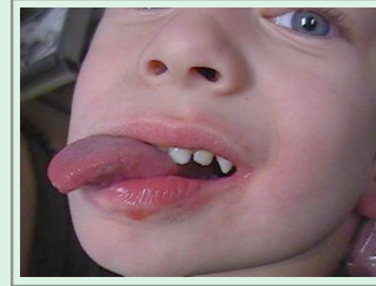
orthodontics

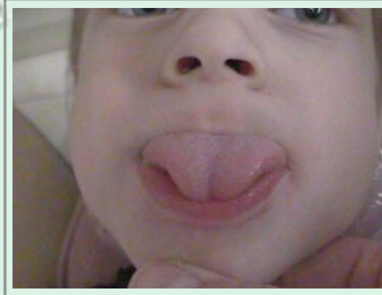
Treatment results are immediate

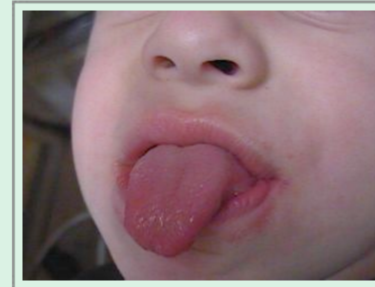
Pre-revision



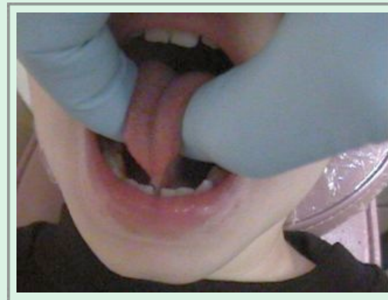
Post-revision

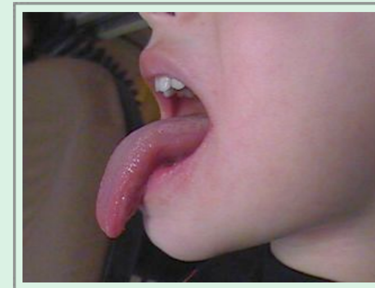




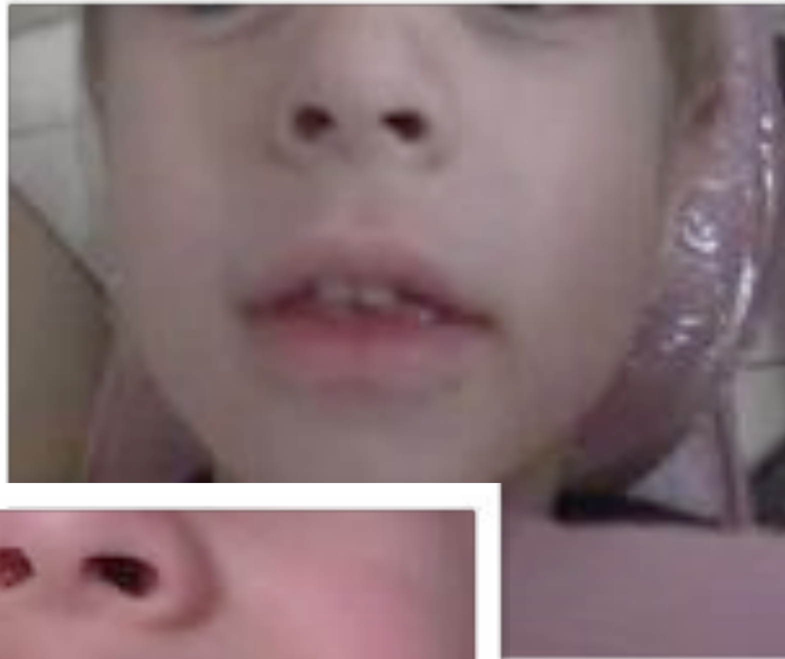
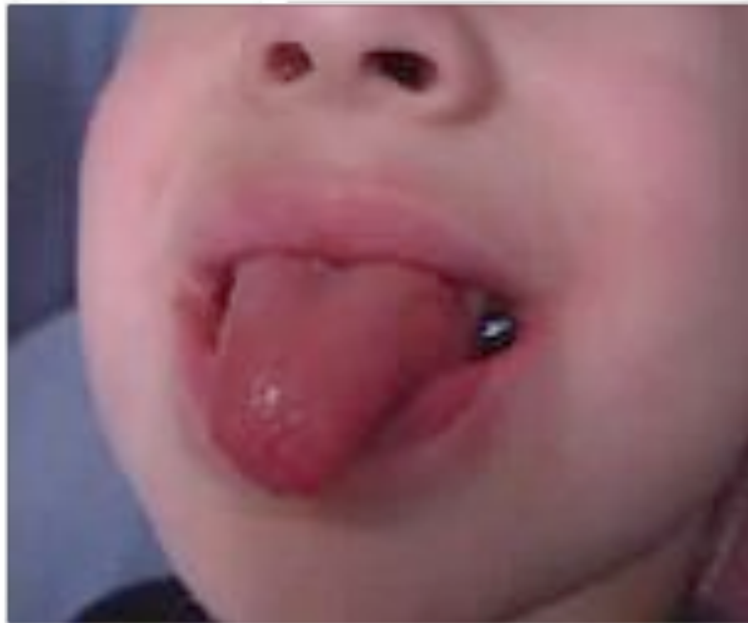


Immediate relief pre and post revision





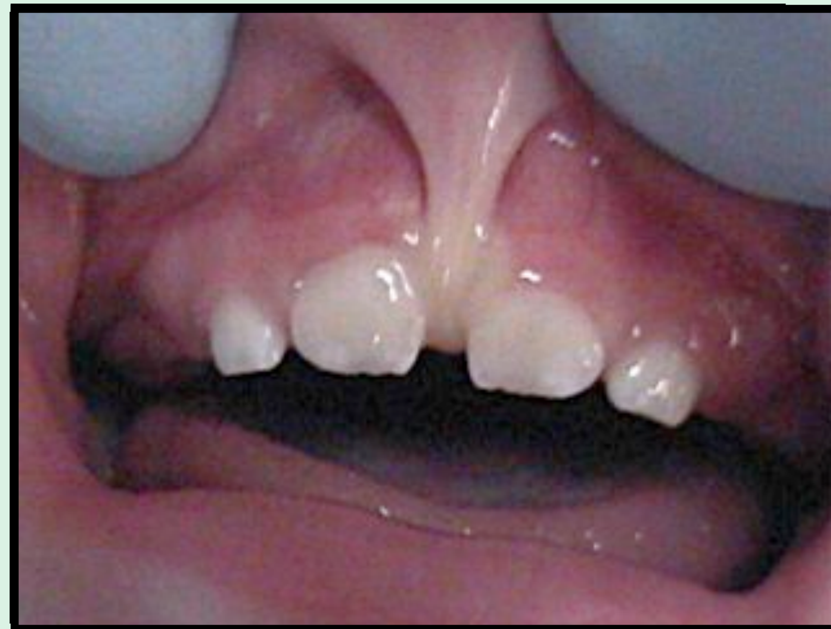
Videos

Summary of today's discussion

- Ankyloglossia exists as a real clinical problem in over 4% of newborns
- About 25-50% of these will <u>need</u> a surgical solution easily done in the dental office, not under general anesthesia.
- Careful documentation of the clinical status of each patient with a frenulum will determine who can breastfeed with minimal assistance and who will need surgical correction. This may be obvious in the Nursery or become apparent after a short period of observation as an outpatient.
- The problem effects the mother, the infant as well as the entire family unit.

Additional factors to consider

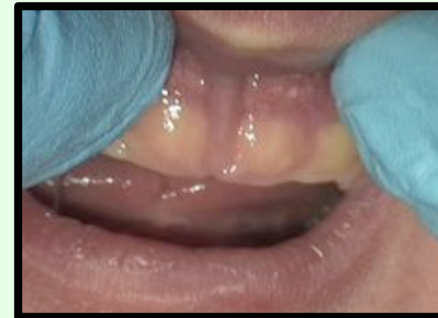


Lip callus

A tight maxillary frenum

Revising the tongue may only be treating part of the problem. The upper lip needs to expand over the
areole for the infant to be able to have a strong sucking ability.

An unusually short or thick maxillary frenum



- ✓ A short or tight labial (maxillary) frenum maybe an unusual source of sucking problems, but like the lingual frenum, it is easily examined and can be treated.
- ✓ A short labial frenum may impede the lip function that is needed for breastfeeding.
- ✓ A mother with a short nipple and inelastic breast tissue might have trouble achieving latch on.

- Breastfeeding difficulties as the result of tight lingual and labial frena: Diane Wiessinger :1995 International Lactation Consultant Association p813-815

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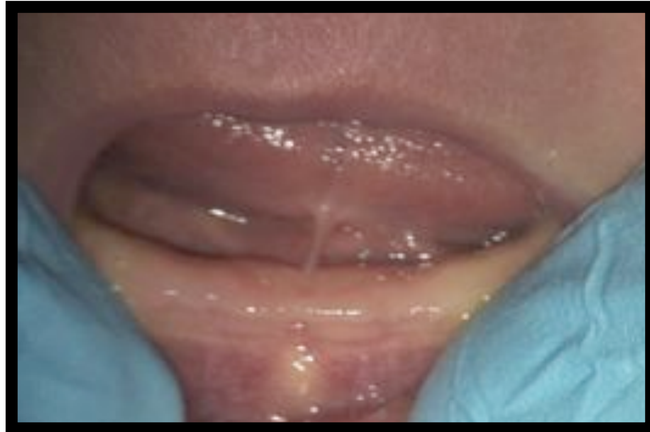
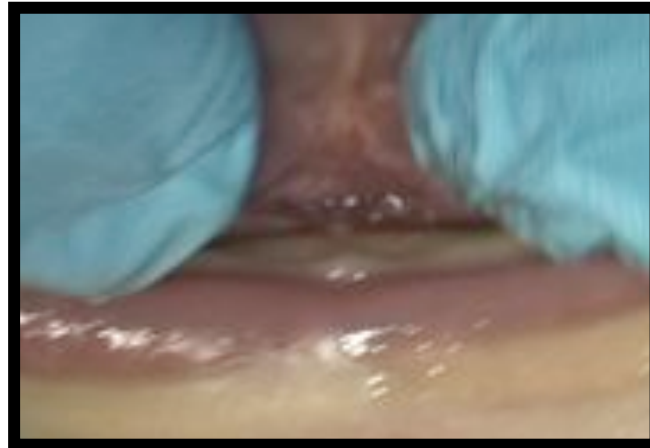
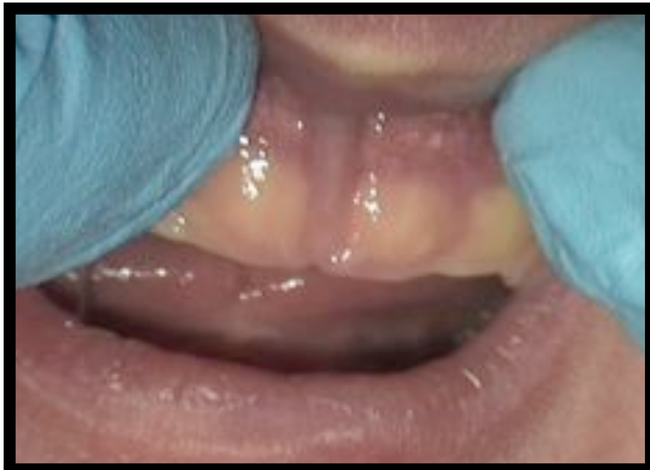
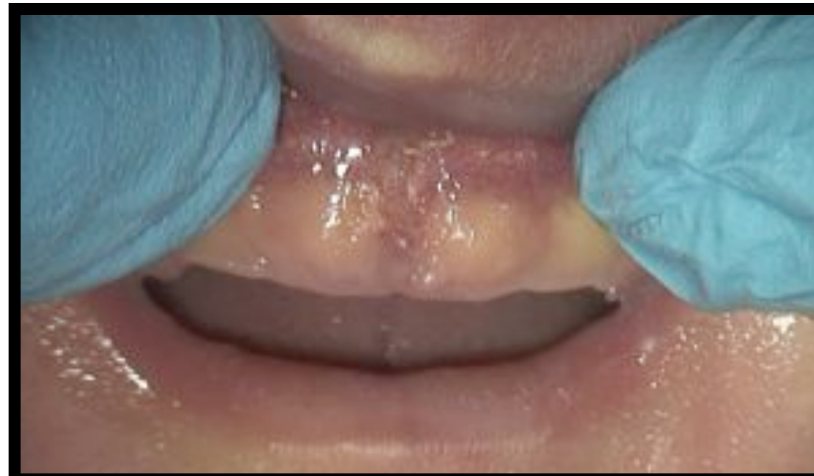
Infant combination maxillary frenum & lingual tongue-tie





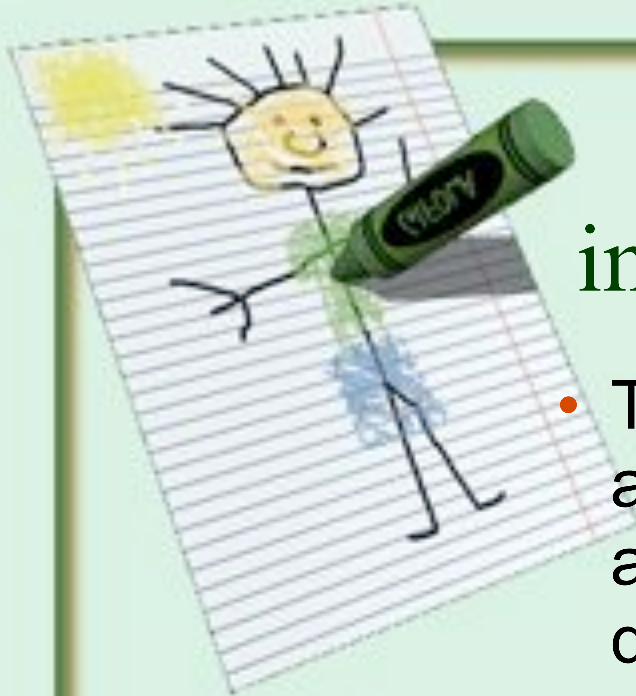




Three month old

Lawrence Kotlow DDS
3 month old nursing infant with ankyloglossia

Combination maxillary frenectomy and tongue-tie



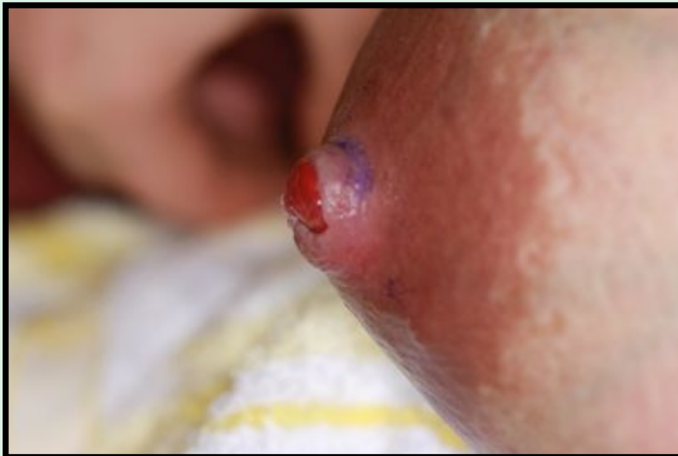
Changes in infant immediately after treatment

- The mother began nursing the infant as soon as the procedure was over and indicated ‘this feels so much different”.
- 5 day follow-up
  - Nursing less effort
  - Slept longer between feedings
  - Nursing was quieter: had been noisy and not very effective
  - Nipples were healing
  - Nursed for longer period of time

We can make nursing .....

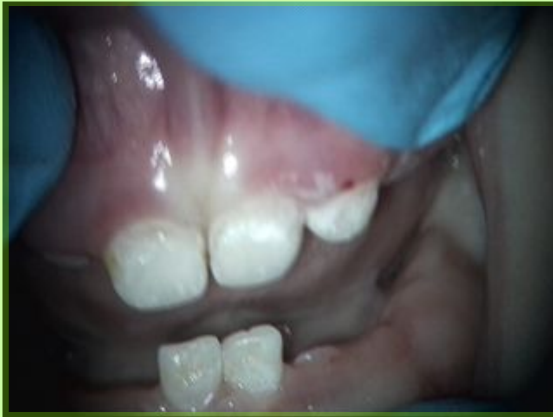
Pleasurable with good nutrition

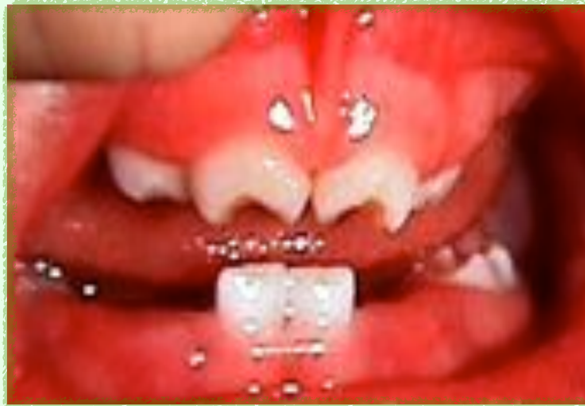
or

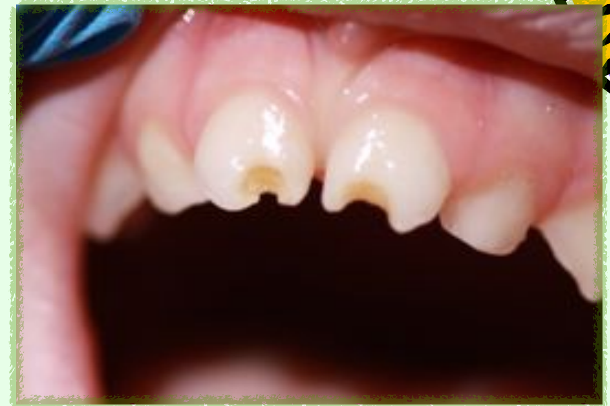


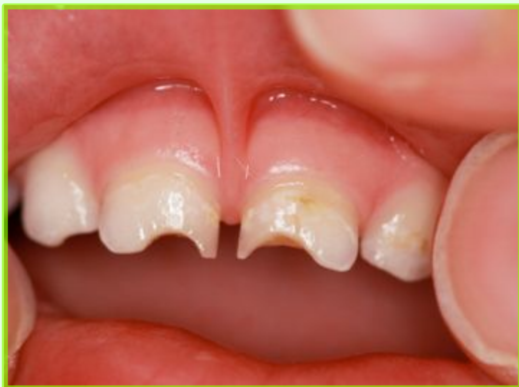
Painful with discomfort

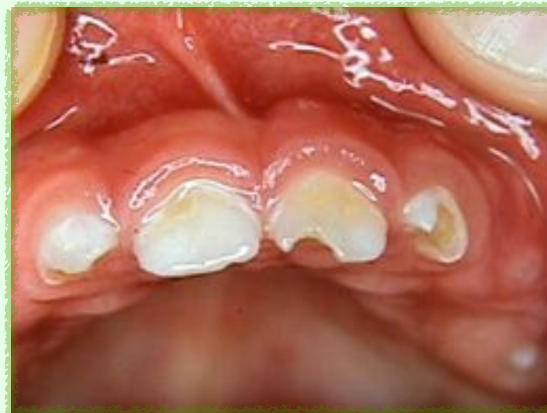
At- will night time breast feeding and decay

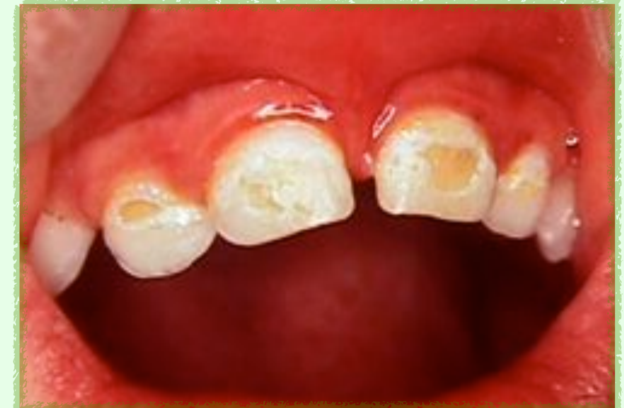












- ★Appears more often on the facial of the upper front teeth
- ★Often appears in conjunction with a tight maxillary frenum

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Thank you

Lawrence Kotlow DDS