Treatment of tongue-tie using the DELight Er:YAG laser

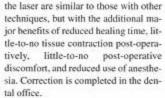
Fig. 7 Six days post-op.

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he author has had more than 20 years of experience revising tongue-ties, primarily using conventional techniques. He has, however, developed the following procedure us-

ing the DELight Erbium: YAG dental laser.

While the Er:YAG laser is recognized for its caries-removal and cavity-preparation applications, the laser also is cleared for soft-tissue surgery. The results with



 A topical anesthetic is applied to the underside of the tongue (Fig. 1).

A short-acting local anesthetic is infiltrated slowly into the area to be revised. Note: In cases where the frenum

is mostly fibrous tissue, anesthesia may not be necessary.

Treatment depends on the severity of the frenum attachment. One option is to complete a simple dissection of the under-

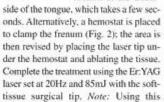




Fig. 1 Just before laser surgery.



Fig. 3 Immediately post-op.



Fig. 5 Patient's range of movement is acceptable.



Fig. 2 During laser surgery.



Fig. 4 Immediate postoperative evaluation.



Fig. 6 Patient exhibits normal movement.

Classifications of tongue-ties

The classification of tongue-ties is based on the length of free tongue (that area from the tip of the tongue to the frenum insertion):

The significance of an abnormal lingual attachment should not be ignored or overlooked when evaluating the growth and development of the young child. The criteria I have established should assist the dentist or other healthcare professionals in determining if problems are likely to occur. When an examination of the tongue is completed, and it is the opinion of the examiner that problems associated with an abnormal attachment are significant, are either creating problems, or have the potential to create future problems, the frenum should be revised.

- Fig. 11: Clinically acceptable: normal range greater than 16 mm of free tongue.
- Fig. 12: Class I: Mild tongue-tie, 12-16mm.
- Fig. 13: Class II: Moderate tonguetie, 8-11mm.
- Fig. 14: Class III: Severe tongue-tie,: 3-7mm.
- Fig. 15: Class IV: Complete tonguetie, less than 3mm.



Fig. 11 Normal Range



Fig. 12 Class I



12 Fig. 13



Fig. 14 Class III



Fig. 15

Class IV



Fig. 16

Fig. 16: The tongue should be able to protrude outside the mouth, creating a cleft of the anterior border of the tongue.

Pental Products
Report

Reprinted from Dental Products Report with permission of MEDEC Dental Communications, ©2001, A Medical Economics Company method, the glands in the floor of the mouth are avoided and no complications arise.

In most cases, the area heals without suturing (Fig. 3). Among the advantages of the laser procedure noted by the author are the reduction or elimination of significant post-operative pain or discomfort; and healing that is up to 30% faster than that found with conventional surgical techniques.

Figs. 4, 5, and 6 show the patient with normal movement at the immediate post-operative evaluation. Fig. 7 shows the patient six days post-op.

Other laser procedures, such as maxillary frenectomies and gingivectomies, have shown little or no tissue contraction.

Infants who, prior to treatment with the laser, could not nurse effectively, are usually able to immediately latch onto the nipple and nurse when returned to the mother. Older children are able to eat without difficulties after leaving the office.

Post-operative phone calls on the day of soft-tissue surgery treatment with the laser, as well as discussions with the parents and patients at their one-week follow-up appointments, have indicated that most children require little to no pain medication after the local anesthesia (if used) wears off. Parents and children all indicate that there has been little or no post-operative discomfort, eating difficulties, or bleeding.



Erbium:YAG dental laser for removal of caries, composite resin fillings, and tooth structure; also suitable for soft-tissue procedures.

Features

· Light specifically selective for tissues based on water content; preferentially affects carious material over healthy tooth structure

- · Lightweight, compact, integrated handpiece
- · User-adjustable presets to select appropriate laser energy
- · Long-reach 80-inch fiber delivery system
- · User-friendly control panel with concise controls, readouts
- Autoclavable tips and handpiece sleeve

Manufacturer

Continuum 3150 Central Expressway Santa Clara, CA 95051 Telephone: 800-532-1064 www.continuumlasers.com

Ankyloglossia: a primer

As a "primary healthcare professional of the oral cavity," the pediatric dentist has the unique opportunity to oversee many of the changes in growth and development that children go through as the hard and soft tissues evolve. Today's pediatric dental practice includes the prevention, interception, and correction of developmental abnormalities sometimes found in these structures.

Initial examination of children should begin approximately six months after the first teeth appear-usually about 12-14 months of age. Some soft-tissue abnormalities, such as ankyloglossia, or tongue-tie, may interfere with nursing or normal development; and may present concern to parents or physicians even earlier. However, "traditional teaching expressed both in medical texts and in guide books for young parents has been that the tongue-tie is of little relevance, will have no adverse sequelae, and can be ignored." (Dr. Martin Glasson, head, Dept. Pediatric Surgery, New Children's Hospital, Westmead NSW, Australia). Until recently, an in-depth search of the literature will provide few guidelines for healthcare professionals to use in deciding if a tongue-tie requires revision.13

The best definition of a tongue-tie can be found in the new text by Carmen Fernando: Tongue Tie, From Confusion to Clarity. "Tongue-tie is a congenital condition, recognized by an unusually thickened, tightened, or shortened frenum, which limits movement of the tongue in activities connected with feeding, and which has an adverse impact on both dental health and speech."1

Children's orofacial care requires the dentist to consider all aspects of a child's oral development. This includes examining developing soft- and hard-tissue structures (Fig. 8). Several years ago, the author examined more than 300 children in ages ranging from birth to 12 months for tongue mobility; and based upon those clinical observations, the author created a list of diagnostic criteria, which are useful in determining the need to watch or revise the lingual frenum (Figs. 9 and 10). The author also created a classification (see facing page) of tongue-ties based on the amount of space existing from the tip of the tongue to the frenum attachment (free tongue).3 The tongue's mobility can influence many daily oral functions.



Fig. 8 Preoperative evaluation.



Fig. 9 Movement is restricted.



Fig. 10 Protrusion is limited.

1. Glasson M. Introduction. In: Fernando, C. Tongue-tie from confusion to clarity: a guide to the diagnosis and treatment of ankyloglossta. Sydney, Australia:Tandem

- 2. Glasson M. Introduction. In: Fernando C. Tongue-tie from confusion to clarity: a guide to the diagnosis and treatment of ankyloglossia. Sydney, Australia:Tandem Public
- Kotlow L. Ankyloglossia (tongue-tie: a diagnostic and treatment quandary) sence Internat 1999;30(4). (Is available at Web site KIDOSTEETH.COM).