

# Outpatient division of tongue-tie without anesthesia in infants and children

Ming-Lun Yeh

Kaohsiung, Taiwan, China

**Background:** Tongue-tie is a common but often neglected condition. The indications and the techniques for its division are still controversial. In this report, I will present my personal experience and advocate early and aggressive treatment.

**Methods:** Two different techniques are used to divide the tongue-tie at the outpatient clinic without anesthesia. For small infants, a parent sits opposite the doctor, with their knees in contact, the infant lies supine with his/her head towards the doctor. The tongue is lifted superiorly with the doctor's middle finger or middle and index fingers. The doctor uses the other hand to divide the tongue-tie with a pair of blunt-tipped scissors. In a cooperative child with teeth and relatively thin membrane, a sitting position is used. The tongue is elevated upward with a tongue depressor and the tongue-tie is released by a quick cut.

**Results:** From 1980 to 2006, about 2800 cases of tongue-tie were treated. Post-division minor bleeding in most of the cases was self-limited and always stopped spontaneously very quickly. Three patients who had recurrent tongue-tie underwent repeated division in the operating room under general anesthesia.

**Conclusions:** Division of tongue-tie is a simple, easy and safe procedure. It can be done as an outpatient procedure without anesthesia in almost all infants and some older children.

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**Author Affiliations:** Division of Pediatric Surgery, Department of Surgery, E-Da Hospital, I-Shou University, Kaohsiung, Taiwan, China (Yeh ML)

**Corresponding Author:** Ming-Lun Yeh, MD, Division of Pediatric Surgery, Department of Surgery, E-Da Hospital, 1, E-Da Road, Yan-Chao Shiang, Kaohsiung County, Taiwan 824, China (Tel: +886-7-6150011 ext 2975; Fax: +886-7-6150982; Email: ed103434@edah.org.tw)

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## Introduction

Tongue-tie, also known as ankyloglossia or ankyloglossia inferior, is a relatively common finding in pediatric surgical outpatient clinics. The significance of tongue-tie in children remains controversial.<sup>[1]</sup> It is believed that tongue-tie only rarely interferes with eating or speech, generally requiring no treatment.<sup>[2,3]</sup> However, many are so severe that they interfere with mobility of the tongue tip, pronunciation of words, or even breastfeeding.<sup>[4-11]</sup> There is also controversy over the techniques of its division. Some surgeons perform the division exclusively in the operating room under general anesthesia,<sup>[2,12]</sup> whereas some divide it as an outpatient procedure without anesthesia in small infants.<sup>[13-17]</sup> It is a general agreement that frenotomy should be done in the operating room under general anesthesia in children beyond infancy. In this paper, two simple techniques to divide the tongue-tie at the outpatient clinic without anesthesia, one for small infants and the other for older children, are presented.

## Methods

Two different techniques are employed to release the tongue-tie. During the procedure for an infant with no teeth or with only incisors, the parent sits opposite the doctor, with their knees in contact, and the infant lies supine with his/her head towards the doctor. While the assisting nurse pulls the chin downward, the tongue is lifted superiorly by the doctor's middle finger or middle and index fingers (Fig. 1). At the same time, the doctor uses the other hand to divide the tongue-tie with a pair of blunt-tipped scissors (Fig. 2). In order to avoid injury to the tongue, the cut is made incomplete, leaving a small portion of the frenulum intact. This intact portion of the frenulum is then released by a gentle push with a gauze sponge. Early in my experience, post-division compression with a gauze sponge for 5 minutes was routinely used to control bleeding. Later in my experience, it is considered unnecessary. If the patient is older with more teeth, a different technique is

employed. With the child sitting on the lap of the parent and the mouth opened, the tongue is elevated upwards with a tongue depressor and the doctor places the scissors alongside the lingual frenulum. A slight pressure of the scissors on the frenulum will give the doctor a better idea of its thickness and vascularity (Fig. 3). If it is not too thick and vascular, about two thirds of the frenulum is released by a quick cut. The procedure is quick, and the patient suffers no more pain or crying than the examination itself.

## Results

Between 1980 and 2006, 2620 infants and 158 children who had no family history of bleeding disorders were treated for tongue-tie without anesthesia by the author at the outpatient clinic. Although post-division bleeding occurred in most of the cases, it was usually very mild and would stop spontaneously within a couple of minutes. None required hemostasis by prolonged compression or electrocautery. All the patients were followed up for three months after the division. Three children had indentation of the tongue tip and were found to have recurrence of tongue-tie, most likely due to inadequate release by the quick cut. In these recurrent cases, the lingual frenulum became thicker and more vascular necessitating repeated division in the operating room under general anesthesia.

## Discussion

Tongue-tie is a minor abnormality that is often neglected by medical professionals. Many think that it will regress spontaneously and, even if it persists, seldom causes feeding or speech problems, generally requiring no treatment. In recent years, however, it has been reported that feeding difficulties in small infants can be caused by the presence of tongue-tie and can be alleviated by frenotomy.<sup>[4,7,8,11,13,15-17]</sup> My experience over the past 26 years shows that some of the children with tongue-tie do have speech problems which can be corrected by the division of tongue-tie. This speech impediment seems to be more significant in people speaking Mandarin Chinese, in which upward and backward rotation of the tongue tip is frequently used. Often indistinct speech does not become manifested until well beyond infancy and by then the tongue-tie will be more difficult to treat. During infancy, division of tongue-tie can be easily performed as an outpatient procedure without anesthesia.<sup>[13-17]</sup> Beyond infancy, the procedure will become more difficult because of the thickness and vascularity of the frenulum, the eruption of more teeth, and the lack of cooperation of the child.

Although division in the outpatient clinic can still be done in many older children, general anesthesia may be required in some patients.

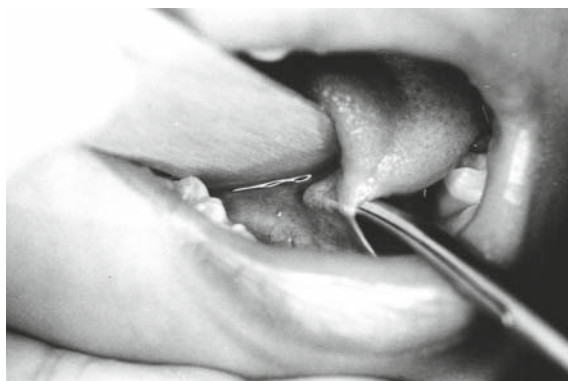
Division of tongue-tie is a simple, easy and safe procedure. Early and aggressive treatment is



**Fig. 1.** The parent sits opposite the doctor, with their knees in contact, the infant lies supine with his/her head towards the doctor, and the assisting nurse pulls the chin downward.



**Fig. 2.** The tongue is lifted superiorly with the doctor's middle and index fingers, and the doctor uses the other hand to divide the tongue-tie with a pair of blunt-tipped scissors.



**Fig. 3.** The tongue is elevated upwards with a tongue depressor and the doctor places the scissors alongside the lingual frenulum of an older child. A slight pressure of the scissors on the frenulum will give the doctor a better idea of its thickness and vascularity.

recommended. It is best managed without anesthesia during infancy before teething at the outpatient clinic. Delayed treatment may put some children under the risk of general anesthesia.

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