Infant & Toddler Feeding Case Files
嬰幼餵哺檔案
Baby Friendly Hospital Initiative Hong Kong Association
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Does My Baby Need Tongue-tie Release?

Editor's Note:

In the past 2 decades or so, an epidemic of frenotomy for breastfeeding difficulties has swept the developed world. For example, an 89% increase in the rate of frenotomy was reported in British Columbia, Canada from 2004 to 2013[i]; a 420% rise was reported between 2006 and 2016 in Australia[ii] and a shocking upsurge of 866% was found in the USA during the period 1997 to 2012.[iii] How valid is the diagnosis of tongue-tie causing feeding difficulties? Is frenotomy a need or demand? What is the evidence of effectiveness of frenotomy in alleviating breastfeeding difficulties? These will continue to be controversial issues until high-quality evidence provides definitive answers. "Do No Harm" remains the fundamental guiding principle for clinicians. In this newsletter, Dr Winnie Chee of Queen Mary Hospital, a designated Baby-friendly Hospital, reviews the subject and shares her team's experiences.

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Dr Winnie Chee Yuet Yee
FHKAM (Paediatrics),
Associate Consultant, Neonatal Intensive Care Unit,
Queen Mary Hospital & Hong Kong Children's Hospital

Case History

A healthy first time mother gave birth to her full term baby boy with a birth weight of 3.2 kg. He was on exclusive breastfeeding since birth. On day 2, prior to discharge, he was noted to have an excessive weight loss of 9%. His mother also complained of sore nipples. On assessment by a lactation consultant, the baby was found to have poor latch and suckling of the breast. Besides, he was noted to have tongue-tie. The mother was taught to modify the latch and continue breastfeeding. The baby's body weight caught up upon follow-up a few days later and the latch during breastfeeding was good.

How Common is Tongue-tie?

Tongue-tie (or ankyloglossia) is a congenital condition with abnormally short lingual frenulum which may restrict the mobility of the tongue. During early embryonal development, the tongue is fused to the floor of the mouth. Subsequent cell death and resorption result in a frenulum as the only remnant, which frees the tongue. It is estimated that tongue-tie affects around 2 to 5% of newborns.[1-3] There is no unified classification system for tongue-tie. One of the schemas classifies tongue-tie according to how close to the tip of a tongue the leading edge of the frenulum is attached. The majority of cases involve the attachment of the frenulum to or near the tip of the tongue. In cases where the frenulum is attached to the middle or base of the tongue, they are tighter, less elastic and suggested to be more likely to cause significant symptoms. These are more difficult to visualize and digital examination is needed to determine its tightness and attachment.[4]

How May Tongue-tie Affect Breastfeeding?

Most babies with tongue-tie are asymptomatic, while feeding difficulties have been reported in 12–44% of babies with tongue-tie.[1, 3, 5-7] During effective suckling, the baby takes in the nipple together with a mouthful of the breast. The tongue extends forward to cup the breast and covers the lower gum, protecting the nipple from damage through rubbing against the lower gum. It is postulated that a baby with tongue-tie cannot advance the tongue over the lower gum during suckling. Chewing is triggered instead which may result in nipple soreness, ulcer or even bleeding. The nipple soreness may set off a sequence of events resulting in feeding difficulties and weight loss. (Table 1)[4] On the other hand, chewing motion is sufficient to transfer milk from a bottle. Bottle-fed babies are thus less affected by tongue-tie as oral-motor movements differ between bottle feeding and breastfeeding.

Table 1: Possible Presentations of Feeding Difficulties Associated with Tongue-tie

Maternal Presentation	Infant Symptoms and Signs
– Nipple pain/erosions – Painful breasts – Low milk supply – Plugged ducts – Mastitis (blocked ducts) – Frustration and disappointment with breastfeeding – Untimely weaning	– Poor latch and suck – Clicking sound while nursing – Fussiness and frequent arching away from the breast – Falling asleep at the breast – Ineffective milk transfer – Inadequate weight gain or weight loss – Irritability or colic

Assessment of Feeding Difficulties associated with Tongue-tie

Assessment of babies with breastfeeding difficulty associated with tongue-tie should include a detailed physical examination and observation of breastfeeding to evaluate the adequacy of latch and the effectiveness of milk transfer.

Many objective tools are available for the assessment of tongue-tie. The Hazelbaker Assessment Tool for Lingual Frenulum Function is among one of them[2], which not only covers items on appearance but also functional aspect of tongue movements. The Bristol Tongue Assessment Tool is a much simpler instrument that is reliable and correlates well with the Hazelbaker Assessment Tool. [8]

Non-surgical Management of Breastfeeding Difficulties Associated with Tongue-tie

The lactation consultant plays a critical role in managing babies with breastfeeding difficulties and tongue-tie. **The majority of cases can be successfully managed with latch modification (optimizing attachment) with or without the need for tongue exercises.** Latch modification aims at deeper latch to maximize tongue contact with the breast. Mothers are coached to present the nipple to the baby's upper lip while his head is extended back slightly. When the baby's mouth widely opens, he is brought to the breast with the lower lip and tongue tip as far away from the nipple as possible, so that the lower lip reaches as much of the lower areola as possible. The baby is then rolled onto the breast to result in a deep latch.

Besides, babies with tongue-tie may benefit from tongue exercises to improve the functionality. An example is placing a fingertip at the center of the baby's lower (and upper) gum and sliding it from side to side, aiming to stimulate the transverse tongue reflex in order to increase tongue lateralization. Mothers are taught to do this on their babies.

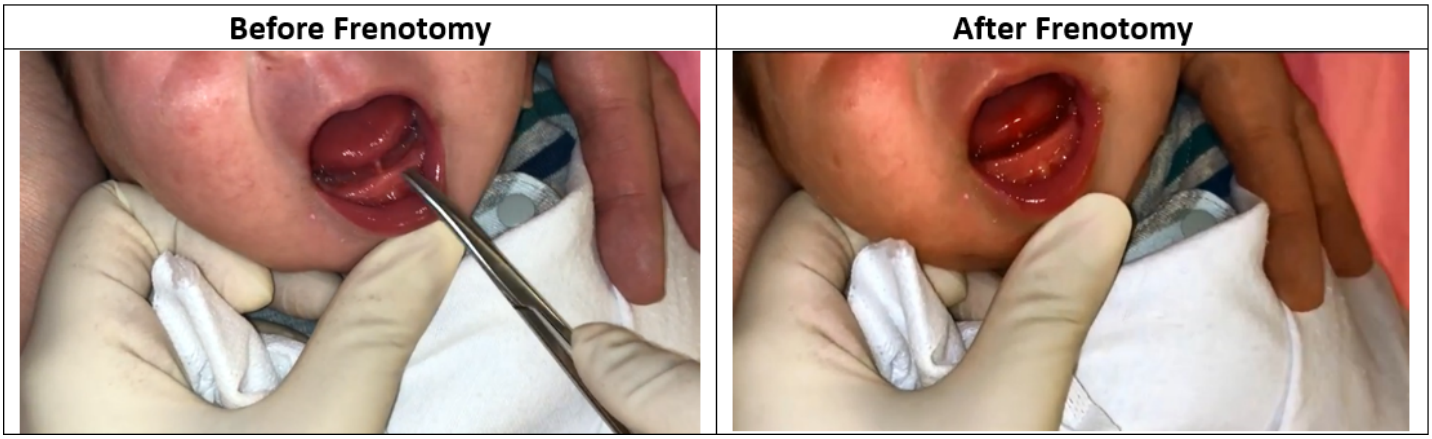
Furthermore, manual expression or pumping of milk is an effective measure to improve milk transfer and maintain milk supply for babies with persistent poor attachment and ineffective milk transfer.

Surgical Management: Frenotomy

The Cochrane Database of Systematic Reviews published in 2017 a review on "Frenotomy for tongue-tie in newborn infants".[9] It concluded that **frenotomy reduced breastfeeding mothers' nipple pain in the short term.** However, there was **no consistent positive effect on infant breastfeeding.** Further randomised controlled trials of high methodological quality are necessary to determine the effects of frenotomy. In addition, there is currently no data to suggest a causative association between tongue-tie and speech articulation problem when the baby grows up.

Tongue-tie division is a technically simple procedure that could be done at the bedside (Figure 1). It could be done with 24% sucrose as analgesia and the baby could be fed by the mother immediately afterwards. Complications are relatively uncommon.[10] Potential adverse events include bleeding, infection, ulceration, pain, etc.

Figure 1



Frenotomy should only be reserved for babies with breastfeeding problems that fail to improve with latch modification and tongue exercises. Frenotomy, if indicated, should be offered as soon as possible, preferably before 5 days of life, to improve breastfeeding efficacy.[11]

Even after frenotomy, it takes time for the baby to achieve a good latch and suckling. The importance of regular follow-up by a lactation consultant and paediatrician to monitor the progress of breastfeeding and weight gain cannot be overstated.

The Experience of Queen Mary Hospital

Since 2015, the Queen Mary Hospital (QMH) has adopted a multidisciplinary approach to managing neonates with feeding difficulties associated with tongue-tie. The team comprises postnatal nurses, lactation consultants, neonatologists and paediatric surgeons. The lactation consultants conduct systematic assessment and counselling, and provide supportive care including latch modification. For babies with persistent feeding problems not responsive to medical management, paediatric assessments are carried out. Frenotomy with follow-up breastfeeding support are offered if deemed indicated. With the accumulation of experience, the number of frenotomies performed has decreased over the years. (Table 2)

Table 2:
Number of Frenotomies Performed in Babies with Tongue-tie and Feeding Difficulties at QMH (2015-2018)

Year	Number of Frenotomies Performed
2015	13
2016	2
2017	0
2018	2

Key Message:

1. Not all babies with tongue-tie require frenotomy.
   並非所有患結舌的嬰兒都需要進行結舌手術。
2. Babies with breastfeeding difficulty and tongue-tie require multi-disciplinary assessment and management.
   哺乳困難並患有結舌的嬰兒，需要多專業的評估和處理。
3. Frenotomy could be considered if the breastfeeding difficulty in these babies is not improved by latch modification and tongue exercise.
   如餵哺輔導及舌頭訓練運動都不能改善這些嬰兒的哺乳問題時，可以考慮結舌手術。
4. Current evidence shows that frenotomy only reduces breastfeeding mothers' nipple pain but has no consistent positive effect on breastfeeding.
   目前證據顯示結舌手術只能減少母親的乳頭疼痛，對母乳餵哺則沒有貫徹的正面效果。
5. Provision of up-to-date clinical evidence for parents to make an informed decision on frenotomy is important.
   提供最新臨床證據，讓家長決定是否進行結舌手術最為重要。

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Editor-in-Chief: Dr Shirley Leung

Editorial Team: Dr Sandra Yau, Dr Amy Fung, Ms Iris Ip, Ms Helen Leung, Ms Amy Yeung, Ms Agnes Wong, Ms Yip Mo King

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