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## Cutting tongue ties may not help infants to breastfeed

Rates for tongue tie surgery are rising worldwide. In one Australian study, tongue tie surgery rates rose by 3,710% in one state.<sup>1</sup> Canada recorded an 89% increase,<sup>2</sup> the USA a 300% increase.<sup>3</sup> Over the past two decades, tongue tie surgery in the UK has become a common solution when mothers experience pain during breastfeeding. The practice is controversial, however, with many doctors claiming it is unnecessary in most cases.<sup>4</sup>

A diagnosis of tongue tie (a shortened frenulum – the fold between the tongue and the bottom of the mouth) is often given as the reason for low milk removal and/or insufficient weight gain in babies, and the rates of frenotomy (cutting or laser separation of the tongue from the bottom of the mouth) are rising as fast as the diagnoses. Older literature suggests surgical division is a simple solution for breastfeeding problems yet, instead of improving breastfeeding rates, the frenotomies may lead to early weaning. Work from the University of Western Australia (UWA) presented at the International Society for Research in Human Milk and Lactation Conference,<sup>5</sup> reveals that the majority of women whose babies have a frenotomy have low milk production that is not resolved by the procedure despite pain during breastfeeding being reduced.

How does a baby get tongue tie surgery? It starts with a worried mother visiting the clinic due to breast pain from nursing. The clinician asks the mother how much milk her baby is getting from the breast and assesses whether the baby is gaining enough weight. Is the baby latching on to the breast normally? Is the baby restless or fussy? Is the mother experiencing mastitis, possibly because the baby can't empty the breast? If it looks like the baby has tongue tie, a 'simple' frenotomy often seems like a quick and easy solution to some or all of those symptoms, even though these symptoms may have many other causes. Because we can diagnose tongue tie now, we are diagnosing it flat out, and the rates of frenotomy are soaring. However, breastfeeding rates are not improving with all these surgeries.

Along with no improvement of breastfeeding duration, some are also being hospitalised for serious bleeding and infection. Some babies undergo three, four, or even five operations because breastfeeding did not improve, or due to heavy scarring or the need for reattachment when the cut went too far. This has resulted in the

Dental Council of New Zealand investigating rising reports of infant hospitalisation due to adverse outcomes from frenotomies.<sup>6</sup>

There is no evidence-based, global definition of tongue tie and therein lies the first issue associated with the rising surgical tide. In the past decade, more babies have been diagnosed and treated for posterior tongue tie, a condition with no agreed global definition and no evidence-based surgical treatment. The original, anterior tongue tie is easy to spot: a heart-shaped tongue and/or anchoring to the bottom of the mouth. Most babies with anterior tongue tie, who are carefully cut by a paediatric surgeon, have shown normalised tongue movements during breastfeeding. The result is that the milk flows evenly and fully after surgery, and breastfeeding improves, as long as the mother has no intrinsic milk production problem.

Unfortunately, babies with posterior tongue tie don't all enjoy the same benefits. Surgery does not increase breastfeeding effectiveness in these babies as demonstrated by the failure for milk production and breast milk intake to increase in our study. In addition, there are rising reports of bleeding, pain and infection, with some babies refusing to drink from the breast or a bottle because of the pain. With so few documented beneficial indications, why are so many more being cut?

Interestingly the study at UWA found that mothers' confidence about breastfeeding increased following frenotomy; the mothers believed their babies got more milk even though the study showed that they did not. It is possible that the reduction in pain or change of sensation during breastfeeding contributes to the increased confidence. Pain is very subjective, difficult to measure, and measured by questionnaires that do not differentiate between the different types of breast pain. It is therefore essential to investigate all causes and solutions for the pain because it is possible that the surgical intervention may have created a powerful placebo effect in mothers experiencing any kind of pain during breastfeeding.

Concerned by both the increasing numbers of babies having tongue tie surgery and the apparent difference in the type of tongue tie being divided, we launched a study at UWA to discover what was actually happening before and after tongue tie surgery, in both the mother and the baby. This study is the most comprehensive tongue tie study to date measuring pain in the mother through

three different questionnaires devised specifically to differentiate between the different types of breast pain, as well as her milk production and the baby's milk intake at the breast. It also measured pressure in the baby's mouth during breastfeeding, the baby's breathing patterns, and how the breast responded to the baby's tongue and mouth movements, via ultrasound.

While mothers reported less nursing pain after their babies had posterior tongue tie surgery, a single factor behind the poor breastfeeding became clear: low milk production in the mother. For the first time, the milk intake of the babies and milk production in the mothers were compared before and after tongue tie surgery. The results were nearly identical. Babies who could not get enough milk had mothers with intrinsic reasons for low milk production, such as thyroid disease.

The results of this study suggest that milk production should be improved prior to frenotomy through frequent and effective breast emptying via feeding and expression. Of course, early intervention yields the best results in terms of increasing milk production. The few babies that were able to get more milk from the breast after frenotomy, had mothers that already had good milk production.

This study compels us to have the courage to admit we need to re-examine what we are doing. A midwife recently told a young mother, two hours after birth, that her baby needed tongue tie surgery. One of our team members offered to test the mother and her baby three months later. Those tests showed absolutely normal tongue movements, normal milk production, and effective milk

removal without the mother experiencing any pain. The mother took her healthy baby home and wrote us several pages thanking us for easing her mind through scientific evidence and for saving her baby from unnecessary surgery.

This editorial is based on a presentation given by Associate Professor Donna Geddes at Medela's 13th International Breastfeeding and Lactation Symposium, France, 22-23 March 2018.<sup>7</sup>

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