



**the Australian & New Zealand Society  
of Paediatric Otorhinolaryngology**  
<http://www.anzspo.org>

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## **TONGUE TIES IN INFANTS**

The Australian and New Zealand Society of Paediatric Otorhinolaryngology (ANZSPO) promotes and encourages excellence in the care of infants, children, and adolescents as it relates to diseases of the ear, nose, and throat. The society promotes clinical information sharing and research in Paediatric Otorhinolaryngology and has an annual forum to discuss this. Membership is for Ear, Nose, and Throat – Head & Neck surgical specialists who devote a substantial portion of their clinical work to Paediatric care.

At its recent Sydney meeting, ANZSPO was once again addressed by Dr Nikki Mills. Dr Mills is a member of ANZSPO from Auckland and is completing her PhD in infant breast feeding, which has included anatomy research on the lingual frenulum (“tongue tie”). Dr Mills is also using breastfeeding swallowing studies (FEES) and cine MRI of breast-feeding mums and babies in order to further our understanding of functional issues associated with difficulties breast feeding.

Dr Mills used fresh anatomical dissections and histological preparations of the lingual frenulum and floor of the mouth, in a total of 47 adult and neonatal cadavers. She has determined that the lingual frenulum is not a midline band, string or cord, but is in fact formed by a layer of fascia that spans across the floor of mouth. Tongue elevation or retraction creates tension in this layer, raising it into a midline fold, together with the overlying mucosa. There is considerable normal variability in the appearance of the lingual frenulum. This research helps us better understand the potential impact of the lingual frenulum in babies having difficulty breastfeeding, as well as guiding surgical technique to optimise safe division of tongue ties in infants.

When infants are referred for assessment and consideration of tongue tie surgery, Dr Mills emphasizes the importance of a thorough multidisciplinary assessment of the infant's airway and feeding. The team should include a lactation consultant and with some infants, a feeding assessment by a speech language therapist can also be very helpful. For the ENT surgeon, clinical examination should always include assessment of the infant's nasal airway, the general pattern, noise and work of breathing, vocal quality, and chest wall shape; as it is well recognized that any airway compromise or obstruction can impact on infant feeding and airway protection during swallowing. In infants with airway compromise and difficulty feeding, a flexible endoscopy can often provide useful information. It is also important to assess the infant's mandible size and position, the contour of the hard palate, the appearance and function of the soft palate, the anterior tongue length and active mobility; as all of these factors can impact on sucking biomechanics. The clinical examination needs to be considered in the context of the presenting problems; with a qualified practitioner also examining the infant's positioning, latch and feeding at the breast.

There are many papers that have shown lingual frenotomy can improve breastfeeding, with the best evidence being for improving maternal pain. However, a number of papers internationally have reported a trend of exponentially increasing frenotomy rates, raising concern for potential overtreatment. More research is still required to improve our understanding of which infants are most likely to benefit from the procedure. Although lingual frenotomy is perceived as a low risk procedure, it is clear that there are potential risks, which have included life threatening bleeding, pain leading to oral aversion and delay to diagnose other potential contributors to feeding difficulties.

It is the ANZSPO's opinion that tethered oral tissues, as well as other anatomical and neurological pathologies may impair infant breastfeeding. As ENT surgeons, we have clinical and surgical skills that enable us to provide a holistic assessment of airway and tongue anatomy and function in babies having difficulty with breastfeeding. A thorough and complete assessment and a multidisciplinary approach is likely to give the best support and outcomes for both mum and baby.

If anyone wishes to view Dr Mills' research on the anatomy of the lingual frenulum, they have been published (with free on-line access) in the Journal of Clinical Anatomy:

<https://onlinelibrary.wiley.com/doi/full/10.1002/ca.23343>

<https://onlinelibrary.wiley.com/doi/10.1002/ca.23410>