Clinical Review

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Mum & Baby Academy
ACADEMICALLY APPROVED CPD
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TONGUE TIE AND BREASTFEEDING

Ankyloglossia (tongue tie), a congenital abnormality that can restrict the tongue's movement, is relatively common.[1] Approximately half of infants with ankyloglossia breastfeed without difficulty.[2] Ankyloglossia can, however, cause poor latch and maternal nipple pain, cracking and bleeding.[3] This CPD module aims to help midwives and health visitors reassure parents about ankyloglossia and frenotomy using evidence-based knowledge.

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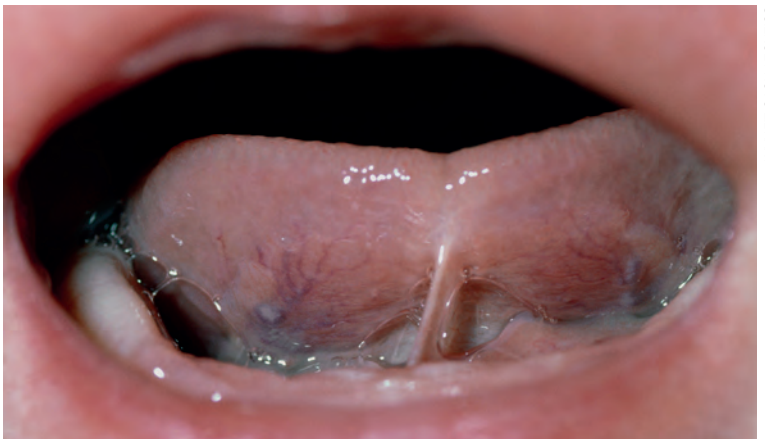

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LEARNING OBJECTIVES

After reading this module and completing the on-line assessment, you should:

- Be able to identify and assess ankyloglossia in infants
- Understand how ankyloglossia can affect breastfeeding
- Appreciate the ways in which women can be supported to successfully breastfeed babies with ankyloglossia
- Be able to advise and reassure parents about ankyloglossia and frenotomy using evidence-based knowledge

QUESTIONS

Visit our website to test your knowledge. Our questions cover:

- The identification and assessment of ankyloglossia in infants
- The impact of ankyloglossia on breastfeeding
- The impact of ankyloglossia on the mother
- Breastfeeding outcomes following frenotomy

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ABOUT THE MUM & BABY ACADEMY

The Mum & Baby Academy is an educational initiative by Lifecycle Marketing, who also publish Emma's Diary®. Published in association with the Royal College of General Practitioners (RCGP), Emma's Diary® is the UK's most trusted and influential communication platform for mums-to be and new parents.

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Introduction

Ankyloglossia (tongue tie), a congenital abnormality that can restrict the tongue's movement, is relatively common.[1] Babies with ankyloglossia show an unusually thick, tight or short lingual frenulum:[4] the strip of tissue that connects the underside of their tongue to the floor of their mouth.[3] A minor surgical procedure called frenotomy frees the tied tongue by severing the lingual frenulum.

Approximately half of infants with ankyloglossia breastfeed without difficulty.[2] Nevertheless, ankyloglossia can cause poor latch as well as resulting in maternal nipple pain, cracking and bleeding.[3] Indeed, even women who are committed to breastfeeding report finding "breastfeeding an infant with tongue-tie led to disappointment and frustration, rather than the natural experience they had anticipated".[1] This CPD module aims to help midwives and health visitors reassure parents about ankyloglossia and frenotomy using evidence-based knowledge. The module also highlights some of the uncertainties in the current evidence base.

Presentation and epidemiology

Maternal nipple pain and poor infant latch are common reasons why mothers discontinue breastfeeding early.[4] Unfortunately, numerous factors can result in nipple pain and poor latch, including breast engorgement, blocked milk ducts, mastitis, breast abscesses, thrush and ankyloglossia, a congenital abnormality that can restrict the tongue's movement.

Estimates of the incidence of ankyloglossia vary widely - from 0.02% to 10.7% - partly depending on the assessment method and partly because the condition is difficult to measure objectively.[2] Nevertheless, ankyloglossia is relatively common, especially in boys. Indeed, males seem to be about three times more likely to show ankyloglossia than females.[4]

Ankyloglossia often results from a short, thick frenulum. Some children, however, show a longer, anterior connection, which may be associated with a bifid (split) tongue. Rarer variations (such as posterior and superior ankyloglossia) may be associated with other congenital abnormalities, including a cleft palate.[3]

The tongue's importance in breastfeeding

Your tongue - which is important in speech, social interactions (sticking your tongue out or kissing), playing some instruments, as well as chewing, tasting (figure 1), licking and swallowing food - is the only muscle in your body that is attached at only one end. So, the frenulum holds the front of the tongue to the bottom of the mouth. The back of the tongue is attached to the hyoid bone (figure 2).[5]

Breastfeeding effectively depends on an adequate:

- Length of tongue being free at the tip
- Overall tongue movement
- Flexibility of the floor of the mouth.[5]

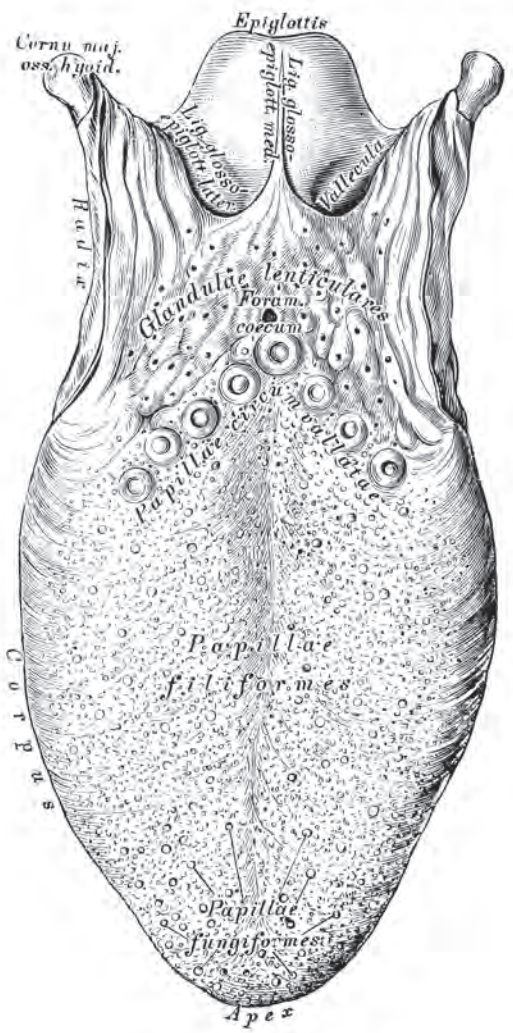
A 'normal' tongue, for example, helps draw the breast into the correct position during latching. The tongue then forms a channel that helps the breast remain in position.[5] A study of 31 infants with untreated ankyloglossia reported that none of the babies had a good latch despite their breastfeeding positions being otherwise good. They authors reported that "babies nibbled the nipple, made clicking sounds, had dimpled cheeks during breastfeeding, or retracted their lower lip during sucking".[6]

During suckling, the baby raises the tip of his or her tongue. This traps milk in the front of the breast. A wave of compression from the tip of the tongue to about halfway along presses milk from the areola to the nipple. The back of the tongue then drops to the floor of the mouth. The resulting combination of compression and suction expels milk from the nipple. The channel holds the milk at the back of the tongue before swallowing.[5]

In some children with ankyloglossia, the restricted movement of the tongue hinders breastfeeding. So, infants with ankyloglossia may use their jaws to further compress the breast. This, however, often results in a shallow latch and the mother may feel that the baby is chewing her breast.[5] In addition, the abnormal

Figure 1: Taste areas of the human tongue

Figure 2: Anatomy of the human tongue



tongue movements that can be associated with ankyloglossia may generate friction that results in painful, bleeding nipples.[7] In turn, the milk reflex may slow as the nipples become painful. In response, the baby further increases jaw pressure.[5] The breastfeeding issues associated with ankyloglossia can emerge rapidly: latching problems can develop during the first 24 hours, for example. Mothers may report nipple pain on the second day after birth.[2]

As mentioned above, a baby with ankyloglossia may retract their lower lip during breastfeeding.[6] Again, this reflects the child's attempt to compensate for the restricted tongue movement: a baby with ankyloglossia may use their lips instead of their tongues to move milk from the breast. So, the lips turn outward rather than inward during breastfeeding. This can lead to frequent 'unlatching' and prolonged feeds.[5]

A baby's early vocalisation is partly determined by how well the articulators – the tongue, larynx, lips and so on – create the shapes that form sounds.[8] Complete restriction of the movement of the tongue tip may result in problems articulating sounds 't', 'd', 'l', 'th', and 's'.[5]

In carefully selected children, optimising tongue movement surgically may augment speech therapy. Other causes of speech problems need to be assessed first, however.[5] Given the tongue's varied biological roles, some papers suggest that ankyloglossia may be associated with problems with oral-motor function, swallowing, dentition and social function.[9] Whether these issues are clinically significant and the extent of any improvement with frenotomy are poorly studied.[5]

Assessing ankyloglossia

As about half of infants with ankyloglossia breastfeed without difficulty and may not need a surgical procedure, grading is important.[2] The Hazelbaker Assessment Tool for Lingual Frenulum Function (HATLFF) shows "excellent reliability for determining the recommendation for a frenotomy".[4]

The HATLFF evaluates five factors relating to appearance and seven functional items:[4]

- Tongue appearance
- Frenulum elasticity
- Frenulum length when the tongue is lifted
- Attachment of frenulum to the tongue
- Attachment of frenulum to the alveolar ridge
- Tongue lateralization
- Tongue lift
- Tongue extension
- Tongue spread
- Tongue cupping
- Tongue peristalsis
- Tongue snapback.

The healthcare professional scores each item 0, 1 or 2. So, there is a total of 10 possible points for appearance and 14 for function.[4]

- A score of 14 indicates normal function.
- A score less than 11 indicates significant ankyloglossia that probably requires frenotomy.
- An appearance score that is lower than eight suggests tongue tie. Surgery, however, is not recommended based on the appearance unless the assessment also reveals that the child is experiencing functional problems.[10]

Frenotomy for ankyloglossia

Frenotomy - clipping the frenulum - offers a relatively quick and easy procedure to alleviate most cases of ankyloglossia. During frenotomy, an assistant supports the head and neck of the swaddled and supine infant. The tongue-tie practitioner exposes and cuts the frenulum using sharp, straight, blunt-ended scissors or a laser. Some tongue-tie practitioners crush the frenulum before incision. The tongue-tie practitioner then applies direct pressure to the frenulum with a piece of gauze, which controls any bleeding, which, in any case, tends to be limited. The incision is usually not sutured and most infants recover quickly and are able to feed directly afterwards. In infants, frenotomy is usually performed without analgesia or anaesthetic. No study has, however, quantified infant pain during and after frenotomy. Frenuloplasty, an operation that lengthens the frenulum, is the preferred procedure for patients over one year of age.[10]

Frenotomy is generally well tolerated. The incision is not usually sutured and most infants recover quickly and are able to feed directly afterwards.[10] A Cochrane review of four studies reported that none of the papers reported adverse events after frenulotomy.[10] Another study, not included in the Cochrane review, reported the results of frenotomy in 62 infants. None of the infants experienced complications following frenulotomy.[3] Some children, however, may develop a white patch, which takes 24 to 48 hours to heal, under their tongue. This does not appear to bother the baby.[11] Discomfort and pain are not generally expected following frenotomy. Nevertheless, tongue-tie practitioners should offer advice about

Figure 3: Ankyloglossia in a 1-month-old infant

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managing any post-operative discomfort. Approximately half of infants with ankyloglossia breastfeed without difficulty[2] and some initial problems resolve spontaneously.[2] So, some papers advocate "allowing a small amount of time to establish breastfeeding before frenotomy". During this time, women should receive advice and support to optimise breastfeeding.

Buryk and colleagues, for example, performed frenotomy at a mean age of 6.2 days. This allowed infants time to establish breastfeeding patterns and for mothers to recognise persistent feeding problems despite support.[4] Powers and Murphy "recommend 2 to 3 weeks as reasonable timing for intervention".[2] Further studies need to identify the optimal age at which to perform frenotomy.[10]

Frenotomy's effect on breastfeeding and maternal discomfort

A growing number of studies suggest that frenotomy improves breastfeeding and maternal outcomes.[2-4, 6, 10, 12] For instance, compared to a sham procedure, frenotomy can immediately alleviate nipple pain and improve the infant's latch.[4, 12] Nevertheless, some important questions remain unanswered (see below), quantifying the placebo effect is problematic and there is a need for more robust research.[2, 10]

A recent Cochrane review offers qualified support that frenotomy improves breastfeeding and maternal outcomes. The review included five randomised trials involving 302 new-born infants. A pooled analysis of two studies involving 155 patients showed no change on a 10-point feeding scale following frenotomy. However, a third study that enrolled 58 infants showed a 3.5-point improvement on a 12-point feeding scale. A pooled analysis of three studies showed a 0.7 reduction on a 10-point scale in maternal pain scores following frenotomy. The study of 58 infants showed a reduction in pain scores of 8.6 points on a 50-point scale. The authors of the Cochrane review suggested that the studies included "had serious methodological shortcomings," such as a small sample and poor blinding.[10]

One of the studies included in the Cochrane review, for example, compared breastfeeding outcomes in 28 children randomised to a sham procedure and 30 to frenotomy. The mean age of infants at enrolment was 6 days, although this ranged from 1 to 35 days. At baseline, the sham and frenotomy groups did not differ significantly in:[4]

- Age
- Scores on the Short-Form McGill Pain Questionnaire (SF-MPQ), which rated maternal nipple pain
- Scores on the Infant Breastfeeding Assessment Tool (IBFAT): Higher IBFAT scores are associated strongly with higher milk volumes and intake
- HATLFF appearance and function scores.

Maternal nipple pain declined in both groups, although the reduction was significantly greater in mothers of children that underwent frenotomy:

- Immediately after the procedure, SF-MPQ scores declined from means of 16.8 (maximum score 50) to 4.9 in the frenotomy group and from 19.3 to 13.5 in the sham group.
- IBFAT scores also significantly improved in the frenotomy group compared to sham: 9.3 (maximum score 15) to 11.6. In contrast, IBFAT scores are virtually unchanged in the sham group: 8.5 to 8.1.
- Mothers continued to report decreased

Figure 4: A growing number of studies suggest that frenotomy improves breastfeeding and maternal outcomes

SF-MPQ as well as improved IBFAT scores throughout follow-up, although the differences were no longer significant.

There were no complications from frenotomy.[4] No difference, however, emerged in the rates breastfeeding at 2 (66%), 6 (44%) and 12 months of age (28%).[4] Indeed, the Cochrane reviewers remarked that whether frenotomy increases the duration of breastfeeding is unknown.[10]

Several studies that were not included in the Cochrane review also suggest that frenotomy generally benefits mothers and infants. Miranda and Milroy, for example, evaluated 51 infants two weeks after frenotomy. All the children had gained weight. Overall, neonates gained 15 centiles, from the 41st to 56th. Males and females gained, on average, 13 and 18 centiles respectively.[3]

Moreover, 63% of mothers reported that breastfeeding improved and was more efficient following frenotomy. For example, the number of breastfeeding sessions declined from 10 per 24 hours before frenotomy to 7 per 24 hours two weeks later. The number of supplementary bottle feeds also declined from 9 to 2 per 24 hours respectively. Before frenotomy, 55% of mothers reported poor latch. Eighty-nine per cent of these reported improved latch following frenulotomy.[3]

The mothers also reported improvements in nipple symptoms following frenotomy. Before frenotomy, 53% of mothers reported nipple pain, 37% cracking and 22% bleeding. All those with pain, cracked and bleeding nipples reported an improvement after frenotomy. Indeed, the pain score improved by a mean of 83%.[3]

Another recent study enrolled 237 breastfeeding pairs of mothers and infants with ankyloglossia, tethered maxillary labial frenula – the tissue connecting centre of the upper lip and the area between the upper two front teeth – or both. The researchers reported improvements one week after the procedure and that outcomes continued to improve during the first month:

- Scores on the Breastfeeding Self-Efficacy Scale-Short Form improved by 25% at week one and showed a further 11% improvement between week one and month one.
- Infant Gastroesophageal Reflux Questionnaire scores improved by 14% and a further 7% respectively.
- Visual analogue scale scores for nipple pain severity improved by 48% and a further 28% respectively.

Furthermore, in a subset of 60 pairs of mothers and infants, the rate of milk transfer improved significantly from 3.0 ml per minute before frenotomy to 4.9 ml a minute a week after the operation. In this study, children in the three age groups studied (0-4, 5-8 and 9-12 weeks) all benefited from frenotomy.[13]

Figure 5: Mothers typically report improvements in nipple symptoms following the frenotomy

The optimal time for frenotomy is unclear,[10] although emerging evidence suggests that early recognition and treatment of ankyloglossia may improve outcomes. A study of 31 infants reported that before frenotomy the babies lost a mean of 18.52 g a day. During the week after frenotomy, the infants gained a mean of 27.65 g daily.[6]

The researchers also compared early frenotomy (before day 8; equivalent to lactogenesis Stage 2) and late frenotomy (after day 8; equivalent to lactogenesis Stage 3):

- Babies lost an average of 65 g a day in weight before frenotomy at lactogenesis Stage 2. Their weight increased by an average of 38 g daily after the procedure.
- Babies at lactogenesis Stage 3 gained an average of 5 g day before and 20 g a day after frenotomy, which was not statistically significant. The authors speculate that late release of ankyloglossia created a "low demand response" that, in turn, lead to low milk transfer and insufficient milk production.[6]

Following frenotomy, healthcare professionals should observe breastfeeding for signs of good attachment and positioning. In particular:

- The baby should have his or her mouth wide open.
- Less areola should be visible underneath the chin than above the nipple.
- The chin should touch the breast, lower lip rolled down, and nose free and no pain.

Successful feeding is associated with audible and visible swallowing with a sustained rhythmic suck. Repositioning and reattachment should relieve any pain and allow healing. If pain persists, healthcare professionals should consider an assessment for thrush.[14]

The Cochrane review, however, highlighted the need for high-quality randomised controlled trials to address a range of questions, such as whether frenotomy in infants with ankyloglossia resolves short- and longer-term feeding difficulties. There is a need to study frenotomy on preterm infants with ankyloglossia and identify the optimal age to perform frenotomy. Ankyloglossia's effect on early infant weight gain, maternal difficulties in establishing a breast milk supply and duration of breast feeding also needs further investigation.[10] Despite being common, ankyloglossia is surrounded with considerable uncertainty and further research is required.

SUMMARY

- Babies with ankyloglossia show an unusually thick, tight or short lingual frenulum,[4] which connects the underside of the tongue to the floor of the mouth.[3]
- Approximately half of infants with ankyloglossia breastfeed without difficulty. Nevertheless, ankyloglossia can be associated with poor latch as well as nipple pain, cracking and bleeding.[3]
- HATLFF offers a comprehensive clinical evaluation based on five factors relating to appearance and seven functional items.[4]
- Some papers advocate waiting a few days before suggesting frenotomy to allow infants to establish breastfeeding patterns and for mothers to recognise persistent feeding problems despite lactation interventions and to allow for spontaneous resolution.[2, 4] However, the optimal time for frenotomy is unclear.[10]
- Breastfeeding and maternal outcomes seem to improve following frenotomy, although quantifying the placebo effect is problematic and the studies have limitations.[2, 10] Nevertheless, compared to a sham procedure frenotomy can produce an immediate improvement in nipple pain and the infant's latch.[4, 12]
- The Cochrane review highlighted the need for high-quality randomised controlled trials to address a range of questions, including whether frenotomy leads to a longer duration of breastfeeding.[10]

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REFERENCES

1. Edmunds JE, Fulbrook P, and Miles S Understanding the experiences of mothers who are breastfeeding an infant with tongue-tie. *Journal of Human Lactation* 2013;29:190-195.
2. Power RF and Murphy JF Tongue-tie and frenotomy in infants with breastfeeding difficulties: Achieving a balance. *Archives of Disease in Childhood* 2015;100:489-494.
3. Miranda BH and Milroy CJ A quick snip – A study of the impact of outpatient tongue tie release on neonatal growth and breastfeeding. *Journal of Plastic, Reconstructive & Aesthetic Surgery* 2010;63:e683-e685.
4. Buryk M, Bloom D, and Shope T Efficacy of neonatal release of ankyloglossia: A randomized trial. *Pediatrics* 2011;128:280-288.
5. Johnson P Tongue-tie – exploding the myths. *Infant* 2006;2:96-99.
6. Praborini A, Purnamasari H, Munandar A et al. Early frenotomy improves breastfeeding outcomes for tongue-tied infants. *Clinical Lactation* 2015;6:9-15.
7. Edmunds J, Miles S, and Fulbrook P Tongue-tie and breastfeeding: A review of the literature. *Breastfeed Rev* 2011;19:19-26.
8. Goswami U *Child Psychology: A Very Short Introduction* Oxford University Press.
9. Klockars T and Pitkäranta A Pediatric tongue-tie division: Indications, techniques and patient satisfaction. *International Journal of Pediatric Otorhinolaryngology* 2009;73:1399-1401.
10. O'Shea J, Foster J, O'Donnell C et al. Frenotomy for tongue-tie in newborn infants. *Cochrane Database of Systematic Reviews* 2017; DOI: 10.1002/14651858.CD011065.pub2.
11. NHS Choices *Tongue-tie* Available at: **www.nhs.uk/Conditions/tongue-tie/Pages/Introduction.aspx** Accessed August 2017.
12. Dollberg S, Botzer E, Grunis E et al. Immediate nipple pain relief after frenotomy in breast-fed infants with ankyloglossia: A randomized, prospective study. *Journal of Pediatric Surgery* 2006;41:1598-1600.
13. Ghaheri BA, Cole M, Fausel SC et al. Breastfeeding improvement following tongue-tie and lip-tie release: A prospective cohort study. *Laryngoscope* 2017;127:1217-1223.
14. NICE *Postnatal care up to 8 weeks after birth: Clinical guideline* Published: 23 July 2006 Available at: nice.org.uk/guidance/cg37 Accessed: August 2017.

Breastmilk is the best form of nutrition for infants and exclusive breastfeeding is recommended for the first 6 months (26 weeks) of an infant's life. Thereafter breastfeeding should continue for as long as the mother and baby wish, while gradually including a more varied diet.[1]

NIPPLE SHIELDS: HELPING MOTHERS BREASTFEED

Although 81% of women initiate breastfeeding in the UK, only 34% are breastfeeding by six months, which declines further to 0.5% by 12 months.[2]

Reports suggest that breastfeeding problems often relate to the baby not wanting to take the breast and/or finding it difficult to grasp the nipple.[3] In a recent survey, 28% of mothers said their biggest fear about breastfeeding was that their baby wouldn't be able to latch on.[4]

In 2011 and 2014, a study of 1,177 women placed incorrect positioning and attachment, tongue tie, infection, palatal anomaly, flat or inverted nipples, mastitis and vasospasm as the most common causes of sore nipples.[5]

Nipple shields can help women with **flat or inverted nipples** breastfeed. Mothers may have a nipple that does not protrude making it difficult for baby to latch. A nipple shield may be used to activate the suckling motion. As the nipple becomes more pliable, the nipple shield is no longer required.

A study from the USA enrolled 81 women experiencing problems with early breastfeeding. The women used nipple shields for a variety of reasons including poor latch (55.5% of mothers) as well as flat (32.1%) and painful nipples (25.9%). Most mothers were satisfied with the nipple shield with 72% finding the nipple shields to be 'extremely helpful.' Women used the shields for a median of 6.6 weeks and 31% were still breastfeeding 6 months after giving birth.[6]

About half of infants with **ankyloglossia** breastfeed without difficulty.[7] Nevertheless, ankyloglossia can cause poor latch and maternal nipple pain, cracking and bleeding.[8]

A study of 31 infants with untreated ankyloglossia reported that none had a good latch despite their breastfeeding positions being otherwise good.[9] Nipple shields can provide a temporary barrier so that the baby can still breastfeed while allowing mother's nipples some relief and time to heal.

Nipple shields may help **premature, ill or small infants** breastfeed.[10] These babies have poor suck-swallow coordination and tire easily when feeding. The nipple shield can help by giving the tiny baby a firmer surface to grasp and hold in his mouth when he pauses between sucks. This keeps him on the breast longer, and increases the transfer of milk. As his weight increases, the nipple shield is no longer required. A study of 34 premature infants compared milk transfer during two consecutive feeds, one feed with, and one without, nipple shields. Mean milk transfer was significantly greater for feedings with the nipple shield (18.4 and 3.9 ml respectively). All 34 infants consumed more milk when the nipple shield was in place.[11]

In specific circumstances, nipple shields can be used as an effective, short-term tool to support mothers to breastfeed, under the encouragement, support and appropriate advice of a healthcare professional.

- ***TIP:*** *Apply a small amount of Lansinoh® HPA® Lanolin to the rim of the nipple shield (not the nipple portion). This will help keep the shield in place leaving both hands free to position and attach the baby.*

WEANING FROM NIPPLE SHIELDS

Nipple shields are intended for short-term use under the expert care of a healthcare professional with frequent weight checks to ensure baby's health and good growth. Once your concern has been overcome, we would expect the baby to be able to breastfeed directly from the breast. We would encourage:

- Skin-to-skin contact between feeds to encourage bonding
- Frequent practicing without the shield to build confidence
- Encouragement and support from partners, family and friends to assist mothers making the best choice for them when it comes to breastfeeding.

References:

1. NHS England. (2015). *Statistical Release. Breastfeeding Initiation and Breastfeeding prevalence 6-8 Weeks,* Quarter 1 2015/16.
2. Infant feeding Survey 2010.
3. Wilson-Clay B. Clinical Use of silicone nipple shields. *J. Human Lactation 1996; 12:301-304.*
4. Lansinoh® Global Survey 2017, *UK Results from 1,015 respondents who are either pregnant or have a child under two years of age.* Available at: www.lansinoh.co.uk/blog/feeding-with-confidence
5. Kent J, Ashton E, Hardwick C et al. Nipple pain in breastfeeding mothers: Incidence, causes and treatments. *International Journal of Environmental Research and Public Health 2015;12:12247.*
6. Hanna S, Wilson M, and Norwood S A description of breast-feeding outcomes among U.S. mothers using nipple shields. *Midwifery 2013;29:616-621.*
7. Power RF and Murphy JF Tongue-tie and frenotomy in infants with breastfeeding difficulties: Achieving a balance. *Archives of Disease in Childhood 2015;100:489-494.*
8. Miranda BH and Milroy CJ A quick snip – A study of the impact of outpatient tongue tie release on neonatal growth and breastfeeding. *Journal of Plastic, Reconstructive & Aesthetic Surgery 2010;63:e683-e685.*
9. Praborini A, Purnamasari H, Munandar A et al. Early frenotomy improves breastfeeding outcomes for tongue-tied infants. *Clinical Lactation 2015;6:9-15*
10. Chow S, Chow R, Popovic M et al. The use of nipple shields: A Review. *Frontiers in Public Health 2016;3:DOI:10.3389/fpubh.2015.00236.*
11. Meier PP, Brown LP, Hurst NM et al. Nipple shields for preterm infants: Effect on milk transfer and duration of breastfeeding. *Journal of Human Lactation 2000;16:106-114.*

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