

Nipple Shields



A Guide on When and How to Use Them

Overview

1. Why use a nipple shield?
2. Benefits and risks of nipple shield use
3. Mothers' opinions
4. Research
5. How to use nipple shields
6. Troubleshooting
7. Weaning from nipple shields
8. Summary

Fun Facts

- Nipple shields date back to the 16th century. They have progressed from being made of lead, wax, silver, wood, pewter, ivory, and animal skins, to rubber, thin latex, and today's silicone models
- The most commonly used sizes: 18 mm (25%), 20 mm (16%), 24 mm (60%), and 28 mm (1%)



Why Use a Nipple Shield?



Why Use a Nipple Shield?

Possible Infant Indications

- Baby struggling to maintain latch due to weak suck or sleepiness (such as preterm or late preterm baby)
- Signs of possible tongue tie affecting baby's ability to latch
- Disorganized suck, not opening mouth wide enough
- Infant needs help transitioning from bottle to breast

Why Use a Nipple Shield?

Possible Maternal Indications

- Flat/inverted nipples with poor elasticity (Note: many babies can latch onto flat/inverted nipples despite their appearance)
- Severe pain unresponsive to position/latch changes (temporary until cause of pain addressed)
- Mother at risk of introducing bottles for trouble latching or pain
- Extreme engorgement flattening nipple, leading to inability to latch (try reverse pressure softening/hand expression *first*)

Benefits and Risks of Nipple Shield Use



Benefits of Nipple Shields

- Reduces duration of failure to latch
 - Less risk of insufficient milk intake for non-latching infants
 - Less parental and staff anxiety over baby not latching
 - Less risk of bottle usage
- Allows for a more “normal” breastfeeding experience
- Empowers mothers who have been unable to latch their babies, increasing their confidence in breastfeeding ability
- Helps manage breast rejection in bottle-oriented babies

Benefits of Nipple Shields

- In babies that are preterm, have low tone, tongue tie, or disorganized suck, nipple shields can improve sucking efficacy and reduce infant fatigue
- Inexpensive and low-tech
- Ensures infant remains oriented to the breast (as opposed to pumping + bottle-feeding human milk)
- Reduces maternal anxiety and frustration with latching problems

Risks of Nipple Shields

- May be used as a quick fix leading to insufficient time on basic breastfeeding management
- Inaccurate sizing, causing maternal pain or poor infant attachment and milk transfer
- Sometimes difficulty with adhering to breast, babies knocking shield off breast
- No study has evaluated colostrum transfer with nipple shields

Risks of Nipple Shields

- Some mothers have reported that their babies became dependent on the shield, although it is unknown whether this is causative or due to a continuation of the original problem
- Mother may lose the nipple shield, have difficulty using it in public, less skin contact than direct latching
- Nipple damage in rare cases
- Inadequate follow-up

Mothers' Feedback

Positive

- 72–89.8% of mothers had a positive experience with nipple shields
- 67.3% credited the nipple shields for prevention of breastfeeding discontinuation

Negative

- Inconvenient
- Annoying
- Difficult to keep track of
- Harder to breastfeed in public

What Does Evidence Show?



What Does Evidence Show?

- Average length of nipple shield use: 1 month (range 2 days–4.5 months)
- Difficulty or inability to latch is the primary reason for using (73%); sore nipples is secondary (10%)
- Current studies show no deleterious effect on milk production or infant weight gain in dyads accustomed to using them.

Source: Brigham, 1996; Chow, 2015; Coentro, 2021

What Does Evidence Show?

Current evidence is that nipple shields do not:

- Blunt hormonal response
- Reduce infant weight gain
- Impact sucking dynamics



Source: Chertok, 2006, 2009; Coentro, 2021; Hanna, 2013

What Does Evidence Show?

There is evidence that nipple shields do:

- Increase milk transfer in premature infants
- Reduce pain by 25% in mothers with chronic nipple pain
- Result in mothers being satisfied with nipple shield use and attribute their use with preventing early weaning
- Allow babies to gradually transition to direct breastfeeding

Source: Meier, 2000; Chertok, 2009; Coentro, 2021

What Does Evidence Show?

It is unknown:

- Whether nipple shields cause breastfeeding problems, or are a marker for underlying problems necessitating nipple shield use
- Ideal time to introduce a nipple shield when indicated
- Whether nipple shields reduce transfer of thicker colostrum

How to Use Nipple Shields



How to Use Nipple Shields

Consider whether the dyad is a good candidate for nipple shield use

- Has the baby been unable to latch for several consecutive feedings?
- Does the mother have *inelastic* flat or inverted nipples?
- Does the baby struggle with latching or maintaining latch?
- Does the mother experience severe nipple pain unremitted by improved position/latch?
- Is the mother at risk of stopping breastfeeding without an immediate solution?

How to Use Nipple Shields

Step 1: First, *always* try better positioning and deeper latch

Step 2: Educate on why nipple shields may benefit baby, how to use, and necessity of follow up with an LC to evaluate size, reason for use, and tips for weaning from shield in the future.

Step 3: Have parents return demonstrate application of shield and how to latch baby onto it.

Step 4: Put in an order for an LC consult.

How to Use Nipple Shields

Size to the mother's nipple first, then consider infant factors

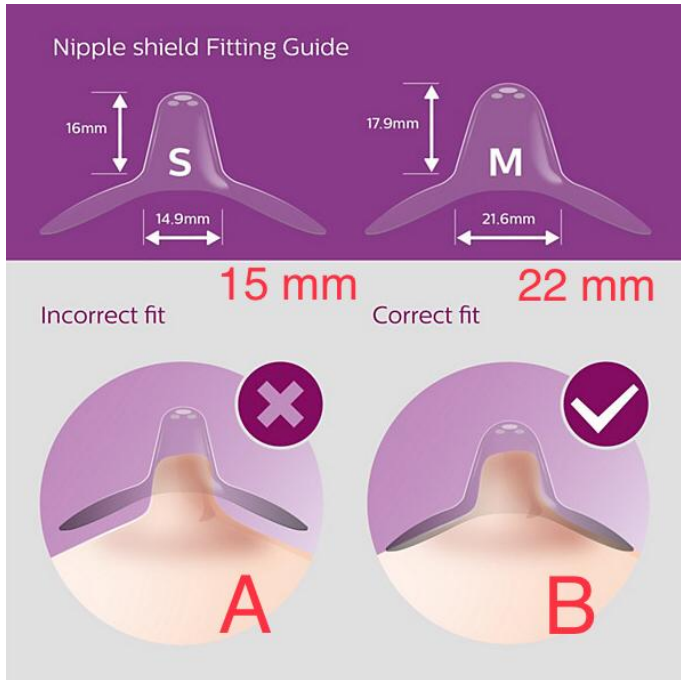
Maternal considerations:

- Does the nipple fit comfortably with no compression or excessive room?
- Does it adhere well to mother's skin?
- Do parents seem capable of using it successfully?

Infant considerations:

- Is the infant able to latch deeply onto the shield?
- Is infant's mouth well sealed such that no air is being exchanged?

Sizing



- There is little evidence to guide us on fit; we have to go by common sense, appearance, maternal feedback, and observing the infant's latch on the shield.
- The base of mother's nipple should fit comfortably (B) with no more than 2 mm of room on each side, to avoid pinching the tip of the mother's nipple (A). The nipple will expand slightly when the baby sucks.



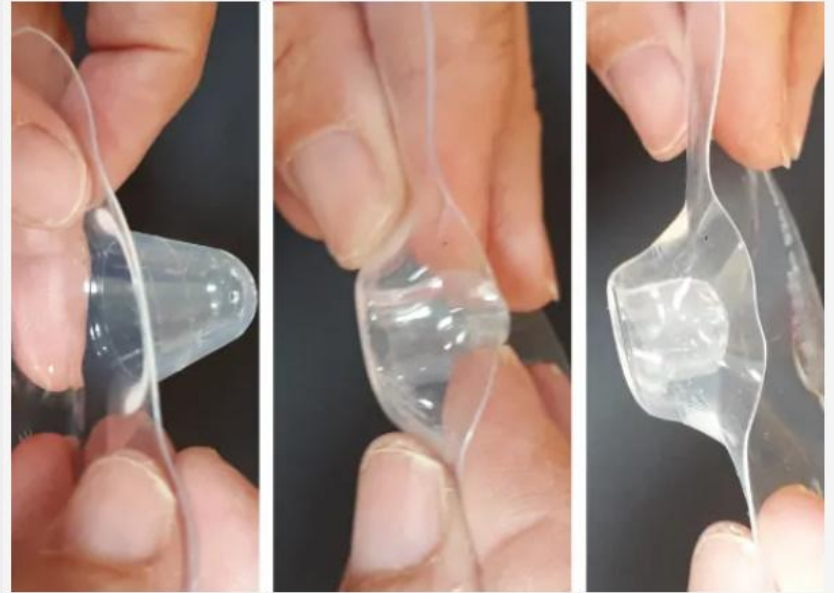
There will normally be some room at the tip of the shield. If the shield is collapsing or the baby is only sucking on the tip, it is too large. If the baby's suck reflex is not triggered, or the mother complains of pain, it may be too small.

Sizing



Application

- Notched area is for baby's nose, for scent of mother's skin
- Turn nipple shield halfway inside out and apply to breast
- Check fit: part of mother's nipple should be drawn deeply into the shield; no excessive room around sides of nipple (≤ 2 mm is fine) or pinching/compressing of nipple
- Make sure baby has a deep latch with lips on base of nipple shield



Turning a nipple shield almost inside out before applying helps draw your nipple in. Put on your nipple and then smooth the edges onto your breast.

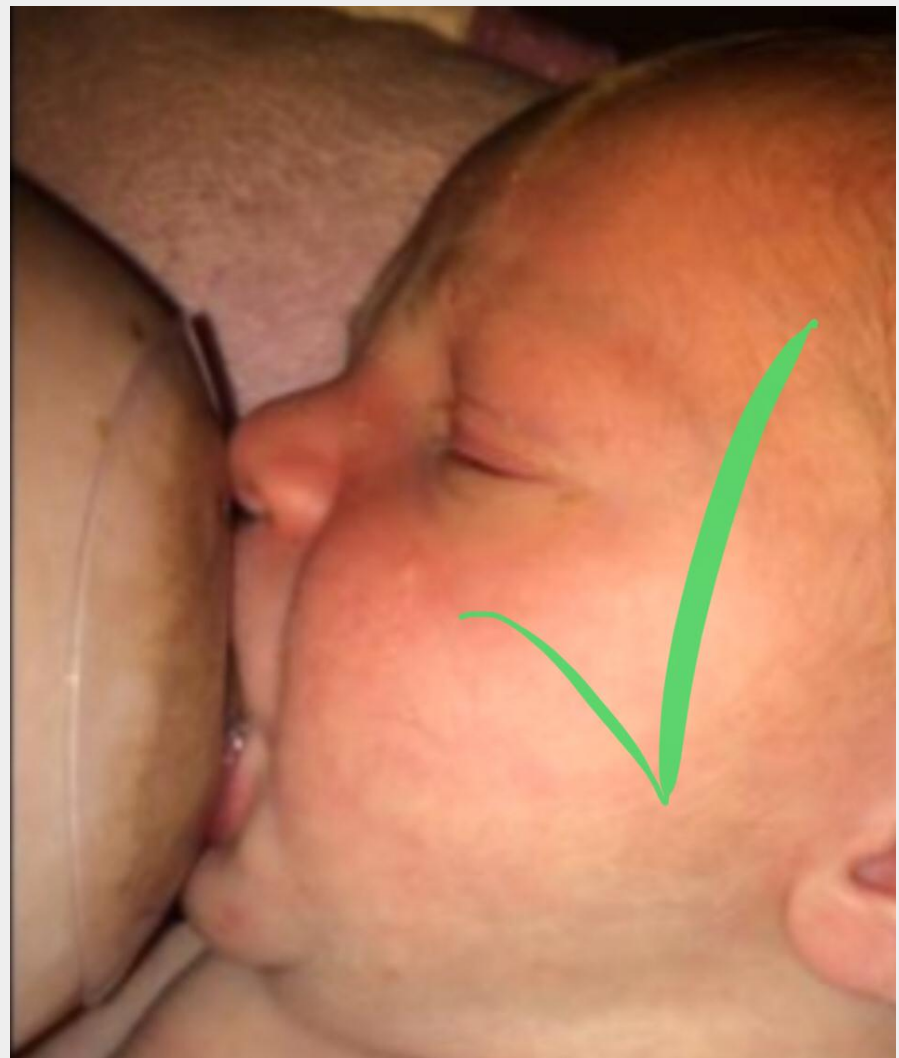
Improper fit

- Baby sucking on shaft of nipple shield only
- Mouth not wide enough
- Notch is not directly in front of baby's nose



Proper Fit

- Lips flanged
- Baby sucking on base of shield
- Nose and chin touching breast (note: both cheeks should also be touching breast)



Troubleshooting



Troubleshooting

Maternal issues

- Nipple shield not adhering to skin: warm water on shield, dab lanolin on inside base of shield, stretch shield before applying, use latch assist before and/or after application
- Mother using shield incorrectly: review use of shield and ask her to return demonstrate

Infant issues

- Hands dislodging shield: bring infant closer, arms hugging breast.
- Infant only sucking on tip of shield: retry, wait for wide gape before latching, try smaller size shield, reposition infant to make sure hips and chest are snug against maternal rib cage with head tipped back
- Swaddling may help fussy infants

Weaning From Nipple Shields

- Continue to work on ideal positioning/latch to optimize chances of spontaneous attachment
- Do not fight with baby to latch without shield, as this can cause breast rejection
- Remove shield in the middle of feeding, as nipple is elongated and infant is more settled
- Try latching when infant is drowsy or sleeping
- Initiate milk ejection reflex (pumping or hand expressing) before attempting to latch, so baby has immediate reward

Summary



1. Always try breastfeeding management first
2. Size nipple shield to mother; tweak for infant
3. Put in an LC consult as soon as possible

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