

# Protocol #4

## Sore Nipples



## Protocol #4: Sore Nipples

*Sore nipples is one of the most common complaints of new mothers and one of the most frequent reasons that mothers stop breastfeeding sooner than intended (Riordan et al., 2010). Sore nipples may have one or more underlying causes that may be mother and/or baby related. The most common cause of sore nipples is the way the baby is positioned and latched.*

### Observation and Assessment

**Assess the pain and appearance of the mother's nipples:**

- Nipples feel sore, painful, burning and/or itchy.
- Nipples that appear to be abnormally pink or red, bruised, blistered, cracked, shiny, flaky and/or bleeding.
- Discharge from cracks or sores on the mother's nipple.
- A white blister or “bleb” at the opening of one of the ducts on the mother's nipples (*Protocol #6: Plugged Ducts*).
- Timing of the pain. Nipple pain may decrease after the initial latch or may persist throughout the breastfeeding and between breastfeedings.
- Nipples that appear blanched and are painful after breastfeeding.
- Location of the nipple pain.

### Possible Causes or Contributing Factors

**Assess the mother for possible causes:**

- Ineffective positioning and latching techniques (*Protocol #2: Positioning and Latching*).
- Poor latching or tongue thrusting may result in soreness on the top or tip of the nipple.
- A shallow latch places the baby's tongue forward in the mouth, leading to friction as the nipple tip rubs the hard palate.
- Poor timing, i.e., not following the infant's cues, may delay breastfeedings so that the mother hurries latching before the infant is ready.
- Ineffective hand positioning may also result in soreness on the underside of the nipple.
- The position of the mother's hands on her breast

may tip her nipple so that the infant “strokes” the underside of the mother's breast with its tongue.

- Ineffective positioning of the baby.
- Baby is not facing the mother's breast and has to turn his head to swallow.
- Baby's nose is not approaching the mother's nipple and the baby is unable to tilt his head back to latch instinctively.
- Engorged breast (*Protocol #5: Engorgement*).
- Flat or inverted nipples (*Protocol #8: Flat or Inverted Nipples*).
- Taking the baby off her breast before the baby is ready.
- Incorrect or excessive use of breast pumps, e.g., not centering the pump flange over her nipple or using a high suction setting on engorged breasts (*Protocol #19: Expressing and Storing Breast Milk*).
- Wet breast pads or pads with a plastic lining.
- Use of poorly ventilated breast shells.
- Detergent residue on bra or clothing.
- Menstruation or pregnancy (nipples may become sensitive).
- Extremely sensitive nipples.
- Sensitivity to and/or excessive use of nipple creams and ointments.
- Dermatitis, eczema, impetigo, scabies, herpes, or other skin conditions. Advise the mother that these need to be assessed and treated medically.
- Candidiasis, mastitis, or other infections. Advise the mother that these need to be assessed and treated medically.
- A white blister or bleb at the opening of her nipple (*Protocol #6: Plugged Ducts*).

- Nipple vasospasm (i.e., when the baby comes off her breast, the mother’s nipple is blanched and there is a burning pain). After several minutes the nipple returns to its normal colour and the burning sensation changes to a throbbing pain. Further assessment is needed to determine if the cause is possibly thrush or Raynaud’s phenomenon.

**Assess the baby for possible causes:**

- Ineffective suck (*Protocol #10: Ineffective Suck*).
- A very aggressive, strong suck that may feel like biting. This may be associated with hypertonicity.
- Short frenulum, i.e., tongue-tie (*Protocol #9: Breast Refusal or Difficulty Achieving or Maintaining a Latch* and *Protocol #10: Ineffective Suck*). May result in soreness on top of mother’s nipple.
- High, arched palate or cleft palate.
- Candidiasis (*Protocol #15: Candidiasis (Thrush)*).
- Receding chin.
- Use of artificial nipples and other devices, e.g., bottle nipples, soothers, improperly sized nipple shields.
- Teething and biting down on the mother’s breast by an older baby.

**Suggestions**

1. Explore the possible cause(s) of nipple soreness (see previous section on Possible Causes or Contributing Factors).

- Begin with positioning and latching, refer to *Protocol #2: Positioning and Latching*.
- For dysfunctional sucking or a short frenulum, refer to *Protocol #10: Ineffective Suck*.
- For candidiasis or thrush, refer to *Protocol #15: Candidiasis (Thrush)*.
- For engorged breasts, refer to *Protocol #5: Engorgement*.
- For a white blister or bleb at the opening of the mother’s nipple, refer to *Protocol #6: Plugged Ducts*.
- For flat or inverted nipples, refer to *Protocol #8: Flat or Inverted Nipples*.

2. Provide the mother with suggestions for breastfeeding with sore nipples.

**Before breastfeeding, encourage the mother to:**

- Ensure that the letdown or breast milk ejection reflex is initiated. The mother can try the following methods to initiate letdown:
  - Breastfeed in a quiet, relaxed place.
  - Mother feels relaxed, comfortable and supported. Heat may be applied to her back or shoulders.
  - Initiate breastfeeding early, before the baby is stressed and crying (see early feeding cues in *Protocol #1: The Initiation of Breastfeeding*).
  - Clothe the baby only in a diaper to promote skin-to-skin contact.
  - Support the baby in a vertical chest-to-chest position to facilitate the baby’s normal reflexes and self-attachment behaviours.
  - The mother can gently massage her breasts. Mother may apply moist or dry heat to her breasts for a few minutes before or during massage until letdown occurs. Heat may be applied with a warm, wet towel or disposable diaper, a warm bath or shower, a bowl of warm water, a heating pad on low or a hot water bottle wrapped in a cloth.
  - Hand express some breast milk (*Protocol #19: Expressing and Storing Breast Milk*).
  - The mother may stimulate her nipples, gently rolling them between the thumb and index finger for several minutes or until the letdown reflex occurs and breast milk leaks out. Express some breast milk (*Protocol #19: Expressing and Storing Breast Milk*).
- Breastfeed on the pain-free side first until letdown occurs, then switch to the sore side.
- Numb the nipple just before latching by applying ice wrapped in a cloth on the sore nipple for a few seconds. Avoid prolonged exposure to the ice as this can inhibit the letdown reflex or damage the nipple.

**During breastfeeding, encourage the mother to:**

- Support the baby in a chest-to-chest position to facilitate normal infant reflexes and self-attachment behaviours.
- Try a different position for each breastfeeding to avoid placing pressure on the same area of the breast all of the time. The football or cross-

cradle position may be more comfortable, as these positions allow for maximum control of a baby who is learning or has difficulty latching (*Protocol #2: Positioning and Latching*).

- Assess that the baby is effectively sucking and swallowing throughout the breastfeeding (see *Protocol #3: Signs of Effective Breastfeeding*).
- Use breast compressions if the infant is not effectively sucking and swallowing (see *Protocol #5: Engorgement*, for a description of breast compressions).
- Allow the baby to continue breastfeeding until finished. Do not limit breastfeedings to prevent nipple soreness.
- Avoid pulling the baby off her breast. If the mother wants to end the breastfeeding before the baby is finished, she can break the suction by trying one of the following methods:
  - Press down on her breast near the infant's mouth.
  - Gently insert a finger into the corner of the infant's mouth.
  - Gently pull down on the infant's chin.
  - Bring the baby in closer to her breast so that the nose is covered briefly with breast tissue; this may be more effective for an older baby.

***After breastfeeding, suggest the mother:***

- Express some breast milk onto her nipples and areolae after each breastfeeding if there are no signs of tissue trauma. Let the breast milk dry before putting on a bra; this is not recommended in the case of nipple trauma or candidiasis, as the yeast *Candida albicans* thrives in breast milk.
  - Apply saline compresses to her nipple and areola. As above, allow the area to dry before putting on a bra.
  - Wear a breast shell with good ventilation and a wide base under the bra if contact from the bra or clothing on her nipple is too painful (see *General Principles* below).
  - Wear a well-fitted bra that is not too tight. Avoid bras with underwire.
  - Use nursing pads that have no plastic lining. If the pad is stuck on her nipple, moisten the pad with water before removing it.
- Understand the possible benefits and risks associated with the use of nipple creams, gels, or ointments, if she inquires about using them for sore nipples. Offer further assessment and refer for further support as needed (see notes in *General Principles*).
  - Understand the possible benefits and risks associated with the use of nipple shields if she inquires about using a them for sore nipples. Offer further assessment and refer for further support as needed (see notes in *General Principles*).
  - Wash her nipples once a day during her usual bath or shower, but not before or after each breastfeeding. If there are skin breaks, cracks or fissures, wash her nipples once a day with warm, soapy water and rinse well.
3. If breastfeeding is painful and the mother decides to partially supplement, encourage her to:
- Alternate breastfeeding with feeding expressed breast milk using an alternative feeding method, e.g., cup, spoon, syringe, or finger feeding (*Protocol #18: Alternative Feeding Methods*).
  - When the baby is not feeding at her breast, the mother should be encouraged to express some breast milk from her breasts frequently – at least 8 or more times in 24 hours – in order to maintain her breast milk supply (*Protocol #19: Expressing and Storing Breast Milk*). The expressed breast milk can be used to feed the baby. If expressed breast milk is not available an appropriate supplement should be offered (*Protocol #17: Indications for Supplementation or Cessation of Breastfeeding*).
4. Refer the mother to a breastfeeding expert or breastfeeding clinic for further support if:
- The mother needs further assessment to determine the cause of pain.
  - Nipple trauma is so severe that the mother cannot continue breastfeeding and temporarily stops to allow her nipple time to heal. It will usually heal very quickly.
  - The problem is not resolving and the mother is considering stopping breastfeeding.

## General Principles

In the first week mothers may feel some nipple tenderness, particularly at the start of breastfeeding. The discomfort may be related to the initial grasping

of her nipple and stretching of the ducts as they fill with breast milk (Lawrence, 2011). This tenderness may startle a new mother, but should improve daily. Sore nipples are one of the leading causes for women to cease breastfeeding. Therefore it is imperative to identify the cause of soreness.

Ineffective positioning and latching are the two most common causes of sore nipples, and should always be assessed first (Tait, 2000). Direct observation is important for assessment.

Nipple pain is not related to the length and/or frequency of breastfeeding, or to hair and/or skin colour. Nipple pain is also not prevented by prenatal nipple preparation, nipple exercises or use of breast shells (Lawrence, 2011, Enkin, 2000), although there is evidence to support the value of prenatal preparation, including education and breast examination.

Limiting the length of breastfeedings will not prevent nipple soreness. It will only delay soreness. Shortened breastfeedings can prevent the infant from receiving sufficient breast milk, particularly hindmilk. In order to shorten a breastfeeding the mother would likely remove the infant from her breast, possibly causing further nipple trauma (Riordan et al., 2010).

It is neither recommended nor necessary to discontinue breastfeeding to promote healing of a cracked or bleeding nipple unless the pain is intolerable or the trauma is worsening (Riordan et al., 2010). Rapid healing usually occurs once the problem is corrected. Any temporary discontinuation must be accompanied by ongoing assessment and plans for re-establishment of feeding at the mother's breast. It is important that the mother continue to remove breast milk by expression (*Protocol #19: Expressing and Storing Breast Milk*). If the infant is unable to feed at the mother's breast, breast milk may be fed by spoon, cup, or dropper (*Protocol #17: Indications for Supplementation or Cessation of Breastfeeding*).

- Swallowed blood from damaged nipples will not harm the baby but the cause of the cracked nipples needs to be investigated.
- A bleb or milk blister, a white dot or bump on the nipple, is an accumulation of milk solids that blocks the breast milk from flowing. It may be painful when the baby latches onto the mother's breast (*Protocol #6: Plugged Ducts*).
- A blister on the mother's nipple may be caused by

friction when her nipple rubs against the baby's hard palate, as a result of ineffective positioning, latching, and sucking. It may contain breast milk products.

**Stages of Nipple Trauma** – Mohrbacher has developed a four-stage system for rating nipple trauma to standardize the reporting and management of nipple trauma (Mohrbacher, 2010). It is included in several of the current texts (Lauwers & Swisher, 2011; Wilson-Clay et al., 2008 and Walker, 2011).

**Stage I – Superficial Intact:** Pain or irritation with no skin breakdown. May include redness, bruising, red spots, swelling.

**Stage II – Superficial with Tissue Breakdown:** May include pain with possible abrasion, shallow crack or fissure, compression stripe, hematoma, and shallow ulceration.

**Stage III – Partial Thickness Erosion:** Skin breakdown with destruction of epidermis to lower layers of dermis. May include deep fissure, blister, and deep ulceration with more advanced ulceration.

**Stage IV – Full Thickness Erosion:** Deeper damage through the dermis. May include full erosion of some parts of the dermis.

**Management** – The best management of nipple trauma is prevention, education and anticipatory guidance to promote effective positioning and latching (*Protocol #2: Positioning and Latching*).

To date, systematic reviews of evidence have yet to determine definitive management of sore nipples, after comparing application of expressed breast milk, lanolin, petroleum jelly, peppermint oil, glycerine gel, ointments, tea bags, antibiotics, antifungals, warm water compresses, hydrogel dressings, polyethylene film, nipple shields, or breast shells. A protocol has been developed by a joint Canadian-British group, but results have yet to be published (Dennis et al., 2009). Removing the cause and facilitating healing is the appropriate treatment for sore nipples (Lawrence, 2011). An individual risk/benefit assessment should be conducted before initiating therapy.

- **Moist Wound Healing** – A moisture barrier covers the wound to promote healing by preventing evaporation and drying. Moist wound healing is a shift in practice from dry wound healing. Cracks or fissures in the nipple result from insufficient moisture in the corpus stratum of the dermis, together with friction. Rapid drying, as in dry

wound healing, causes the stratum to shrink in an irregular manner, increasing tension on any new tissue, causing further cracking and drying. The moisture barrier may be an emollient, occlusive or semi-occlusive dressing, but does not include oil or petroleum products, warm compresses or wet or soiled breast pads. For further information see Walker (2011) and Lawrence (2011).

Expressed breast milk (EBM), sometimes recommended for Stage I nipple trauma as an alternative to nipple creams or ointments, is readily available, free and has antibacterial properties, but is not appropriate if there is broken skin, as EBM dries quickly and does not provide moist wound healing (Mohrbacher, 2010).

Breast milk has bacteriostatic properties. These include secretory antibodies such as SIgA, IgE, and IgM, against specific pathogens, fatty acids and lactoferrin that provide broad spectrum protection, and glyco-conjugates and oligosaccharides that protect against one or more specific pathogens (Newburg et al., 1998; Riordan, 2010).

Saline compresses applied to the nipple and areola are recommended by some practitioners. Although no evidence has been identified to support this practice specifically for breastfeeding, saline is widely used in wound management, is readily available and unlikely to harm mother or infant. Some mothers may prefer to soak their breasts in a warm saline solution (5 ml salt in 250 cc water). As above, allow the area to dry before putting on a bra.

Warm water compresses to prevent sore nipples were recommended in an earlier systematic review (Page et al., 2003). Allow the area to dry before putting on a bra.

### **Nipple Creams, Gels, and Ointments (Emollients)**

– There are a variety of nipple creams and ointments on the market. Some women may find comfort by applying these products. Artificial lubricants are usually unnecessary as lubrication from the glands in the areolar skin keeps a nipple soft and pliable unless the natural lubrication has been disturbed. Some products may be used to promote moist healing by providing a moisture barrier to cover the mother’s nipple and areola, preventing evaporation and drying. However, there is little scientific evidence to support use of these products over prevention to relieve sore nipples (Morland-Schultz et al. 2005). Mothers need to be cautious in deciding whether to use nipple creams

or ointments. There is limited scientific evidence to establish standardized dosages and application or determine the efficacy and possible side effects for both the mother and baby. Specific allergies such as an allergy to wool would preclude the use of lanolin ointment for some women. Creams, gels, and ointments may interfere with normal lubrication or cause contact dermatitis. Local anaesthetics may cause allergies, and interfere with letdown.

### **The initiation and management of the following products should only be by a breastfeeding expert or breastfeeding clinic.**

- Purified anhydrous lanolin is purported to promote moist healing.
  - Suggested as an option for Stage I and II nipple trauma (Mohrbacher, 2010).
- Low-strength antibiotics may be applied to breaks in the skin to prevent mastitis. The evidence does not support the use of antibiotic ointments without signs of a portal of entry for infection (crack, trauma). Local application to the nipples is unlikely to be a risk to the infant as little is transferred to breast milk from topical application (Kristensen in Hale et al., 2007).
  - An option for Stage I, II and III.
- Low-strength topical steroids may be used for inflammation.
  - An option for Stage I, II and III.
- Hydrogels, either glycerin-based or water-based, may be applied in a dressing to sore nipples.
  - An option for any stage of nipple trauma.
- A compounded ointment developed by Canadian paediatrician Dr. Jack Newman, known as all-purpose nipple ointment (APNO), contains an antibiotic, steroid, and antifungal agent (Newman, 2009). It is commonly recommended but not yet researched (Mohrbacher, 2010; Lauwers & Swisher, 2011). Although Mohrbacher suggests it may be an option for Stage I, II and III nipple trauma (Mohrbacher, 2011), dermatologists rarely use a cream with multiple active ingredients because “the bad effects often outweigh the good” (Lawrence, 2010), and it is difficult to determine the source of a negative reaction.

**Nipple Shields** – If a mother inquires about using a nipple shield to relieve sore nipples, it is important to

first explore with her any possible underlying causes of sore nipples. It is also important to inquire about her current breastfeeding management practices and attempts to manage her sore nipples, and then to offer suggestions to optimize basic breastfeeding management (see earlier discussion regarding management of sore nipples).

A nipple shield is an artificial nipple and areola shaped like a floppy sun hat and made of a synthetic material like silicone. Some women may have success placing one of the newer ultra-thin silicone nipple shields over the breast to facilitate latching and sucking. This has the potential to stimulate the baby's hard palate and thereby elicit the sucking reflex. It may be a familiar stimulus to coax a baby to the mother's breast who has already imprinted preferentially on the supernormal stimulus of an artificial nipple (Wilson-Clay et al., 2008).

Although not the first strategy recommended to manage sore nipples, short-term use of the newer ultra-thin silicone shields has been positively associated with preserving the breastfeeding relationship while mother and baby learn to breastfeed (Meier et al., 2000; Wilson-Clay, 1996).

Although a recent review of the literature reported that the current evidence does not yet demonstrate safe practices for the use of nipple shields (McKechnie et al., 2010), expert practitioners continue to report the use of nipple shields as a possible strategy to bring a baby to the mother's breast who might otherwise refuse her breast. Reasons for refusal may include flat or inverted nipples, prematurity, neuromuscular issues and/or imprinting (*Protocol #8 Flat or Inverted Nipples; Protocol #9: Breast Refusal or Difficulty Achieving or Maintaining a Latch; Protocol #10: Ineffective Suck*). Nipple shields may provide temporary relief for a mother who is stressed or overwhelmed and prevent the introduction of a bottle, if she is supported appropriately by a lactation expert (Lauwers et al., 2011). Some mothers may wish to use nipple shields for longer periods; these dyads should be periodically reassessed. Lawrence advises against the use of a makeshift shield.

Historically, there has been mixed evidence reported about nipple shields. Use of the older rubber or latex shields was associated with concerns about inadequate intake of breast milk that resulted in slow weight gain or failure to thrive (Woolridge, 1980). Recent evidence has demonstrated infant weight gain to be similar over 2 months in babies fed with shields

compared to babies fed without shields (Chertock, 2009).

To apply a nipple shield, it is important to use the correct fit and size. If the teat is too long for the baby's mouth it can cause gagging, but if it is too small it may not stimulate active sucking (Mohrbacher, 2010). The teat opening needs to be large enough to accommodate the mother's nipple comfortably; if it is too small it can slow the flow of breast milk, which is counterproductive. Lauwers recommends starting with the smallest shield that accommodates both the baby's mouth and the mother's nipple. Wilson-Clay advises matching the shield size to the baby's mouth, and selecting the shortest available teat with the smallest base diameter (2008).

Clinicians and mothers may try varying methods to directly apply the shield. In one, the mother holds the rim of the shield between her thumb and fingers. Stretching the shield at the junction of the "nipple" and "areola", she places the stretched shield over her nipple and releases the tension. As the stretch releases and the shield returns to its normal shape, it draws the mother's nipple into the nipple cavity of the shield before the baby begins to suck. Some mothers may turn the top half of the shield inside out before placing it over the nipple. It is important to follow the manufacturer's instructions related to care and cleaning of the nipple shield. (For further information see Wilson-Clay, 2008, Lauwers, 2011, and Genna, 2008.)

Nipple shields should not be the first strategy attempted to manage sore nipples and they should only be initiated by a health care provider who has the breastfeeding expertise to thoroughly assess the potential effectiveness and risks of use for that breastfeeding dyad. The practitioner is also responsible for establishing a plan with the mother for the ongoing management and evaluation of the intervention. Practitioners who do not have the capacity, i.e., lactation expertise or time, to continue to support the breastfeeding dyad appropriately should refer the mother to a lactation expert or breastfeeding clinic. The baby's weight gain and the mother's breast milk supply need to be monitored closely. There must be a comprehensive plan that includes periodic reassessment of the breastfeeding and the infant's intake of breast milk, plus a plan for re-establishment of feeding at the mother's breast.

**Imprinting** – The concept of imprinting or "stamping" is sometimes used to explain the observation of nipple preference. Imprinting is drawn

from other sciences such as biology and psychology, where it has been applied to explain attachment behaviours and brain pathway development. In humans, imprinting is oral/tactile (Lawrence, 2011) and Gale Mobbs (1989) has identified the mouth as the most significant factor in imprinting in humans. When babies are exposed to artificial nipples or fingers early they can become accustomed to the feeling of that particular object (bottle nipple, pacifier, finger) in their mouths and have difficulty accepting another object, such as a mother's nipple, in its place (Righard, 1997).

**Breast Shells** – Plastic breast shells may be worn inside the bra over the mother's nipple and areola. Women may wear them to improve nipple protractility by placing gentle pressure on the areola, which stretches and pushes the nipple forward (*Protocol #8: Flat or Inverted Nipples*). They may be worn with effect in the early weeks of breastfeeding, but prenatal use has been found to be ineffective (Alexander et al., 1992; MAIN, 1994). They may also be worn to protect the tender nipple and areola from rubbing on a bra or clothing. Some mothers may use them to relieve engorgement, when worn about 20 minutes before breastfeedings.

- The bra size should be bigger than the shell to avoid placing too much pressure on the delicate breast tissue. Shells should have multiple openings for air circulation to keep the skin from becoming softened or chapped. Although previously used to collect leaking breast milk and protect clothing, any breast milk collected should be discarded due to potential high bacterial counts.

**Ankyloglossia (Tongue-Tie)** – A short or tight lingual frenulum may restrict infant tongue movement and may lead to breastfeeding difficulties. Although it may sometimes be associated with speech difficulties, the effect on speech has not been clearly defined (Lalakea et al., 2003). There are many variations in degree of tightness, amount, and type of movement. Coryllos describes four types of tongue-tie ranging from the frenulum attached to the tongue tip; attached behind the tongue tip at the alveolar ridge; attached to the mid-tongue and mid-floor of the mouth; and attached at the back of the tongue (Coryllos et al., 2004). There may be a congenital association.

- Difficulties that may arise with Ankyloglossia:
  - There may be difficulty achieving a deep latch

if the baby's tongue is unable to reach back towards the soft palate junction.

- The mother may experience nipple pain and damage if the tip of the baby's tongue rubs the hard palate and/or if there is reflexive biting.
- There may also be breast refusal and difficulty maintaining the latch.
- If the tongue has difficulty cupping the mother's breast, the infant may have difficulty managing the bolus of breast milk, putting the infant at risk of insufficient breast milk intake and poor weight gain.

Management of ankyloglossia is not straightforward. Disagreement may occur among health care providers regarding the management of ankyloglossia as there are many ways to describe and define this condition. In addition to Coryllos above, Walker includes descriptions of several assessment and management approaches (Walker, 2011).

Conservative management may be possible for breastfeeding with tongue-tie, depending on the degree of tongue movement and pain, through offering assessment and support to facilitate optimal positioning (*Protocol #2: Positioning and Latching*).

If the mother feels unable to continue breastfeeding due to persistent pain, and/or if the baby is at risk of insufficient breast milk intake and poor weight gain related to breast refusal or difficulty latching, a frenotomy, or surgical "clipping" or "snipping" to release the frenulum, may be considered to relieve pain, and facilitate effective latching and breastfeeding. Geddes et al. reported less nipple compression post-frenotomy, associated with improved breastfeeding outcomes, better latching and breast milk transfer, and less maternal pain (Geddes et al., 2008).

Refer to a primary health care provider for further assessment. Not all cases of ankyloglossia will be assessed as appropriate for frenotomy, depending on the degree of tongue movement, infant well-being and breastfeeding difficulty, as well as access to a paediatrician who performs frenotomies (*Protocol #2: Positioning and Latching; Protocol #9: Breast Refusal or Difficulty Achieving or Maintaining a Latch; Protocol #10: Ineffective Suck; Protocol #12: Insufficient Breast Milk Supply*).

**Vasospasm/Raynaud’s Phenomenon** – Mothers report intense pain, stinging, tingling, burning or numbness persisting after breastfeeding. A triphasic or biphasic colour change may occur; the nipple appears blanched after the breastfeeding, and turns blue and/or red before returning to its normal colour.

- Offer assessment and support to optimize effective positioning and latching.
- Suggest that the mother avoid temperature extremes. Some mothers apply a warm compress immediately after breastfeeding, letting it cool on her breast, to facilitate temperature transition.
- Refer to a primary health care provider for further assessment and possible treatment.

### **Hand Hygiene and Routine Practices**

Gloves are rarely needed for breastfeeding support. The Baby-Friendly Initiative recommends that most teaching and breastfeeding support should be done in a hands-off manner. As the goal is for mothers to be able to latch their babies independently, it is important for staff to request permission before touching the mother or baby and to take a hands-off approach as much as possible. A hands-on approach is only used after asking permission and when additional help is deemed necessary (BFI Step 5, BCC, 2011).

Practitioners should follow routine practices (previously universal precautions), which include the appropriate use of gloves and practicing hand hygiene (TPH, 2006), when in contact with body fluids, blood, excretions, secretions, non-intact skin, mucous membranes, or an undiagnosed rash.

If the practitioner does handle breast milk, then gloves should be worn (APIC, 2005). In addition, if the practitioner handles breast tissue that is not intact, such as cracked or bleeding nipples, gloves should be worn. Hands should be cleaned before donning gloves and after removing gloves. It is difficult to ensure the absence of occult blood from breast milk. Similarly, it is difficult to ensure the skin integrity of the practitioner’s hand. This is a change in practice from earlier recommendations from the Centers for Disease Control and Prevention (CDC), which previously had not listed human breast milk as a body fluid requiring special handling precautions (CDC, 2005), based on the fact that occupational exposure to human breast milk has not been shown to lead to transmission of HIV, HBV, or HCV.

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