Nipple Pain and Breastfeeding

Fact sheet for Health Care Professionals

Nipple Pain and Breastfeeding

Breastfeeding can be a learned skill for mothers and babies and may take time and patience. In the early weeks many mothers experience some tenderness at the beginning of the breastfeed, soreness that continues throughout the feed or extends beyond the first week is not normal. Buck *et al* report that at the time of discharge from hospital 80% of mothers reported nipple pain (Buck *et al*, 2014). There are many reasons why mothers may have sore and painful nipples, the most common cause is, baby's positioning and attachment to the breast may need adjustment. Positioning and attachment of the baby to the breast is really important and is fundamental in ensuring the breastfeeding experience is positive for breastfeeding mothers, babies and their families. Some mothers benefit from much support and assistance to get their breastfeeding journey established while other mothers need minimal support.

It is the role of the health care professional to assess the needs of each individual mother and then to motivate, encourage, educate, and empower mothers to correctly and safely position and attach their baby to the breast. If positioning and attachment is well supported the challenges of reduced milk supply and soreness are significantly reduced. Good antenatal breastfeeding education and proper positioning and attachment in the first week after birth will assist in the prevention of nipple damage and subsequent infection (Kent *et al*, 2015).

Principles of correct positioning and attachment to the breast (See Positioning and Attachment of Baby to the Breast - Fact sheet for Health Care Professionals)
https://www.breastfeeding.ie/Uploads/Positioning-and-attachment-of-baby-to-the-breast.pdf

Sore Nipples - Not Damaged

Soreness or sensitivity during the first 15-20 seconds or so of the breast feed as baby draws the nipple deeply into his mouth is quite common. However, the tenderness should be mild, resolve quickly and the rest of the feed should be comfortable. All mothers should be offered assistance by the health care professional to position and attach her baby to the breast for baby's first feed and other feeds if needed.

Mothers should offer a breastfeed when the baby is demonstrating early feeding cues, these include baby starting to wake, eyelids fluttering before opening, moving his head from side to side, rooting, licking and opening and closing his mouth, and putting the thumb or fingers in his mouth. Crying is a late feeding cue.

Mother's Position

- Mother relaxes and gets comfortable
- Her back, neck, arms and feet are well supported

Baby's Position

- The baby is positioned in close alignment to his mother, and baby's hips and feet are supported
- Mother holds her baby close, supported and facing the breast
- She supports the baby's neck, back and shoulder which will allow the baby to be free to tilt his head back easily.

Attachment

- Think 'nose to nipple' it helps if baby gets to the breast when the nipple is between his upper lip and nose – the baby feels the nipple and smells the breastmilk
- Sometimes it helps if mother 'shapes' her breast
- The baby's chin touches the breast first, he then tilts his head back and opens his mouth wide to attach on to the breast
- The baby should come closely onto the breast so that mother's breast is deep in the baby's mouth ideally at the junction of the hard and soft palate or the comfort zone with his nose free to breathe
- Baby then snuggles up close and begins to breastfeed
- A correct attachment to the breast is the secret to successful breastfeeding https://www.breastfeeding.ie/GettingStarted/Positioning%20and%20Attachment%20of%20Baby%20to%20the%20Breast/

One easy way to assist mothers is the following 3 basic concepts

- 'Open (a wide open mouth)
- Angle (nose to nipple, head slightly tilted back; chin first; shoulders, hips, legs and feet pulled in close)
- Oomph (a gentle push on baby's shoulders at latch to move the nipple into the comfort zone)'

(Mohrbacher and Kendall-Tackett, 2010 p.9)

If a mother feels that her baby is not positioned and attached well onto her breast she can gently remove her baby from the breast by inserting her washed little finger into the baby's mouth beside the nipple, the baby opens widely and releases the nipple. She can then begin again and ensure baby opens widely and comes closely and safely onto the breast.

There are lots of different positions that mothers use to breastfeed their babies, these include laid back breastfeeding or biological nurturing, cross cradle hold, cradle hold, rugby or football hold and side lying position. There are very few rules to adhere to before the breastfeed but it is important

that mother and baby are positioned comfortably and safely, and that baby attaches deeply as this can affect mother's comfort and how well baby feeds at the breast

If nipples are not damaged pain usually resolves within the first ten days after birth as the mother and her baby learn together to get a wide, deep, comfortable attachment. In a Cochrane review of interventions for treating painful nipples among breastfeeding women the authors reported there was insufficient evidence that glycerine gel dressings, breast shells and lanolin, lanolin alone and all purpose nipple ointment significantly improved maternal nipple pain (Dennis *et al*, 2014). The authors also found applying nothing or just breastmilk may be equally or more beneficial.

It is important that breast pads should be changed frequently and that mothers wear a well fitting bra and avoid using anything on the nipple that is drying or may damage the nipple skin (e.g. shampoo or rough towels).

Damaged Nipples

Nipples that are flattened, abraded, or creased will cause pain throughout a feed. Pain is a major contributor to premature weaning from the breast (McClellan *et al,* 2012). Again it is the role of the health care professional to support the breastfeeding mother or if necessary refer the mother to skilled breastfeeding support. The most common cause of damaged nipples is suboptimal positioning and attachment of the baby to the breast. The following is necessary if a mother has sore and damaged nipples

- Take a detailed history. This involves a breastfeeding history, pain history, mothers own history and baby's history. For further information please see http://www.bfmed.org/Media/Files/Protocols/persistent%20pain2016%20(2).pdf
- The mother's general appearance, and nipples and breast need to be examined. When inspecting the mother's breast and nipples this is done with her permission and ensure the mother is treated with dignity and respect at all times.
- Assessment of the baby should include his general appearance, tone, range of movement. It should also include an assessment of his oral anatomy and function of the tongue (See Tongue Tie - Fact sheet for Health Care Professionals) https://www.breastfeeding.ie/Uploads/tongue-tie.pdf
- Evidence of thrush, palate abnormality and submucosal cleft should also be out ruled. A high arched palate can interfere with breastfeeding and a change in breastfeeding position could improve breastfeeding both for mother and her baby. It can also sometimes be associated with tongue tie (Kent *et al*, 2015).
  For further information on mother and baby assessment please see http://www.bfmed.org/Media/Files/Protocols/persistent%20pain2016%20(2).pdf
- The mother is then observed positioning and attaching her baby to the breast in a position that is comfortable for her with assistance if necessary (See Positioning and Attachment of Baby to the Breast - Fact sheet for Health Care Professionals) https://www.breastfeeding.ie/Uploads/Positioning-and-attachment-of-baby-to-the-breast.pdf

Management of Damaged Nipples

- Breastfeed on the least sore breast first. Baby tends to feed most vigorously at the beginning so offering the least sore side first may make it less painful. Baby can then position and attach on to the sore side later on in the feed when baby's sucking is more relaxed. It would be important to ensure baby has finished the first breast before feeding from the second breast hence avoiding further challenges.
- Nipple shields may be used, under the care of a health care professional, in the short term to help preserve breastfeeding while the underlying cause of nipple pain is investigated and resolved.
- Analgesia may be necessary to ensure mother's comfort and to preserve breastfeeding while assessing the cause of pain.
- Pumping and using an alternative feeding method for a specified period to allow nipples to heal may help, however ensure the pump flange is the correct fit and if using an electric pump ensure the suction is comfortable and not turned too high.
- Application of the mother's breastmilk to her nipple has both soothing and healing properties.

If, having conducted a detailed history and observed a breastfeed, the cause of sore nipples is deemed other than positioning and attachment to the breast it is important to consider other causes of sore nipples outlined in detail below

Causes of Nipple Pain other than Positioning and Attachment include

1. Candida or Thrush of the Nipple /Breast
2. Bacterial infection of the Nipple / Breast
3. Tongue tie (ankyloglossia)
4. Milk Bleb
5. Vasospasm /Raynaud's Phenomenon
6. Trauma from use of Breast Pump
7. Breast Dermatoses

1. Candida or Thrush of the Nipple and Breast

Candida is a type of yeast, and the common cause of vaginal and oral thrush. Most often Candida colonises the genital tract, mouth and gastrointestinal tract, however it may cause infections at certain times. Mammary Candidiasis is the clinical diagnosis of candidal involvement in the breast.

A mother and baby when breastfeeding may serve as a source of recolonisation hence it is important if thrush is present, that both mother and baby are treated simultaneously even if there is no clinical evidence of thrush in one member of the breastfeeding dyad.

Factors that may predispose a mother to thrush is a history or previous recurrent thrush infections, baby has oral or nappy thrush, and mother or baby may have recently been prescribed antibiotics (Berens *et al,* 2016).

Symptoms of Thrush (Berens *et al,* 2016,) and (Jones, 2014)

- Pinkness of the nipple and possible areola area
- The nipple may be shiny or flaky
- The nipple may be sore after a period of pain free breastfeeding and may be sorer after the breastfeed or at night
- There may be burning, shooting pain radiating deep into the breast after the breastfeed

Signs of thrush in the baby include

- Creamy white patches or white spots in the baby's mouth, on the tongue or in the cheeks which cannot be removed
- Baby's tongue or lips may have a white or pearly gloss
- Baby may have a nappy rash, with classical satellite lesions.

Diagnosis of Thrush

One symptom is not enough for a definite diagnosis of thrush, a combination of symptoms is more reliable as mothers in the past have been mistakenly treated for thrush (Mohrbacher, 2010). Some authors have raised concerns about thrush being over diagnosed, so correct diagnosis by the health care professional is essential (Jones, 2014).

The diagnosis of thrush on the nipple is difficult by clinical assessment. In certain persistent cases bacterial cultures of the milk or nipple can be sent. This should not be done on the first presentation or as a routine test.

Management of Thrush

According to Lawrence and Lawrence (2016, p.468) the management of thrush should 'probably begin with a topical agent'. The following is the management of Candida infection.

- 'Topical azole antifungal ointment or cream (Miconazole and Clotrimazole) on nipples' (Berens *et al,* 2016). It is beneficial to dry any breastmilk on the nipple, before application of local treatment. 'Any cream that can be seen should be wiped off before the next feed but should not be washed off' (Jones, 2013, p.63).
- 'Nystatin suspension or Miconazole oral gel for infant's mouth' (Berens *et al,* 2016, p.4). If using miconazole gel it is important to show the parent how to correctly apply the gel. A clean finger should be used to smear the gel around the mouth and excess gel should be wiped off. It should never be given by syringe or spoon as this has been associated with choking episodes. It is recommended not to use Miconazole oral gel for an infant under 4 months of age because of the risk of choking. http://www.hpra.ie/img/uploaded/swedocuments/2166546.PA0823_059_003.c8b54cc8-d2a8-4f8a-b056-6171a2bd7d7a.000001Product%20Leaflet%20Approved%20Gel.151029.pdf
- Consider also topical Miconazole for the baby if they have signs of thrush in the nappy area

- ‘Oral Fluconazole (200 mg once, then 100 mg daily for 7–10 days) may be used’ (Berens *et al,* 2016, p.4) for cases that have failed topical treatment. Topical treatment of the mother and baby should be continued in these cases. Medication Guidelines for Obstetrics and Gynaecology citing a survey of members of the Academy of Breastfeeding Medicine, state ‘Fluconazole is often prescribed for nursing mothers to treat breast candidiasis, especially with recurrent or persistent infections’ (HSE Clinical Programme in Obstetrics and Gynaecology, 2017, p. 18). ‘Before prescribing Fluconazole, review all maternal medications and assess for drug interactions. Do not use Fluconazole in combination with Domperidone or Erythromycin due to concern of prolonged QT intervals’. (Berens *et al,* 2016, p. 4.). ‘When good adherence to the proposed regime with topical agents fail, or when the infant or mother are severely affected by pain and decreased breastfeeding, systemic therapy is appropriate’ (Lawrence and Lawrence, 2016, p.468).

Other recommendations if a mother and baby are receiving treatment for Thrush

- Mother may take a probiotic to aid in the treatment. There are many probiotics available so encourage the mother to talk to her local pharmacist.
- Careful hand hygiene for all family members as Candida can pass to baby and other members of the family. Use of separate towels is also advised
- Clothes should be washed in a 60 degree wash
- Analgesia may be necessary
- It is advised that mothers who have thrush and are pumping their breastmilk do not freeze their breastmilk until they have completed the course of treatment and are symptom free (Wambach and Riordan, 2016).

2. Bacterial Infection of the Nipple and Breast

The most common organism causing infection of the nipple is *Staphylococcus aureus*. This organism may be carried on hands, objects and clothing. It can cause superficial nipple infection as well as deep lactiferous or breast infection. Sore painful nipples that do not heal following support and assistance by the health care professional to the mother and her baby with positioning and attachment, may imply superficial bacterial infection of the nipple (Wilson-Clay and Hoover, 2013), (Mohrbacher, 2010). ‘*Staphylococcus aureus* ascends lactiferous ducts causing infections, mastitis and breast abscess’ (Wilson-Clay and Hoover, 2013p. 57) and according to Berens *et al* (2016, p.5) this infection can cause a ‘dull, deep aching in both breasts as well as tenderness to palpitation on breast examination.’ Symptoms are exacerbated during breastfeeding when the breastmilk flows through the lactiferous ducts.

Symptoms of Bacterial Infection of Nipple and Breast (Berens *et al,* 2016, p.4)

‘Superficial bacterial infection associated with skin trauma

- Persistent cracks, fissures

- Weeping, yellow crusted lesions especially in conjunction with other skin condition
- Cellulitis

Bacterial Breast Infection

- Bilateral dull, deep aching bilateral breast Pain and burning
- Pain during and after breastfeeds
- Breast tenderness (especially lower quadrants)'
- Erythema of the breast

Diagnosis of Bacterial Infection

Infection secondary to damaged nipples is a common occurrence (Berens *et al,* 2016). The prevention of infection from progressing from the nipple, involves the identification and treatment of the nipple infection. Swabs of the mother's nipples are useful to confirm the presence or absence of bacterial infection (Jones, 2014, p.5) for severe cases, but are not recommended for first presentation or for mild cases. For all cultures ensure that the person collecting the sample has clean hands and applied gloves and that the sample is labelled correctly (with right or left side) and transported appropriately' (Berens *et al,* 2016, p.6). The presence or absence of *Staphylococcus aureus* does not confirm or outrule infection and the diagnosis of mastitis is a clinical one.

Management of Bacterial Infection of the Nipple and the Breast

The following is the management of both superficial bacterial infection and bacterial breast infection

Superficial bacterial infection

- 'Rinse the breast with water before and after feeds' (Wambach and Riordan, 2016, p. 284)
- 'Topical mupirocin' (Berens *et al,* 2016, p.4)
- 'Oral antibiotics' (Berens *et al,* 2016, p.4) such as a penicillinase-resistant penicillin e.g. flucloxacillin or clindamycin in penicillin allergic patients.

Bacterial Breast Infection

- Consider oral antibiotics such as flucloxacillin, cephalexin or clindamycin for 5-7 days
- Indirect evidence to support that breast probiotics may assist the restoration of normal breast flora.
- Breast abscess. This can present as very painful tender masses in the breast and the patient may have systemic signs of sepsis such as pyrexia and tachycardia. These warrant referral to hospital for assessment and perhaps intravenous antimicrobials depending on the situation. (See Mastitis - Fact sheet for Health Care Professionals)

3. **Ankyloglossia (Tongue Tie)** (See Tongue Tie - Fact sheet for Health Care Professionals) https://www.breastfeeding.ie/Uploads/tongue-tie.pdf

4. **A Bleb or Milk Blister**

A bleb is a white spot on the tip of the nipple that appears as if there is breastmilk fixed in a nipple pore (Wiessinger *et al,* 2010). The bleb is smooth and shiny, approximately the size of a pinhead, and may be associated with a blocked duct (Gonzalez, 2014). The cause of a bleb is not fully understood, Mohrbacher (2010) suggests that the blockage could be caused by a granule of thickened milk, or by a thin layer of skin blocking the opening of a milk duct from the outside.

Management of the bleb

The management of the bleb depends on how the symptoms are impacting on the mother. If the bleb is not painful no treatment is necessary and the bleb resolves itself (Mohrbacher, 2010). If the mother experiences pain from the bleb there are a number of suggestions the mother can try to resolve the blockage. The following are some suggestions on how to manage a bleb (Mohrbacher, 2010)

- Apply wet heat to the bleb either by a warm compress or by soaking the nipple in warm water
- Rub the nipple with a damp cloth to remove excess skin
- Lubricate the nipple with olive oil
- Breastfeeding as well as expressing breastmilk either by hand or by pump may open a bleb, but works better if the bleb has been softened by the above
- If the bleb is opened it is important to take action to reduce the likelihood of infection, hence it is important to encourage frequent hand washing and washing the breast with a mild soap and water once daily and rinsing well afterwards. Advise the mother that if redness or soreness presents to seek advice from her health care professional.
- Occasionally it may be necessary to lance the bleb with a sterile needle. Advise the mother that this should not be done at home, but rather by a health care professional to lessen any risk of infection

5. Nipple Vasospasm

'Nipple vasospasm is a constriction of the blood vessels with resultant colour changes to the face of the nipple. The constriction causes shooting pain or cramping in the nipple' (Wilson-Clay and Hoover, 2013, p.61) a pain that is somewhat similar to Candida or thrush of the nipple (Morino and Winn, 2007). Nipple vasospasm can occur in the absence of a mother having Raynauds Phenomenon which is a condition where there is lack of blood flow to the extremities of the body including the nipple (Wilson-Clay and Hoover, 2013). Raynauds Phenomenon produces a bi or triphasic colour change in the affected extremity the body part initially turning white, then blue and eventually red in colour.

Symptoms of Vasospasm

- Shooting or burning breast pain with associated colour changes in the nipple, blanching followed by blue and then a red discolouration
- Precipitation of symptoms with environmental cold temperatures
- Sometimes severe pain when breastfeeding, causing some mothers to stop breastfeeding
- Symptoms may affect one or both breasts

Diagnosis of Vasospasm

- Vasospasm diagnosis involves taking a detailed history from the mother including both breastfeeding and pain history.
- The mother's general appearance and nipples and breast need to be examined. When inspecting the mother's breast and nipples this is done with her permission and ensure the mother is treated with dignity and respect at all times. It would be important to look at the appearance of the nipple also **after** the breastfeed to observe for triphasic or biphasic colour changes of the nipple.

Management of Nipple Vasospasm

The following is the management of Nipple Vasospasm as recommended by the Academy of Breastfeeding Medicine Protocol #26: Persistent Pain with Breastfeeding (Berens *et al,* 2016, p.5)

- 'Warmth (compresses and heat pads) following a breastfeed or whenever the mother experiences pain' (warm coverings over the breast may also work)
- 'Avoid cold on the breasts and nipples
- Nifedipine 30–60 mg sustained release daily or immediate release 10–20 mg thrice a day for 2 weeks initially if pain persists
- Longer treatment may be necessary for some women'.

Other recommendations if a mother has Nipple Vasospasm

- Prevent or decrease a mother's exposure to cold
- Avoid smoking, second hand smoke and caffeine as this increases constriction of blood vessels and hence would exacerbate symptoms (Jones, 2015)
- Mothers should wear warm clothing and breastfeed in a warm environment
- High doses of vitamin B6, Magnesium, Calcium, Fatty acids and Fish Oil supplementation have also been suggested but take a minimum of 6 weeks to be effective (Jones, 2015).

http://breastfeedingnetwork.org.uk/wp-content/pdfs/Raynauds%20and%20bf.pdf

6. Trauma from use of Breast Pump

Mothers use mechanical or electric breast pumps for a variety of reasons. Incorrect use of breast pumps could result from not following instructions for use accurately or inadequate support and assistance for mothers when using the breast pump. It is important that the instructions for use of the breast pump are read carefully and followed correctly as incorrect use of the pump may cause damage to the nipple or exacerbate an already damaged nipple. Some of the potential challenges resulting from incorrect breast pump use include using a setting which is too strong (the pump is to encourage the let-down process rather than mechanically remove the milk) or a flange which is too small causing friction of the nipple (the nipple should have enough space in the flange to move in and out freely without friction.

It would be important for the health care professional to observe a mother during the pumping session and ensure the level of suction of the pump and the fit of the flange of the attachment are adjusted if necessary to ensure comfort (Berens *et al,* 2016).

7. Breast Dermatoses

Breast dermatoses are skin rashes and lesions on the nipple-areolar complex and surrounding breast (Wambach and Riordan, 2016) and include eczematous conditions, psoriasis and Paget's disease of the nipple. All of these conditions could be responsible for causing soreness in the nipple (Berens *et al,* 2016).

Eczema

Eczema also known as dermatitis is a group of diseases that result in inflammation of the skin.

Symptoms of Eczema

Eczema presents as painful, itching, burning dermatitis with redness, eruption of vesicles, crusting and oozing papules in an acute erythematous eruption (Barrett *et al, 2013*). It can also persist in a chronic form with dry erythematous and scaling dermatitis (Wambach and Riordan, 2016).

Eczematous conditions include

Atopic Dermatitis (Eczema) - Occurs in those with a pre disposition to eczema

Irritant Contact Dermatitis - Occurs from direct chemical change to the skin e.g. soaps or chlorine

Allergic Contact Dermatitis - Is a delayed hypersensitivity reaction to an allergen present in a topical agent that is applied to the nipples (Barrett *et al, 2013*)

Management of Eczema

The following is the management of Nipple Eczema as recommended by the Academy of Breastfeeding Medicine Protocol # 26: Persistent Pain with Breastfeeding (Berens *et al,* 2016, p.4)

- 'Reduce identifiable triggers
- Apply an emollient
- Apply low/medium-strength steroid ointment twice daily for 2 weeks (immediately after a breastfeed to maximize contact time before the next breastfeed)
- Use antihistamines for pruritus' (non sedating)
- 'Consider a short course (less than 3 weeks) of oral prednisolone or prednisone in resistant cases'.

Psoriasis

Psoriasis is a chronic, non-contagious disease characterised by inflamed lesions covered with silvery-white scabs of dead skin. Mothers who are breastfeeding may experience a flare up of psoriasis during lactation with an increased likelihood of developing new plaques in areas of skin injury due to abrasion from her baby breastfeeding (Walker, 2016).

Symptoms of Psoriasis

The symptoms of a flare up of psoriasis on the nipple according to Barrett *et al* (2013, p.333) is where the lesions present as 'well demarcated erythematous plaques with fine micaceous scales'

Management of Psoriasis

The following is the management of Nipple Eczema or Psoriasis as recommended by the Academy of Breastfeeding Medicine Protocol # 26: Persistent Pain with Breastfeeding (Berens *et al,* 2016, p.4)

- 'Apply an emollient
- Apply low/medium-strength steroid ointment twice daily (immediately after a breastfeed) as first-line treatment
- Avoid prolonged topical steroid use to prevent thinning of the nipple epithelium and delayed healing
- Topical Vitamin D creams or gels and phototherapy (UVB) are safe to use' (As per BNF manufacturers do not recommend application to the breast)
- 'Immunomodulating agents should not be used on the nipple due to the risk of infant oral absorption'

Paget's disease of the Nipple

'A unilateral, slowly advancing nipple eczema that begins on the face of the nipple is unresponsive to usual treatment, persists longer than 3 weeks, or is associated with a palpable mass should increase suspicion for Paget's disease' (Berens *et al,* 2016, p.3). Paget's disease is a type of breast cancer that resembles eczema of the nipple, hence if appropriate treatment does not resolve the lesion further investigation is necessary. The mother should have a biopsy of the lesion and be referred for specialist treatment (Wilson-Clay and Hoover, 2013).

Breastfeeding Support

It is important to receive good support when a mother breastfeeds. In addition to the care of the medical team, the role of breastfeeding support is crucial in helping to identify the cause and resolve nipple pain. There is a wide range of breastfeeding support available in Ireland offered by Public Health Nurses, voluntary groups such as La Leche League, Cuidiu, Friends of Breastfeeding, Hospital clinics and International Board Certified Lactation Consultant (IBCLCs). The breastfeeding supporter can help identify issues and make a plan with parents for improving breastfeeding in conjunction with the health care team. Links to nationwide support include:

Nationwide database of hospital, public health and voluntary breastfeeding support
https://www.breastfeeding.ie/Support-search/

To find International Board Certified Lactation Consultants (IBCLC)
http://www.alcireland.ie/find-a-consultant/

The National Medicines Information Centre (NMIC) aims to promote the safe, effective and efficient use of medicines. This is undertaken through their clinical enquiry answering service, publication of information outputs and education.

Evidence-based information is provided to healthcare professionals on a range of topics including:

- Indications, contraindications and dosage for specific drugs
- Drug interactions and adverse effects
- Drug use in pregnancy, breastfeeding, liver and renal impairment
- Identification of medicines
- Information on sourcing of medicines

http://www.stjames.ie/nmic/index.html

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