

# MANAGEMENT OF BREAST FEEDING

## SUMMARY OF RECOMMENDATIONS

- ◆ **Breastfeeding should be initiated within one hour of birth in all healthy infants.**
- ◆ **The frequency of breast feeding should be as often as the baby wants (demand feeding) for both day and night.**
- ◆ **A careful history and physical examination of the mother and baby should be performed, as well as observation of a breastfeeding session when there are concerns about inadequate breast milk.**
- ◆ **There should be a universal availability of skilled counselors for initiation of breastfeeding at birth, support during the stay in the hospital and at the time of discharge.**
- ◆ **Exclusive breastfeeding should be practiced during the first six months of life.**
- ◆ **Routine use of the multicomponent fortification of the breastmilk should be avoided. Their use should be restricted to infants <32 weeks gestation or <1500 g birth weight who fail to gain weight despite adequate breastmilk feeding.**

### WRITING GROUP :

Chairperson: **J P Dadhich**

Members: **MMA Faridi, Anita Gupta**

Reviewers: **Armida Fernandez, Arun Gupta**

# INTRODUCTION

Scientific research during the last few decades has clearly proved that breastfeeding provides both short-term and long-term health benefits to infants, mothers, families, and society.<sup>1-3</sup> It is also known that breastfeeding is an exceptionally cost-effective strategy for improving child survival and reducing the burden of childhood disease. However, there is still a large gap between the knowledge and practice of breastfeeding. Further, the potential long-term health benefits of breast feeding for mothers and babies, particularly in relation to obesity, blood pressure, cholesterol, and cancer are largely unknown. In spite of this knowledge, and the belief that breastfeeding culture comes naturally to Indian mothers, the rates of exclusive breastfeeding in India are dismal. This is evident from the National Family Health Survey-3 of India, which has documented that initiation of breastfeeding within one hour of birth is only 24.5%, and exclusive breastfeeding up to six months of age is only 46.4%.<sup>3</sup> There are many barriers to initiate and continue breastfeeding during the neonatal period extending into infancy. This guideline attempts to answer the following questions of practical relevance related to breast feeding :

- When should breastfeeding be initiated?
- What should be the frequency of breastfeeding?
- How long should the breastfeeding be exclusive?
- What should be the duration of breastfeeding?
- How to assess the adequacy of breastfeeding?
- How to breastfeed in maternal illness?
- How to use expressed breast milk ?
- How and when to fortify breastmilk ?
- What supplements are needed by breastfed VLBW?
- How should insufficient milk supply be managed?
- What are the contraindications to breastfeeding?

## **When should breast feeding be initiated?**

**Evidence:** Hospital practices surrounding labor and birth have been found to have great impact on the success of breastfeeding initiation. Education of nurses, physicians, and other health care professionals working with the nursing couplet regarding the dynamics of

breastfeeding have a significant influence on initiation of breast feeding. Current international.<sup>4,5</sup> and national guidelines recommend initiation of breastfeeding within one hour of birth. Early initiation of breastfeeding is extremely important for establishing successful lactation as well as for providing 'Colostrum' to the baby. Ideally, the baby should receive the first breastfeed as soon as possible and preferably within one hour of birth. Early skin-to-skin contact immediately after delivery and the opportunity to suckle within the first hour after birth are both important. The Cochrane systematic review on early skin-to-skin contact for mothers and their healthy newborn infants concludes that the intervention may benefit breastfeeding outcomes, early mother-infant attachment, infant crying and cardio-respiratory stability, and has no apparent short or long-term negative effects.<sup>6</sup> A study from Ghana has documented that 22.3% of all neonatal deaths could be prevented if all women could initiate breastfeeding within one hour of birth in a community. Even if breastfeeding is started within 24 hours after birth, 16% neonatal deaths can still be prevented.<sup>7</sup> Further, an epidemiological evidence of a causal association between early breastfeeding and infection specific mortality in the newborn infants has also been documented.<sup>8</sup> After caesarean section under general anesthesia, initiation of breastfeeding may be delayed. In such situations, breastfeeding can be initiated within a few hours, as soon as the mother regains consciousness.<sup>9</sup> Healthy newborn infants are often separated from their mothers after delivery and may not be put to the breast for hours, or sometimes for days, waiting for breast milk to 'come in' or without any reason. This practice is detrimental to successful breastfeeding and must be discouraged.

#### **RECOMMENDATION:**

- Breastfeeding should be initiated within one hour of birth in all healthy infants.
- Healthy infants after the delivery should have immediate skin-to-skin contact with their mothers. Mothers and babies should remain together and "room-in" the same hospital room throughout their hospital stay to initiate early breast feeding.

#### **What should be the frequency of breastfeeding?**

**Evidence:** All mothers who are breastfeeding, should have no restrictions placed on the frequency or length of their babies' breastfeeds. They should be advised to breastfeed their babies whenever they are hungry or as often as the baby wants to feed (demand feeding) and they should wake their babies for breastfeeding if the babies sleep too long or the mother's breasts are overfull.<sup>10</sup> Scheduling feeds leads to breastfeeding problems and insufficient milk production which may cause mothers to start artificial feeding. Often baby rests a while during breastfeeding, as it is an active process, though remains attached with the breast. There is no need to 'wake up' the infant or remove from the breast. S/he will

start suckling on its own till baby leaves the breast. Restricting length of the breastfeeding session may result in the baby getting less of the energy rich hind milk.<sup>11</sup> In a health facility, truly unrestricted breastfeeding is only possible with 24-hour rooming-in, and preferably bedding-in, which enables the mother to respond when her infant shows readiness to feed.

**Recommendations:** The frequency of breast feeding should be as often as the baby wants (demand feeding) during both day and night.

### How to assess the adequacy of breast feeding?

**Evidence:** Exclusive breastfeeding is sufficient to support optimal growth and development for the first 6 months of life and provides continuing protection against diarrhea and respiratory tract infections.<sup>12,13</sup> However, the most common cause cited by the mother to give supplementary feeds along with breastfeed is her perception that she does not have enough breastmilk.<sup>14</sup> Even when a mother perceives her milk to be insufficient, the baby may get all the milk s/he needs. The fact is that the breastmilk production is determined by the amount that the baby draws from the breasts. Mothers who think that they do not have enough breastmilk need the help and support of a person skilled in breastfeeding management. After initial weight loss, if the neonate does not gain birth weight by two weeks of age, or the cumulative weight gain is less than 500 gm in a month or the infant is passing small amount of concentrated urine less than six times a day, while on the exclusive breastfeeding, one should be worried about the adequacy of the breastmilk.<sup>15</sup> Insufficient weight gain in a breastfed baby may occur because (i) the infant is not feeding effectively, (ii) the infant has a higher than expected calorie need, or (iii) mother has an insufficient milk supply. A practical approach for health workers to help the mothers in such a situation isto follow three steps: First, decide whether the baby is getting enough milk or not. Second, if the baby is not getting enough breastmilk, decide why it is happening. Third, decide how to help the mother and the baby.<sup>16</sup> These mothers need additional support and counseling.

## SIGNS OF SUFFICIENT MILK INTAKE

### INFANT

Audible swallowing heard during feeding  
Appears relaxed during feeding and satiated after feeding  
Has awake, alert, calm times between feedings  
Nurses 8–12 times in a 24-hour period  
Gains 20–30 g a day after day 3–5 of life after day 3–5 of life

### MOTHER

Breasts are full before a feeding and softer after a feeding  
May notice let-down reflex during feeding

## RECOMMENDATION :

- A careful history and physical examination of the mother and baby should be performed, as well as observation of a breastfeeding session when there are concerns about inadequate breast milk.
- The adequacy of milk intake can be assessed by counting the number of wet diapers per day, the number and quantity of stools, and weight gain .

## What are effective strategies to help mothers to breastfeed and maintain breastmilk supply during separation of mother-infant dyad?

**Evidence:** Breastfeeding is not a totally instinctive behavior, and the technique often needs to be learned. Hence the mother requires help and support for positioning and attachment of the baby to the breast. It has been reported that establishing of breastfeeding and relactation can be achieved in more than 90% mothers, who were unsuccessful in breastfeeding, within six weeks postpartum with support.<sup>17,18</sup>

A meta-analysis of 20 randomized or quasirandomized trials involving 23,712 mother/infant pairs (infants with any birth weight, four trials specifically excluded LBW), showed that professional support was effective in increasing the rates of any breastfeeding at 6 months (RR0.89, 95%CI 0.81 to 0.97), but its effect on exclusive breast feeding (EBF) was not significant. Lay support was effective in increasing EBF rates (RR0.66, 95%CI 0.49 to 0.69), but its effect on any breastfeeding was not significant. (Sikorski J et al.,2003). Breastfeeding counseling has generally not been included in the teaching-training curriculum of doctors, nurses or nursing aids, so they often lack the skills needed to assist, and help mothers for breastfeeding. They themselves require an appropriate skill based training to build their capacity to support mothers to initiate breastfeeding within one hour of birth and to manage breastfeeding difficulties and breast conditions. Availability of help from a skilled person soon after birth is very crucial.<sup>13</sup>

In the event of separation of the mother- infant dyad, mother should be taught expression of breast milk. The expressed breastmilk must be fed with a cup or spoon (bondla) in comparison to bottle, to prevent nipple confusion and later problems of attachment of the baby to the breast.<sup>19,20</sup> Adequate technique and frequency of milk expression are necessary to achieve adequate lactation, and eventually to establish breastfeeding. Expression of milk should start as early as possible after birth, preferably on day one. Frequent expression, at least four times a day, leads to more production of milk; some experts recommend expression 8-12 times in the first week.<sup>21,22</sup>

There is not enough evidence to support routine use of galactogogues. Small trials report

conflicting effects on increasing milk volume.(Ehrenkranz RA,,1986, de Silva OP.2001, Hansen WF et al. 2005)

### **Best practices to maintain lactation in mothers separated from their babies**

#### **1. Provide information, educational materials, equipment, supplies during hospital stay.**

- Actively encourage and support breastfeeding
- Start milk expression in first 24 h after birth
- Aim for the first oral feedings to be at the breast
- Encourage milk expression 8 to 10 times per day
- Communicate about the progress of the baby and involve mother in day to day NICU baby care
- Respond to maternal concerns, stress, anxiety, or insomnia related to infant's changing condition
- Discuss identified maternal risk factors for lactation
- Avoid hormonal birth control during early postnatal period
- Make provision of hospital-grade breast pump and collection kit & storage containers
- Provide written educational information addressing common breastfeeding concerns
- Recommend specific medications to the mother that are compatible with lactation
- Educate new staff to support breastfeeding

#### **2. Provide nonpharmacologic interventions in the NICU that optimize maternal milk volume during the infant's hospitalization.**

- 24-hour visitation and access to infant
- Consistent message about the importance of human milk from all NICU clinicians
- Use of expression of breast milk at infant's bedside
- Daily skin-to-skin holding in the NICU
- Comfortable, supportive chairs should be available for mothers
- Daily "tasting" of milk (suckling at emptied breast) regardless of infant weight and gestation
- Peer support for expressing milk and other NICU-specific activities.

- Review of maternal milk volume records to identify expressing patterns.
- Observations of mother using manual expression or electric pump in the NICU to detect problems
- No free formula samples or other promotion of artificial feeding.
- Ensure the entire system supports breastfeeding

Adapted from Evidence-based Practices to Promote Exclusive Feeding of Human Milk in Very Lowbirthweight Infants P. Meier, JL. Engstrom. NeoReviews 2007;8:e467-e477.

### **RECOMMENDATION:**

- There should be an universal availability of skilled counselors for initiation of breastfeeding at birth, support during the stay in the hospital and at the time of discharge.
- In a situation of maternal separation from the infant, mother should be counseled and taught the technique of milk. She should also be taught how to feed breastmilk with cup or spoon.
- Encouragement and support from clinicians, education about the benefits of human milk, training and provision of breast pumps, and personal peer support have been shown to be effective methods of increasing breastfeeding rates.

### **How long should the breast feeding be exclusive?**

**Evidence:** Exclusive breastfeeding has been defined by WHO as “the infant receives only breastmilk without any additional food or drink, not even water”.<sup>22</sup>

Current international and national guidelines.<sup>1,2</sup> recommend exclusive breastfeeding for the first six months of life. In 2003, Lancet series on child survival<sup>23</sup> and later Lancet series on newborn survival<sup>24</sup> summarized that 13% to 15% of under-five deaths in resource poor countries could be prevented through achievement of 90% coverage with exclusive breastfeeding alone. The Cochrane review on optimal duration of exclusive breastfeeding concludes that infants who are exclusively breastfed for six months experience less morbidity from gastrointestinal infection in comparison to those who are mixed fed (breastfeeding plus other milk or food) during first six months of life, and also no growth deficits have been demonstrated among infants from either developing or developed countries who are exclusively breastfed for six months or longer.<sup>25</sup> Studies have shown that artificially fed infants have significantly higher rates of acute otitis media, non-specific gastroenteritis, severe lower respiratory tract infections, atopic dermatitis, asthma, sudden infant death syndrome (SIDS), and necrotizing enterocolitis. (Gartner LM et al, 2005).

Cochrane database concluded that commercial discharge packs containing samples of breast-milk substitutes, printed promotional materials on initiation and duration of breast-formula feeding have a detrimental effect on exclusive breastfeeding. (Donnelly A,2000)

The breastfeeding may not be able to meet all nutrients and energy needs of an infant after six months of age. Therefore, timely complementary feeds in appropriate consistency and amount should be introduced along with breastfeeding after baby completes six months of age.<sup>26</sup> Breastfeeding babies who are given food or drink other than breastmilk should have acceptable medical reasons.<sup>13</sup>

### **RECOMMENDATIONS:**

- Infants should be exclusively breastfed during the first six months of life.
- The use of prelacteals should be strongly condemned and discouraged.

### **What are acceptable situations to use breast milk substitutes ?**

**Evidence:** Almost all mothers can breastfeed successfully, which includes initiating breastfeeding within the first hour of life and breastfeeding exclusively for the first 6 months.<sup>27</sup> Nevertheless, a small number of health conditions of the infant or the mother may justify recommending that she does not breastfeed temporarily or permanently.<sup>28</sup> Whenever stopping breastfeeding is considered, the benefits of breastfeeding should be weighed against the risks posed by the presence of the specific conditions listed.

### **Infants who should not receive breastmilk or any other milk except specialized formula**

- Infants with classic galactosemia: a special galactose-free formula is needed.
- Infants with maple syrup urine disease: a special formula free of leucine, isoleucine and valine is needed.
- Infants with phenylketonuria: a special phenylalanine-free formula is needed (some breastfeeding is possible, under careful monitoring).

### **Infants for whom breastmilk remains the best feeding option but who may need other food in addition to breastmilk for a limited period**

- Infants born weighing less than 1500 g (very low birth weight)
- Infants born at less than 32 weeks of gestation (very preterm)
- Newborn infants who are at risk of hypoglycemia by virtue of impaired metabolic adaptation or increased glucose demand (such as those who are preterm, small for gestational age or who have experienced significant intrapartum hypoxic/ischaemic

stress, those who are ill and those whose mothers are diabetic<sup>29</sup>) if their blood sugar fails to respond to optimal breastfeeding or breast-milk feeding.

### **Maternal conditions that may justify temporary avoidance of breastfeeding**

- Severe illness that prevents a mother from caring for her infant, for example sepsis, postpartum psychosis.
- Herpes simplex virus type 1 (HSV- 1), chicken pox: direct contact between lesions on the mother's breasts and the infant's mouth should be avoided until all active lesions have resolved.
- Maternal medication<sup>30</sup>:
  - Cytotoxic drugs Cyclophosphamide, Methotrexate and Doxorubicin may interfere with cellular metabolism of the nursing infant hence incompatible with breastfeeding.
  - Radioactive compounds like Gallium 67 (<sup>67</sup>Ga), Indium 111 (<sup>111</sup>In), Iodine 131 (<sup>131</sup>I), Technetium99m (<sup>99m</sup>Tc), etc may lead to secretion of radioactive substance in breastmilk.

### **Maternal conditions during which breastfeeding can still continue, although health problems may be of concern**

- Breast abscess: breastfeeding should continue on the unaffected breast; feeding from the affected breast can resume once treatment has started<sup>31</sup>
- Hepatitis B: infants should be given immunoglobulin at delivery and hepatitis B vaccine, within the first 48 hours or as soon as possible thereafter<sup>32</sup>
- Mastitis: if breastfeeding is very painful, milk must be removed by expression to prevent progression of the condition .
- Tuberculosis: Breast feeding can be continued . Mother and baby should be managed according to standard guidelines.<sup>33</sup>

### **RECOMMENDATION:**

There are very few conditions in which temporary or complete avoidance of breastfeeding is required.

### **What is the role of multicomponent fortification of breast milk?**

**Evidence:** A term normal weight does not require breastmilk fortification. According to the Cochrane review on "Multicomponent fortified human milk for promoting growth in preterm infants" supplementation of human milk with multi-component fortifiers is associated with

short-term increases in weight gain, linear and head growth. There is no effect on serum alkaline phosphatase levels; it is not clear if there is an effect on bone mineral content. Nitrogen retention and blood urea levels appear to be increased. There are insufficient data to evaluate long term neuro-developmental and growth outcomes, although there appears to be no effect on growth beyond one year of life.<sup>34</sup> Safety concerns for such a product still remain unanswered. An increased osmolality, increased chances of bacterial contamination, and worsening of nonacid GER indices are some very important issues which may lead to an adverse outcome in the very low birth weight recipient of the breast-milk fortifiers.<sup>35,36</sup> It is started once the infant reaches 150 ml/kg/day of enteral feeds with expressed breastmilk in the dose recommended by the manufacturer (2g [1 sachet] human milk fortifier /50mL of expressed breastmilk).<sup>37,38</sup> The available research evidence<sup>39</sup> has revealed that the benefits of the multicomponent fortification of the breastmilk appear to be only short-term increases in growth, the safety is uncertain, and could be of more concern in developing countries with a greater risk of contamination. The review has thus expressed doubts on the routine use of multicomponent fortifiers, particularly in developing countries. Further research is needed to examine the role of multicomponent fortifiers in developing countries like India. There are no data examining the efficacy of multicomponent fortifier in infants of 32–36 weeks gestation or in term LBW infants.

**RECOMMENDATION:** Routine use of the multicomponent fortification of the breastmilk should be avoided. Their use should be restricted to infants <32 weeks gestation or <1500 g birth weight who fail to gain weight despite receiving full volumes of breastmilk which can be up to 180-200 ml/kg/day.

### **What nutritional supplements are needed by breastfed babies?**

**Evidence:** Term healthy infants do not need any supplements during the first 6 months of life. Since intrauterine accretion of nutrients occurs mainly in the later part of the third trimester, preterm infants have low body stores at birth, requiring supplementation of various nutrients.<sup>39</sup>

#### **RECOMMENDATION:**

- Term healthy infants who are exclusively breastfed do not need any supplementation in first six months of life.
- Preterm/LBW infants in addition to breast milk need supplementation ( see guideline on feeding of low birth weight infant).

**Following are guidelines in clinical practice for successful breastfeeding:**

## **AT BIRTH**

- Enthusiastic support of breastfeeding by all health-care professionals
- Recommend human milk for all infants as the first choice for feeding.
- Healthy infants should be in direct skin-to-skin contact with their mothers immediately after birth
- Initiate breast feeding in the first hour of birth in all healthy infants
- Help mother with positioning and attaching the baby in first few attempts.

## **IN POSTNATAL CARE**

- Enthusiastic support of breastfeeding by all health-care professionals
- Recommend human milk for all infants as the first choice for feeding.
- Mother and infant should sleep in proximity to each other
- Observe a breastfeeding session It involves observing and assessing feeding pattern, positioning and attachment, sucking behaviour, and breast fullness
- Implement baby friendly hospital initiative
- Avoid and discourage giving mothers commercial discharge packs containing formula or promotional material for formula milk
- Enforce the principles and aims of the International Code of Marketing of Breast-Milk Substitutes
- Support breastfeeding mothers and babies when confronted with medical needs that may jeopardize breastfeeding success
- Each mother at the time of discharge should demonstrate competence with nursing, including latching, identifying infant swallows and readiness to end a feeding, and identifying early feeding cues.

## **IN NICU MOTHERS**

- Early, frequent and effective milk expression appears to be the most important factor in establishing lactation.
- When direct breastfeeding is not possible, expressed human milk should be provided
- Personal assistance that includes peer counselors, lactation specialist or peer support for mothers with insufficient breastmilk.,

- There are some simple practical ways of stimulating milk production. These include: Expressing milk in close proximity to the infant, Skin-to-skin (kangaroo) care, Non-nutritive suckling at the breast & Breast massage
- Developmentally supportive care

### **AT HOME**

- Exclusive breastfeeds till first six months
- Demand feeding which is frequent and unrestricted breast feeding, day and night
- Water and other fluids should not be given to breastfeeding infants in first six months
- Continue breastfeeds upto 2 years and beyond in addition to complementary feeds from 6 months of age.
- Freshly expressed human milk can be used safely for up to 8 hours at room temperature

### **AT OFFICE PRACTICE**

- Advocate, support and promote breastfeeding.
- See the baby within 1–2 days after discharge from the hospital or birthing center, and continue frequent visits until the baby is gaining weight adequately and mother appears confident
- Assess for adequacy of breastfeeding at every opportunity by the infant's weight, hydration status, and the presence or absence of jaundice
- Respond to parental concerns on feeding
- Prevention and early help with breastfeeding problems are crucial
- Most common infant and maternal health problems should not preclude breastfeeding, but mothers and infants will need support from knowledgeable health care professionals
- Each prescribing decision needs to take account of the risks and benefits to the individual mother and baby,
- Provide written or multimedia resources for patient education.

## **SPECIAL CIRCUMSTANCES:**

- There are very few absolute contraindications for breastfeeding.
- Exclusive breast feeding for six months is recommended where no culturally acceptable, feasible, affordable, safe, and sustainable nutritional substitutes for breast milk are available.

## **To implement above mentioned guidelines, the unit needs to accomplish following actions:**

- Have a policy on breastfeeding which Supports early initiation,Avoids pre-lacteal feeds,Practices rooming- in,Practices demand feed,Practices exclusive breastfeeding,Abjures supplemental feeds,Supports mother to maintain milk supply during separation,Supports mother in managing expressed breastmilk,Manages breast conditions,Avoids teats and dummies,Protects breastfeeding from commercial influence by implementing the Infant Milk Substitutes Feeding Bottles, and Infant Foods (Regulation of Production, Supply and Distribution) Act 1992 as amended in 2003, which prohibits all kinds of incentives to health workers from baby food companies.
- Ensure that all health workers do not accept any incentives from baby food industry or their allies, directly or indirectly
- Ensure appropriate training of the staff aimed at acquiring counseling skills to build confidence of the mother and practical skills to help mothers (see annexure).
- Provide post discharge support – To avoid breastfeeding failure and consequent morbidity and growth faltering, an institutional mechanism to support the mother-infant dyad during the follow up visits should be established. One such effective intervention could be to establish an infant and young child feeding counseling centre in the health facility.

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# ANNEXURE

## 1. COUNSELING OF MOTHER

Based on available scientific evidences exclusive breastfeeding should be done for initial six months of age and then breastfeeding should be continued for at least two years along with complementary feeding. Harmful socio-cultural practices, non observance of baby friendly hospital initiative in the health facilities, lack of support to the lactating mother by the family in particular and by the community in general and impact of unethical commercial strategies of the infant formula manufacturers make the breastfeeding difficult. It has been seen that counseling of the mother improves exclusive breastfeeding rates and duration of breastfeeding.

Counseling is a method to empower a person to take most appropriate decision. It is different from advising. It has three components; listening and learning skills, confidence building skills and checking understanding skills. Each of the three skills has six attributes.

### a) Listening and Learning Skills:

1. Non-verbal communication-
  - Keep head at level
  - Remove barriers
  - Make eye contact
  - Keep appropriate distance
  - Show that you have time
  - Touch in culturally acceptable manner
2. Ask open questions
3. Show gestures and interest
4. Reflect back
5. Show empathy and not sympathy
6. Avoid using judging words

### b) Confidence Building Skills

1. Accept what a mother thinks or feels
2. Praise what she is doing right

3. Give little practical help
  4. Give relevant information
  5. Use simple language
  6. Give suggestions not commands
- c) Checking Understanding Skills [please add six attributes of it from the minutes of meeting held for revising training tools]

Generally health care providers are not very efficient counselors. In spite of good intentions many of them are not able to help mother to overcome breastfeeding difficulties. They need training of breastfeeding counseling.

## **2. SYRINGE METHOD FOR TREATMENT OF FLAT NIPPLES**

Explain that this method is for treating flat/inverted nipples postnatally, and to help a baby to attach to the breast. It is not certain whether it is helpful antenatally.

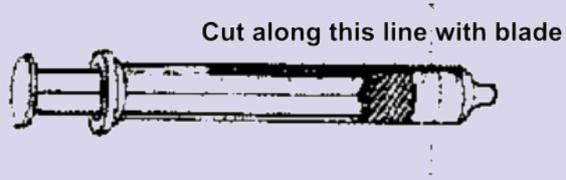
- Show the syringe to the mother that you have prepared, and explain how you cut off the adaptor end of the barrel.
- Put the plunger into the cut end of the barrel (that is, the reverse of its usual position).
- Use a model breast, and put the smooth end of the barrel over the nipple. Pull out the plunger to create suction on the nipple. (Explain that with a real breast, there is an airtight seal, and the nipple is drawn out into the syringe.)
- Explain that the mother must use the syringe herself.

Explain that you would teach her to:

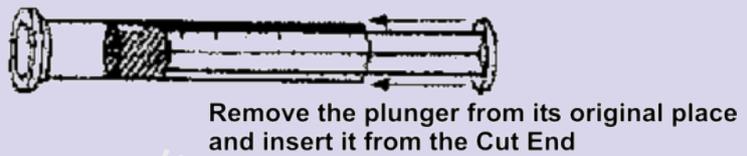
- Put the smooth end of the syringe over her nipple, as you demonstrated.
- Gently pull the plunger to maintain steady but gentle pressure.
- Do this for 30 seconds to 1 minute, several times a day.
- Push the plunger back to decrease the suction, if she feels pain.  
(This prevents damaging the skin of the nipple and areola.)
- Push the plunger back, to reduce suction, when she removes the syringe from her breast.

Use the syringe to make her nipple stand out just before she puts her baby to the breast.

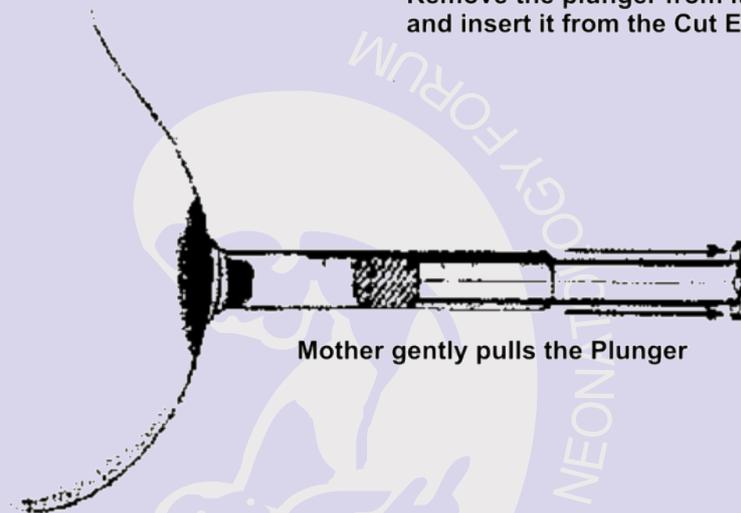
Step One



Step Two



Step Three



**Preparing and using a syringe for treatment of inverted nipples  
(Source: BPNI 3-IN-1 training course on Infant and Young Child Feeding)**

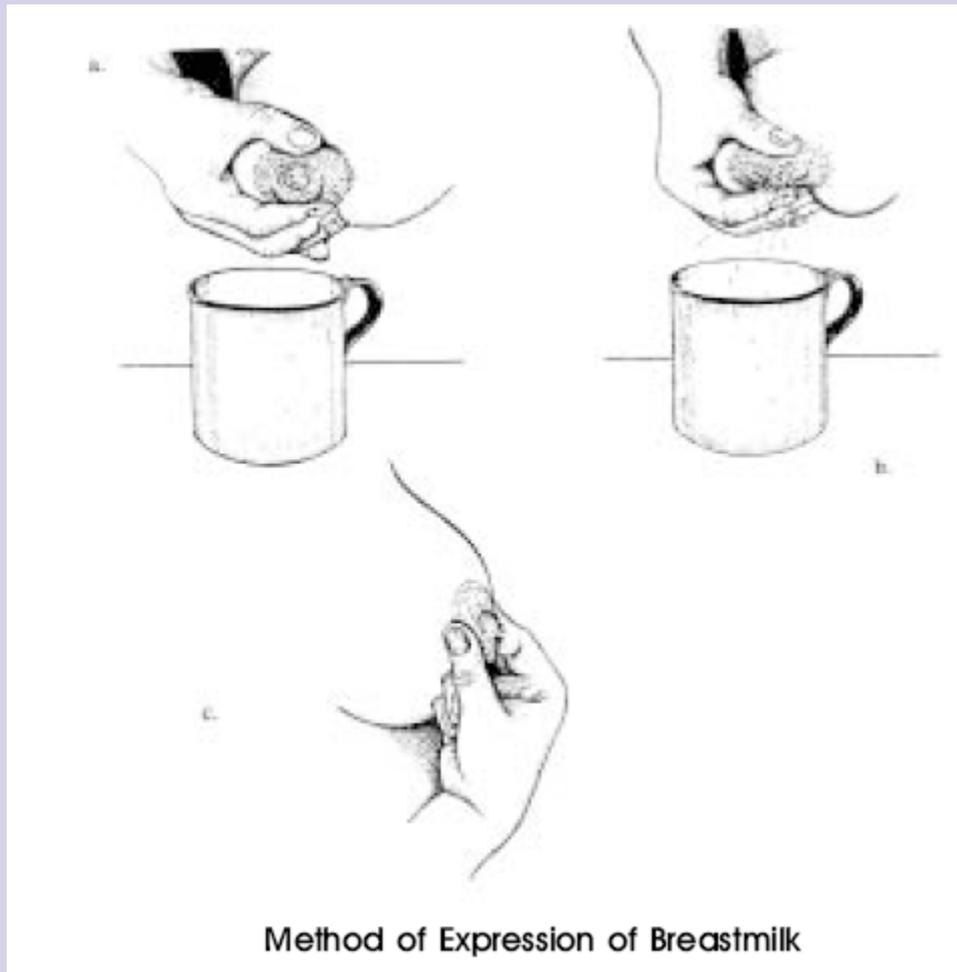
PROBLEM	CHARACTERISTICS	MANAGEMENT
Breast discomfort & Pain	May occur on days 2-7 when milk "comes in; if milk is not removed, milk production will diminish	Frequent unrestricted breast feeding, Analgesia compatible with breast feeding,; Breast massage; Hand expression if necessary; Cabbage leaves or cold compresses may help, but observed effects could be a placebo effect
Sore nipples	Trauma secondary to incorrect positioning, mothers or babies (or both) may have evidence of Candida albicans infection (thrush),	Correct positioning and attachment may prevent pain, Consider treating thrush infection, Topical nipple treatments, nipple shells, or nipple shields have not been shown to be effective; Evidence for the safety of nipple cream is weak
Mastitis	Caused by a blocked milk duct and poor milk drainage; signs and symptoms range from local inflammation with minimal systemic symptoms to abscess formation	Continue breast feeding or expressing milk, Analgesia compatible with breast feeding; increase fluid intake; Gently massage, If symptoms continue for more than a few hours of self management, seek professional advice to decide whether a $\beta$ lactamase resistant antibiotic is indicated
Inverted or flat nipples	Require skilled help with positioning and attachment	Additional care and support, Not a contraindication to breast feeding.
Difficulty getting the baby to suck	May be effect of maternal drugs, anxiety, or stress	Assessment of effective breast feeding, Encourage Kangaroo care, Allay anxiety, stress or pain, Express milk.
Not gaining weight	Weight loss > 10% of babies weight	Assessment of effective breast feeding, Check urine output, stool frequency and character, observation for lethargy
Neonatal jaundice	Prolonged unconjugated jaundice, which lasts beyond 14 days, and the mechanism is unknown	Breast feed frequently, investigate jaundice persisting beyond 14 days
Multiple births	Ongoing struggles with the sheer intensity of the process of breast feeding	Intense maternal support, advice & counseling, Frequent feeding, Feed consecutively or simultaneously, Alternate breasts when breast feeding twins, Use cradle or football or combination position method, Even partial breast feeding may be beneficial.
Preterm Baby	Breastfeeding may be delayed for days or weeks.	Expressing milk, Mother-infant skin-to-skin contact as early as feasible, Fortified human milk for < 1500 grams who do not gain weight on adequate breast milk feeds, Maternal support & counselling

Down's syndrome	Hypotonia, abnormal anatomic structure of the oral cavity, and significant congenital heart disease may affect breastfeeding	Support, Feeding usually improves as the infant's muscle tone improves, prevalence of breastfeeding among patients who have Down syndrome is similar to that of the general population., Close monitoring for growth.
Cleft lip / palate	Problems include inability to generate negative sucking pressure in the oral cavity, excessive air intake, nasal regurgitation, and fatigue leading to postnatal weight loss	Assistance in position and attachment, Breastfeeding offers several benefits over bottle-feeding
HIV	A route for transmission of the HIV virus from mother to infant	Individualized counseling, screening for acceptable, feasible, affordable, sustainable and safe (AFASS) criteria, Promote and actively counsel on exclusive breastfeeding (EBF) for 6 months if ALL AFASS criteria not met, Avoid mixed feeding, early weaning, abrupt weaning. , Prepare for stopping BF at 6 months if AFASS criteria met

#### 4. MANUAL EXPRESSION OF BREAST MILK

- Obtain a clean cup or container to collect and store the milk.
- Wash hands thoroughly.
- Ask the mother to sit or stand comfortably and hold the container underneath her breast.
- Support the breast with four fingers and place the thumb above the areola. Squeeze the areola between the thumb and fingers while pressing backwards against the chest.
- Express each breast for at least 4-5 minutes alternating breasts until the flow of milk stops. - If the milk does not flow well –
  - a) Ensure the mother is using the correct technique.
  - b) Have the mother apply warm compresses to her breasts.

Have someone massage mothers back and neck.



## 5. STORING EXPRESSED BREASTMILK

STORAGE LOCATION	TEMPERATURE	STORAGE DURATION
Fresh milk, Countertop	Room	4–6 hours
Fresh milk, Refrigerator	35–40°F	5–8 days
Previously frozen milk, thawed in refrigerator	35–40°F	24 hours
Freezer section of refrigerator—freezer with common door	5°F	2 weeks
Freezer section of refrigerator—freezer with separate door	0°F	3–6 months
Stand-alone deep freeze	–4°F	6–12 months

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