

Protocol #17

Indications for Supplementation or Cessation of Breastfeeding



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Support mothers to exclusively breastfeed for the first 6 months, unless supplements are medically indicated (BFI – Step 6, BCC, 2011). Supplementation – any food or drink other than that received from the breast – is rarely necessary and should only be given when medically indicated. Unnecessary supplementation is associated with shortened duration of breastfeeding. Wherever possible, the goal of supplementation is to return to feeding at the breast.

Observation and Assessment

The following is a list of indications for consideration of possible supplementation or cessation of breastfeeding (temporary and complete cessation). It is adapted from *BFI Integrated 10 Steps Practice Outcome Indicators Appendix 6.2* (BCC, 2011) together with *Protocol #3: Hospital Guidelines for the Use of Supplementary Feedings in the Healthy Term Breastfed Neonate* from the Academy of Breastfeeding Medicine (ABM, 2009).

Medical Indications for the Possible Supplementation or Cessation of Breastfeeding

Assess the baby for:

- A medical condition for which the baby should not receive breast milk or other milk except specialized formula:
 - Classic galactosemia – Needs a special galactose-free formula
 - Maple syrup urine disease – Needs a special formula free of leucine, isoleucine and valine
 - Phenylketonuria – Needs a special phenylalanine-free formula (some breastfeeding may be possible with careful monitoring).
- A medical condition for which breast milk remains the best feeding option but which may need supplementation with other food for a limited period, together with support to optimize the breastfeeding.
- Birth weight less than 1500 g (very low birth weight):
 - Born at less than 32 weeks gestation (very preterm)
 - At risk of hypoglycemia related to impaired metabolic adaptation or increased glucose demand, e.g., preterm, small for gestational age, experiencing significant intrapartum hypoxic and/or ischemic stress, illness, born to a diabetic mother if blood sugar fails to respond to optimal breastfeeding or breast milk feeding
- Significant weight loss in the presence of clinical indications (mother's breast milk production not established)
- Birth weight not regained by 10 days after birth
- Clinical indications of insufficient breast milk intake, e.g., no stools or fewer than one stool per day (in the first few weeks of life), or meconium 5 or more days after birth, dehydration that does not respond to optimizing the frequency and effectiveness of breastfeeding
- Inadequate average weight gain – less than:
 - 20–35 g ($\frac{2}{3}$ – 1¼ oz) per day for the first 3–4 months of age (post Lactogenesis II)
 - 115 g/week for the first 2–4 months
 - 85 g/week for the first 4–5 months
 - 60 g/week from 6–12 months
(*Protocol #3: Signs of Effective Breastfeeding*)
- A medical condition that may require special considerations for breastfeeding, e.g., neuromuscular difficulties such as Down's syndrome or cleft lip/palate, where the baby is unable to create enough negative pressure when sucking on the breast.
- Separation from mother due to illness or surgery.
- Inability to latch and breastfeed effectively (*Protocol #9: Breast Refusal or Difficulty Achieving or Maintaining a Latch; Protocol #3: Signs of Effective Breastfeeding*).

Assess the mother for:

- Medical conditions that may justify avoidance or complete cessation of breastfeeding.
- Severe illness such as sepsis, psychosis, eclampsia or shock that prevents her from caring for her infant.
- Herpes simplex 1 (HSV-1) that necessitates avoidance of direct contact between lesions on the mother's breasts and the baby's mouth until all active lesions have resolved. The baby may continue to feed on the other breast if there are no lesions.
- Human immunodeficiency virus (HIV) infection in developed countries.
- Human T-lymphotropic virus.
- Maternal medications including:
 - sedating psychotherapeutic drugs, anti-epileptic drugs and opioids and their combinations. These may cause side effects such as drowsiness and respiratory depression and are better avoided if a safer alternative is available
 - radioactive iodine-131. It is better avoided given that safer alternatives are available – a mother can resume breastfeeding about two months after receiving this substance
 - excessive use of topical iodine or iodophors (e.g., providone-iodine), especially on open wounds or mucous membranes. These can result in thyroid suppression or electrolyte abnormalities in the breastfed infant and should be avoided
 - cytotoxic chemotherapy. This requires that a mother stop breastfeeding during therapy
- Insufficient breast milk supply due to primary glandular insufficiency (*Protocol #12: Insufficient Breast Milk Supply*).
- Insufficient breast milk supply due to breast injury or surgery in which major nerves and ducts in the breasts are damaged (e.g., burns to the breast, breast reduction surgery with incisions to the areola and/or nipple) (*Protocol #12: Insufficient Breast Milk Supply*).
- Delayed Lactogenesis II (Day 5 or later) and inadequate intake by the baby.
 - Retained placenta
 - Sheehan syndrome – postpartum hemorrhage followed by absence of lactogenesis
- Separation from the baby due to illness or surgery.
- Maternal conditions that are of concern, but during which breastfeeding may continue:
 - Breast abscess – Breastfeeding should continue on the unaffected breast; feeding can resume on the affected breast once treatment has begun;
 - Hepatitis B – Babies should receive Hepatitis B vaccine within 48 hours of birth or as soon as possible after birth;
 - Hepatitis C – There is no definite case of mother to baby transmission via breast milk (Riordan 2010);
 - Mastitis – If breastfeeding is very painful, breast milk must be removed by expression to prevent progression of the condition;
 - Substance use – Maternal use of nicotine, alcohol, cocaine, amphetamines and related stimulants have been demonstrated to have harmful effects on babies. Alcohol, opioids, benzodiazepines and cannabis may cause sedation in both the mother and baby. Mothers should be encouraged not to use these substances and offered opportunities and support to abstain and apply harm reduction principles.
- A medical condition that may make it difficult to breastfeed more frequently, such as intolerable pain that is unrelieved by intervention.

Supplementation is not medically indicated but the situation must be assessed and support offered to optimize breastfeeding management for:

- A sleepy baby with fewer than 8 feedings in the first 24 to 48 hours, less than 7% weight loss and no signs of illness.
- An infant with bilirubin levels ≤ 20 mg/dL 72 hours after birth, but is breastfeeding and stooling well.
- An infant who is fussy at night and/or constantly breastfeeding for several hours.
- A sleepy or tired mother.
- Mother treated with antibiotics for an infection.
- An infant with a weight loss of greater than 7% associated with maternal fluid overload following perinatal bolus IV therapy. (*Source: Adapted from ABM Protocol #3, 2009.*)

Note: Large volumes or a bolus of intravenous fluids during labour may artificially increase the infant's birth weight and may lead to an artificially large weight loss. See note in *General Principles*.

Suggestions

1. The baby should be referred to a primary health care provider/physician for assessment to determine or rule out any medical condition that may be an indication for supplementation, e.g., hypoglycemia, dehydration, phenylketonuria, maple syrup urine disease.

2. Assess the mother and baby for indications to supplement breastfeeding (see the section on “Medical Indications for the Possible Supplementation or Cessation of Breastfeeding” under *Observation and Assessment*).

Depending on the severity of the following cases and the baby’s condition, breastfeeding should be optimized and increased in frequency before determining if supplementation is required for:

- Birth weight loss of more than 7% in the first 3 days of life.
- Failure to regain birth weight within 10 days of age.
- Inadequate weight gain of less than:
 - 20–35 g ($\frac{2}{3}$ – 1¼ oz) per day for the first 3–4 months of age
 - 115 g/week for the first 2–4 months
 - 85 g/week for the first 4–5 months
 - 60 g/week from 6–12 months
(*Protocol #3: Signs of Effective Breastfeeding*)
- A medical condition, e.g., hypoglycemia, dehydration.

3. Offer assessment and support to optimize breastfeeding management, including effective positioning and latching, as well as effective sucking and swallowing, including breast milk transfer (*Protocol #2: Positioning and Latching*, and *Protocol #3: Signs of Effective Breastfeeding*).

Indications for the Supplementation of Breastfeeding

If the supplementation of breastfeeding is medically indicated, provide the mother with suggestions to help her maintain and preserve lactation while supplementing. Before initiating the use of a supplement or alternative feeding method, the practitioner is responsible for assessing the possible benefits and risks of that intervention for the breastfeeding dyad. The practitioner is also responsible for establishing a plan with the mother for the ongoing management and evaluation of the

intervention.

During breastfeeding, encourage the mother to:

- Offer the breast first, whenever possible. Allow the baby to finish the first breast before breastfeeding from the other breast, so that the baby transfers higher fat breast milk as the first breast progressively empties.
- Use expressed breast milk (EBM) as a supplement to breastfeeding, whenever possible.
- Avoid supplementation with artificial baby milk (ABM) or sugar water, whenever possible. Supplementation with ABM may increase the baby’s risk for developing allergies. Supplementation with sugar water has been associated with rebound hypoglycemia, weight loss, and increased bilirubin levels in babies (*Protocol #14: Jaundice in a Breastfed Baby*). Refer to the “Supplemental Fluid Guideline for Healthy Term Infants” chart that follows.
- Feed the baby with the supplement using an alternative feeding method (e.g., cup, spoon, syringe, finger feeding, or lactation aid) (*Protocol #18: Alternative Feeding Methods*). Using a lactation aid on the breast may be preferable to other alternative feeding methods because it allows the baby to remain at the breast and provides the breasts with stimulation. Encourage the mother to offer the breast first before initiating an intervention. The practitioner who initiates the use of an alternative feeding method is responsible for assessing the benefits and risks of that intervention as well as for establishing a plan with the mother for the ongoing management and evaluation of the intervention. 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.
- Offer the supplements in amounts to mimic the normal volume and frequency of breastfeeding, following the baby’s cues of satiation. Frequent and small quantities, instead of less frequent and larger quantities, can prevent the baby from skipping an entire breastfeeding session.

After breastfeeding, encourage the mother to:

Express her breasts to obtain breast milk to be used

as a supplement to breastfeeding if this is appropriate (*Protocol #19: Expressing and Storing Breast Milk*).

Indications for the Temporary Cessation of Breastfeeding

If the temporary cessation of breastfeeding is necessary, offer the mother suggestions to help her maintain and preserve lactation.

Encourage the mother to:

- Express breast milk from each breast regularly to maintain her breast milk supply. Generally, this will be at least 8 times in 24 hours, with a minimum of 1 expression overnight, to mimic the normal feeding pattern. The mother may need to express more often if her breasts become uncomfortable or full (*Protocol #19: Expressing and Storing Breast Milk*).
- Discard the expressed breast milk if the mother is taking a drug that is incompatible with breastfeeding or if there are herpes lesions on the breast. This will prevent the baby from consuming breast milk contaminated with an incompatible drug or with HSV-1. Previously expressed breast milk that is not contaminated may be used as a supplement in these situations.

- Choose an appropriate supplemental fluid (refer to the chart below). Feed the baby with the supplement using an alternative feeding method, e.g., lactation aid on the breast, cup, spoon, syringe, or finger feeding (*Protocol #18: Alternative Feeding Methods*).

- If the mother is taking a drug that is incompatible with breastfeeding or if there are herpes lesions on the areola, a lactation aid on the breast should not be used. This is to prevent the baby from consuming breast milk contaminated with an incompatible drug or direct contact with the herpes simplex virus.

4. Assess the mother and baby for indications to completely cease breastfeeding (see *Observation and Assessment*). If the complete cessation of breastfeeding is necessary provide the mother with suggestions for weaning (*Protocol #21: Weaning*).

5. Encourage the mother to consult a breastfeeding expert or breastfeeding clinic for inquiries regarding whether a drug or medical condition requires supplementation or cessation of breastfeeding.

Supplemental Fluid Guideline for Healthy Term Infants

First Choice: Mother's own expressed breast milk (EBM).

EBM is not appropriate if:

- a) the baby has a medical condition that contraindicates breastfeeding, e.g., galactosemia, poorly controlled phenylketonuria, or maple sugar urine disease. Appropriate ABM should be used.
- b) the mother is taking a drug incompatible with breastfeeding or if she has herpes lesions on her breasts.

Second Choice: Artificial Baby Milk (ABM)

Do not supplement with water or sugar water.

BFI recommends human donor milk as the second choice of breast milk supplement, if available from a Human Milk Bank Association of North America (HMBANA) milk bank. See discussion in *General Principles*.

Note: There may be variations in the use of this guideline based on the baby's condition or individual physician practice.

General Principles

Whenever interruption or cessation of breastfeeding is considered, the benefits of breastfeeding should be weighed against the risks posed by the use of breast milk substitutes and the need to intervene because of the presenting medical condition (BCC, 2011).

There are few situations that require breastfeeding to be supplemented or temporarily discontinued. There are even fewer situations where breastfeeding is contraindicated and should not be initiated or continued if the baby is already breastfeeding. The primary health care provider should assess the mother and infant dyad and consider all the data when determining whether the clinical benefits of supplementation or temporary cessation of breastfeeding outweigh the potential negative consequences of such feedings (ABM, 2009).

When the healthy term baby is effectively breastfeeding, the initial post-birth weight loss will quickly stabilize and thereafter reflect a steady weight gain. The presence of weight loss indicators should be a sign that further assessment and support are needed to optimize breastfeeding (*Protocol #3: Signs of Effective Breastfeeding*).

Unnecessary supplementation increases the risk of early discontinuation of breastfeeding (Lawrence, 2010).

If a mother has received a bolus of intravenous fluids during labour there may be a fluid shift to the fetus. This may artificially increase the infant's birth weight (Lauwers & Swisher, 2011), and may lead to a more than 7% post-birth weight loss. This may also lead to breast edema, making it difficult for the infant to latch (Smith, 2010 & 2007; Riordan, 2010; Biancuzzo, 2003) (see *Protocol #3: Signs of Effective Breastfeeding* for discussion of the impact of birth interventions).

Wherever possible, the goal of medically indicated supplementation is to return to feeding at the breast. If the mother has made a fully informed decision to continue to use supplements, she is to be supported in feeding her baby in a safe and nurturing way (see *Informed Decision-Making about Infant Feeding*).

EBM is the first choice as a supplement for most babies, especially breast milk that is expressed after the baby has breastfed. When the mother expresses after a feeding she may be able to drain her breasts as much as possible and produce breast milk that is high in fat and will provide the baby with extra calories (Rodriguez et al., 2005). The second choice is ABM. For

infants with special needs, there are specific formulas as discussed above.

BFI recommends human donor milk as the second-best choice for supplementation, if it is available from a milk bank that is a member of HMBANA. HMBANA is a non-profit association of human donor milk banks established in 1985 to set standards for and facilitate establishment and operation of milk banks in North America. This website provides information on milk banking and how to contact a milk bank to donate milk or to order human donor milk. This site is also a resource for health care providers and others seeking information on HMBANA's resources and services. Further information is available from: www.hmbana.org.

In Canada, human donor milk is not a feasible option for general use. Currently, there are three HMBANA milk banks in operation in Vancouver, Calgary and Toronto. Attempts to establish additional milk banks have been slow to come to fruition due to concerns related to safety. A few hospitals import human donor milk from American milk banks for premature babies.

It is not appropriate for mothers to informally share EBM.

Supplementation with water or sugar water should be avoided. Supplementation with sugar water has been associated with rebound hypoglycemia (Heck, Erenberg in Lawrence, 2010) and weight loss in babies. Even in hot weather, water supplementation is not necessary for the baby; the mother can drink more fluids and offer more breast milk if she is concerned.

Volume of Supplementation:

- The amount of supplementation necessary must be determined on an individual basis. The principle is to mimic the volume and frequency of normal breastfeeding (Wight, 2005), and to follow the baby's cues of satiation.
- The amount of supplementation offered in the first few days should correspond to the normal intake of early breast milk or colostrum by the healthy term infant, as well as to the newborn's gastric capacity (*Protocol #1: The Initiation of Breastfeeding* for discussion of gastric capacity). The average intake of breast milk in the first 24 hours is low. It has been reported as 6 g per feeding and 6 feedings in the first 24 hours (Saint et al., 1984), or as 6 ml/kg/24 hours for Day 1, 25 ml/kg/24 hours for Day 2, 66 ml/kg/24 hours at Day 3 and 106 ml/kg/24 hours for Day 4 or 96 hours post-birth (Evans et al., 2003).

- The Academy of Breastfeeding Medicine (ABM, 2009) suggests supplement intakes for the first few days as:
 - First 24 hours 2–10 ml/feed
 - 24–48 hours 5–15 ml/feed
 - 48–72 hours 15–30 ml/feed
 - 72–96 hours 30–60 ml/feed
- For the older baby, the amount of supplementation should be determined by the baby’s cues of satiation.
- Supplementation may negatively affect the contraceptive effect of lactation due to reduced stimulation of the breast.
- When supplementation or temporary cessation of breastfeeding is necessary, efforts should be made to maintain and preserve lactation.
- Offer a supplement using an alternative method that will promote a return to the breast (*Protocol #18: Alternative Feeding Methods*).
- The mother should be encouraged to regularly express her breasts to maintain her breast milk supply whenever breastfeeding is stopped for any length of time (*Protocol #19: Expressing and Storing Breast Milk*).

Most drugs are safe for the mother to take while breastfeeding. When there is a drug that is incompatible with breastfeeding, there is usually an alternative drug that can be prescribed that is compatible with breastfeeding (*Protocol #16: Drugs and Breastfeeding*).

There are very few maternal illnesses that contraindicate breastfeeding, including infections. Since the majority of infections are viral, the mother would already have exposed the baby to the virus before she even knew she was ill. The continuation of breastfeeding will pass antibodies to the baby to provide protection against the viral infection.

In the absence of breast lesions, breastfeeding is not contraindicated by maternal hepatitis C virus (HCV) (PHAC, 2009). Breastfeeding may also continue in the presence of maternal hepatitis B virus (HBV) if the infant has been immunized according to the recommendations of the Public Health Agency of Canada (PHAC, 2010).

Human immunodeficiency virus type I (HIV-I) is transmitted through breast milk. Mothers who have been counselled and tested for HIV should be provided with full information about the benefits and risks of the infant feeding options available to enable them to make an appropriate decision about feeding their baby. This includes information on HIV transmission, including vertical transmission, factors affecting risk of HIV transmission and ways to decrease this risk, as well as treatment options. World Health Organization (WHO) Principles and Recommendations for the management of infant feeding when mothers are HIV-positive recognize that national authorities should decide whether health services counsel and support mothers to breastfeed and receive antiretroviral interventions or to avoid all breastfeeding (WHO, 2010). In Canada, where there is an acceptable, feasible, affordable, sustainable and safe breast milk substitute (commercial infant formula), mothers who are HIV-positive are advised to avoid breastfeeding. If breastfeeding has begun before the mother is tested for HIV, she should continue until the results are known. If she is found to be HIV-positive, she should discuss her concerns and whether she should continue or discontinue breastfeeding with her primary health care provider (TPH, 2002).

Research indicates that infants who are exclusively breastfed have less risk of vertical transmission of HIV than infants who are partially breastfed mixed with ABM (Coutsoudis et al., 2002). Mothers who are HIV-positive should be advised that breastfeeding and ABM feeding at the same time may increase the risk of passing HIV to her baby. The choice of feeding method may be a difficult and value-laden decision for the mother. It is important that mothers are supported to feed their babies in a safe and nurturing way.

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