Breastfeeding

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Section 4: Breastfeeding

Aim: Protect, promote and support mothers to exclusively breastfeed their babies for around the first six months of life and, when solid foods are introduced, continue breastfeeding until 12 months of age and beyond for as long as the mother and child desire. While breastfeeding is recommended for the first 12 months and beyond, any breastfeeding or expressed breast milk is beneficial to the infant and the mother.

Key points

<table>
<thead>
<tr>
<th>Table 1: Key points¹</th>
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<tbody>
<tr>
<td>• Protect, support and promote exclusive breastfeeding to around 6 months of age.</td>
</tr>
<tr>
<td>• Exclusive breastfeeding to around 6 months is associated with the lowest short, medium and long-term risk of morbidity and mortality among infants.</td>
</tr>
<tr>
<td>• Any breastfeeding and prolonged breastfeeding are associated with the lowest risk of later obesity.</td>
</tr>
<tr>
<td>• Breastfeeding has health benefits for mothers, including reduced risk of postpartum haemorrhage, breast and ovarian cancer and prolonged amenorrhoea.</td>
</tr>
<tr>
<td>• The <em>Australian National Breastfeeding Strategy 2010–2015</em> ² provides a framework for protecting, promoting, supporting and monitoring breastfeeding in Australia.</td>
</tr>
</tbody>
</table>

Overview

The majority of mothers can successfully lactate. Whilst some mothers may encounter difficulties, these can usually be overcome with support and encouragement from health care professionals, family and community organisations.¹ ²

Recommendations for practice

Community health professionals (CHPs) can provide invaluable help by offering lactation and feeding assessment as well as strategies for problem solving and management using factual information and empathetic support.¹ CHPs should provide mothers and their supportive networks with practical information and help to deal with the day to day practicalities of breastfeeding through:
Provision of antenatal information and counselling to all potential mothers, fathers and primary carers on:
  - the benefits and practical aspects of breastfeeding
  - expressed breast milk and mixed feeding (breast milk and infant formula)
  - the risks of not breastfeeding and
  - postnatal breastfeeding support information.

Supporting mothers in developing breastfeeding confidence.

Assisting with comfortable positioning and attachment for the infant and the mother.

Identification and management of breastfeeding deviations from normal, using evidenced based information.

Informing parents of the benefits of breastfeeding and the risks of not breastfeeding when a change from breastfeeding is being considered.

Offering support and counselling or referral where issues regarding smoking, medication, alcohol, other drugs, or infant and maternal health issues may impact on lactation and breastfeeding.

National and international recommendations

“Breastfeeding is an unequalled way of providing ideal food for the healthy growth and development of infants, and has a unique biological and emotional influence on the health of both mother and child. For breastfeeding to be successfully initiated and established, mothers need active support during pregnancy and following birth, not only from their families and communities, but also from the entire health system.”

The World Health Organization recommends:

**Protecting, promoting and supporting exclusive breastfeeding for the first six months of life, and continued breastfeeding, with appropriate complementary solid foods, for two years (and beyond if mother and infant wish).**

In Australia, it is recommended that infants are exclusively breastfed until around 6 months of age when solid foods are introduced, and that breastfeeding is continued until 12 months of age and beyond, for as long as the mother and child desire.

Protection of breastfeeding

Breastfeeding protection is about enabling mothers to breastfeed their babies and young children anywhere a mother and child have a right to be, with confidence and without harassment. Breastfeeding protection includes legislative and regulatory environments, leave and employment entitlements, and the creation of baby and breastfeeding friendly environments in the health system and broader community. There is some overlap between the concepts of breastfeeding protection and promotion.
Promotion of breastfeeding
Promotion of breastfeeding implies that Department of Health staff, the broader health system and the community are up-to-date on the benefits of breastfeeding, risks of not breastfeeding and seek opportunities to promote it.


“A combination of educational, organisational, economic and political actions designed with consumer participation, to enable individuals, groups and whole communities to increase control over, and to improve their health through attitudinal, behavioural, social and environmental changes.”

Support for breastfeeding
Support of breastfeeding implies that women receive information and support from all sectors of the community to overcome any barriers to breastfeeding they may experience or perceive.

Lactating women need education in understanding the importance of breast milk and making breastfeeding the normal feeding option. The support of health professionals, early resolution of problems and family support are critical to breastfeeding initiation and duration. Family support, in particular partner support, is a positive determinant in a new mother’s decision to initiate and continue with breastfeeding.

The majority of mothers can successfully breastfeed their infants, while some mothers may encounter difficulties with initiating and establishing breastfeeding, usually these can be overcome with support and encouragement from health workers, family and community organisations.

Role of health professionals
Health professionals have an important role in protecting, promoting and supporting breastfeeding. It is essential that mothers and their support networks have access to evidence based information and support from trained Community health professionals and International Board Certified Lactation Consultants (IBCLC) to help them adjust to breastfeeding by:
- Identifying breastfeeding deviations from normal and where to get support.
- Engaging in feeding in management strategies to facilitate and resolve breastfeeding issues.
- Supporting mothers in developing parenting confidence.

The ideal time for breastfeeding education is prior to, or in the early stages of pregnancy. The earlier a mother makes the decision to breastfeed, the more likely she is to initiate breastfeeding and continue with the practice. Informal, practical breastfeeding education in the antenatal period, delivered in combination with peer support programs has been found to be effective.

CHPs should provide antenatal information and counselling about the benefits and practical aspects of breastfeeding and the risks of not breastfeeding to all potential
mothers, fathers and primary carers. The CHPs role is one of encouragement and support, always having regard for the mother’s suggestions, concerns and cultural background.¹

Changes to modern obstetric care have increased birth intervention and shortened hospital stay, consequently impacting on the establishment of breastfeeding at discharge. Effective breastfeeding may take weeks to establish and many infants are not breastfeeding efficiently before being discharged from hospital. It is therefore important that CHPs are able to assist with the issues facing a new mother and her infant for efficient breastfeeding.¹

Education programs should involve fathers and help them understand the advantages of breastfeeding and the important role they can play supporting the breastfeeding mother.¹ Routine antenatal education should cover:

- The importance of exclusive breastfeeding to around 6 months with the introduction of solid foods and continuing to breastfeeding for 12 months and beyond.
- Introductory lactation anatomy and physiology, along with the infants’ contributions to feeding.
- Anticipatory guidance for the importance of the early identification of infant and maternal breastfeeding deviations from normal.
- Where to get help during the hospital stay and on discharge from hospital.

According to the Australian National Breastfeeding Strategy 2010-2015² combinations of interventions in both the antenatal and postnatal stages were considered more effective in improving initiation rates and prolonging the duration of breastfeeding. Multifaceted or combination interventions were generally more effective than stand-alone interventions, noting that promotion and education initiatives are often combined.

If for any reason an infant formula is used, it is the responsibility of health professionals to:

- Validate reasons for infant formula use, for example medically indicated, short term feeding strategy or parental choice.
- Supply accurate, relevant information on correct selection, preparation and feeding technique.
- Discuss minimising the risks associated with formula feeding.²
- Avoid inducing guilt/pressure to the mother.

For further information on infant formula, refer to Section 5 of this Child and Antenatal Nutrition (CAN) manual.

**Benefits of breastfeeding**

Breastfeeding and expressed breast milk have positive effects on the nutritional, physical, psychological and social health of the infant, and have health benefits for the mother. Economic benefits for the family and society can also be gained.
Infant health

Breast milk is bio-dynamic and species specific. Infants grow and develop at a very rapid rate in early life, yet many of the infant’s anatomical systems including the digestive, hepatic, neural, renal and immune systems are still immature. Human milk caters for this immaturity. The nutrients contained in breast milk are easily absorbed and exist in bioavailable forms. Breast milk also contains growth factors and other bioactive factors that promote optimal function of the immature organ and vascular systems.\(^1\)

Breastfeeding is the healthiest start for infants. For the infant, breast milk provides a unique mix of nutrients and other important substances that can reduce the risk of infection and may also reduce the risk of asthma, eczema and other allergies, and Sudden Unexpected Death in Infancy (SUDI). Breast milk is a natural, convenient, hygienic and inexpensive food for babies.\(^6\)

Breastfeeding confers a range of benefits to the developing infant, including improved visual acuity, psychomotor development and cognitive development, and reduced malocclusion as a result of the facilitation of normal jaw development.\(^1\)

Numerous reports\(^1,2,7,8\) have shown that breastfeeding reduces the risk or severity of a number of conditions in infancy and later life, including:

- physiological reflux
- pyloric stenosis
- gastrointestinal infections
- respiratory illness
- otitis media
- urinary tract infections
- bacteraemia-meningitis
- sudden unexpected death in infancy
- necrotising enterocolitis in preterm infants
- atopic disease
- asthma
- some childhood cancers
- type 1 and type 2 diabetes
- coeliac disease
- inflammatory bowel disease
- cardiovascular disease risk factors including blood pressure and total and low-density lipoprotein (LDL) cholesterol
- obesity in childhood and in later life.\(^1\)
Breastfeeding also promotes bonding, with skin-to-skin contact, between mother and infant.

Even in the hotter climates, an exclusively breastfed infant does not require extra water. Additional breastfeeds will keep them sufficiently hydrated. Breast milk contains a perfectly balanced ratio of food and water to meet all the baby's needs. It is a living fluid, ever-changing to suit a baby’s needs.9

Maternal health1

Breastfeeding has many positive benefits for mothers. Evidence shows that breastfeeding accelerates uterine involution after birth and reduces the risk of haemorrhage (thus reducing maternal mortality). Furthermore, preservation of maternal haemoglobin stores through reduced blood loss, leading to improved iron status. Breastfeeding also provides some protection against pre-menopausal breast cancer, ovarian cancer and osteoporosis, as well as reduced risk of developing type 2 diabetes among women with a history of gestational diabetes. There is no conclusive evidence regarding breastfeeding assisting women return to pre-pregnancy body weight.

Community (family and society) benefits

The improved health status of breastfed children results in reduced costs to the health system. Breastfeeding has been identified as one of the most cost-effective primary prevention measures available.1,10 The economic case for promoting breastfeeding to around 6 months is overwhelming.1

For a detailed summary table of the evidence-based health benefits of breastfeeding for infant and maternal health see Appendix A.

Breastfeeding rates and targets4, 7, 8, 10

International

Australia compares favourably with other Organization for Economic Co-operation and Development (OECD) countries in regard to breastfeeding initiation and breastfeeding at three months. However, the continuation rate, particularly at six months, appears to lag behind other OECD countries.4

Hungary currently has the highest OECD exclusive breastfeeding rates of:

- 95% of mothers breastfeeding their child at three months of age.
- 64% of mothers breastfeeding their child at four months of age.
- 45% of mothers breastfeeding their child at 12 months of age.11,12

Exclusive breastfeeding duration rates have been identified as a future key performance indicator (KPI) for child health services within Australia, with an aspiration to achieve an increase in the percentage of babies being exclusively breast fed at the 3-4 month contact. The target is for the percentage difference between exclusive breastfeeding at the Universal Initial Interaction and the 3-4 month contact to be no greater than 30%.
National

According to the Australian Health Survey 2013, the majority (92.3%) of Australian children aged 0-3 years have received breast milk at some time.

Exclusive breastfeeding to 2 months of age occurred for over half (57.8%) of all children aged 2 months or more, and of all children aged 4 months or more, 38.6% had been exclusively breastfed to at least 4 months of age. Furthermore the 2010 Australian National Feeding Survey in 2010-2011 found that:

- Breastfeeding was initiated for 96% of children aged 0-2 years, however only 15% of infants were exclusively breastfed to around 6 months.
- Around 69% of infants were still receiving some breast milk at 4 months of age, although only 39% were exclusively breastfed to 3 months (less than 4 months).
- Around 60% were still receiving some breast milk at 6 months, but only 15% were exclusively breastfed to 5 months (less than 6 months).
- A total of 47% of infants were predominantly (fully) breastfed to 3 months dropping to 21% predominantly breastfed to 5 months (less than 6 months).

The Children’s Headline Indicators 2010 found that 36.7% of infants in Western Australia were exclusively breastfed to 3 months, compared with the average rate for Australia of 39.2%. Regions with the highest breastfeeding numbers were ACT 50.7% and NT 43.3%. WA has the lowest number of infants exclusively breastfed to 3 months in Australia. (See Table 2)

Table 2: Infants exclusively breastfed to 3 months (per cent) – 2010

<table>
<thead>
<tr>
<th>Group level</th>
<th>Group level</th>
<th>NSW</th>
<th>VIC</th>
<th>QLD</th>
<th>WA</th>
<th>SA</th>
<th>TAS</th>
<th>ACT</th>
<th>NT</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>Persons %</td>
<td>40.3</td>
<td>38.5</td>
<td>38.1</td>
<td>36.7</td>
<td>38.1</td>
<td>47.2</td>
<td>50.7</td>
<td>43.3</td>
<td>39.2</td>
</tr>
</tbody>
</table>

Initiation and duration

Successful lactation and breastfeeding depends on multiple factors related to the mother, infant and the supportive environment.

Factors influencing initiation and duration of breastfeeding

The following table (Table 3) from the Queensland Maternity and Neonatal Clinical Guideline: Breastfeeding initiation Report includes examples of factors that may negatively impact on breastfeeding. Such factors are an alert to health professionals that additional support may be required to initiate and continue breastfeeding.
### Table 3: Factors influencing initiation and duration of breastfeeding

<table>
<thead>
<tr>
<th>Factor</th>
<th>Influence</th>
</tr>
</thead>
</table>
| **Demographic** | • adolescent/young mothers  
                    • limited number of years in full-time education  
                    • low income level/socioeconomic status  
                    • mothers from a culturally and linguistically diverse background  
                    • Aboriginal and Torres Strait Islander mothers, particularly in urban areas  
                    • high parity. |
| **Psychological** | • mother’s lack of confidence in breastfeeding  
                        • perceived insufficient supply of breast milk  
                        • perception of baby demanding too many feeds  
                        • maternal depression. |
| **Physical** | • maternal obesity  
                        • maternal diabetes  
                        • low birth weight, baby prematurity and/or admission to special care nursery  
                        • cracked or sore nipples  
                        • congenital malformations e.g. cleft palate  
                        • multiple births  
                        • baby medical or physical influences e.g. rare metabolic disorders such as galactosemia, swallowing difficulties  
                        • infant and maternal relationship  
                        • impact of birth interventions (including caesarean section, forceps delivery, vacuum extraction). |
| **Social** | • mother’s attitude towards breast or formula feeding  
                        • knowledge and attitudes of partner, relatives and the public towards breast or formula feeding  
                        • maternal smoking  
                        • returning to work  
                        • media portrayal of breast and formula feeding. |
### Clinical

- organisational practices of the health services:
  - interventions during and after labour
  - the provision of supplemental formula feeds
  - extended separation of mother and baby for non-medical reasons
  - restricted feeding
  - free provision and/or promotion of infant formula
  - knowledge, attitudes, education and beliefs of health professionals
  - inadequately supported discharge plans
  - missed diagnosis and/or management of slow weight gain or other baby problems.

### Environmental

- lack of facilities to breastfeed in public places
- employment and work environments that lack breastfeeding policies, paid maternity leave, lactation breaks, flexible working arrangements or appropriate places to express and store breast milk.

**Maternal specific characteristics**\(^{16-18}\)

- **Attitude towards infant feeding and intended duration to breastfeed** - Women favouring breastfeeding and the time at which this decision is made (preferably before or early in the pregnancy) significantly influences breastfeeding initiation and duration. Educating parents to delay the introduction of solids and other complementary feeds until around six months is encouraged.

- **Early breastfeeding difficulties** - Women who experienced difficulties in the first 4 weeks were more likely to discontinue breastfeeding before 6 months. Breastfeeding problems in the postpartum period are relatively common. In a Perth study, more than one-third of women reported having one or more problems in the first 4 weeks. Therefore, resolving breastfeeding problems quickly, with evidence based information and support is critical to success\(^{19}\).

- **Obesity** - Obesity complicates fertility and delivery and increases the likelihood of breastfeeding problems. Obese women are more likely to have delayed lactogenesis and reduced lactation, therefore weight-control strategies should be offered both before gestation and throughout the prenatal period.\(^{20}\) Obese women have been reported to experience greater mechanical difficulties of attachment and proper positioning of the infant.\(^{21}\)

- **Education level**\(^{16,18}\) - In Australia, and other Western countries, higher levels of education are associated with better breastfeeding outcomes.\(^{21}\)
Mother’s age - There is an association between breastfeeding rates and maternal age - older mothers are more likely to breastfeed, while mothers under 20 years are less likely to breastfeed.\textsuperscript{16, 18, 21}

Positive birth experience (minimal complications)\textsuperscript{18} - Delivery by caesarean section may be negatively associated with the initiation of breastfeeding, particularly exclusive breastfeeding, and to a lesser extent breastfeeding duration.\textsuperscript{21}

Support networks, practices and environments\textsuperscript{22}

Hospital practices - Practices that are consistent with the Baby-Friendly Hospital Initiative (BFHI) recommendations, such as 24-hour rooming-in and early infant-to-breast contact, positively influence breastfeeding initiation, duration and exclusivity. Receiving anticipatory guidance while still in hospital on how to prevent and manage common breastfeeding difficulties have also been shown to support duration.

Women and paid work\textsuperscript{4, 18} - The workplace and parental leave environment has an important impact on breastfeeding rates. There is evidence that intention to work or return to paid employment is negatively associated with both the initiation and duration of breastfeeding. Women who are not employed full-time, are self-employed or have flexible working hours are more likely to breastfeed for 6 months.\textsuperscript{1} OECD research has found that the planned return to work is one of the reasons why some mothers never start breastfeeding, or only do so for short durations. The incidence of exclusive breastfeeding and its duration tends to be higher/longer in countries with long periods of parental leave, such as the Scandinavian countries, Hungary and the Czech Republic.\textsuperscript{4}

Perceived partner support - Women who perceive their partner or own mother to prefer breastfeeding are more likely to continue breastfeeding for longer. The support of their partner and own mother significantly influences breastfeeding initiation and duration.\textsuperscript{1, 21} Beyond Blue and Ngala have recently released a “Dads Handbook” guide for the first 12 months which is a useful resource for partners of lactating mothers. See resource list for more information.

Introduction to dummies/pacifiers - The use of dummies in the first 4 weeks of life negatively impacts on breastfeeding and therefore should be discouraged.\textsuperscript{1} However, a dummy may be offered once breastfeeding has been established, when settling an infant to sleep.

Self efficacy - Studies suggest that interventions aimed at increasing women’s intention to breastfeed should involve the woman, their partner and their broader social networks. Research evidence shows that a woman’s sense of her own breastfeeding self efficacy is crucial to her continuing to breastfeed.\textsuperscript{22, 23}

The most likely way to achieve the goals and targets for breastfeeding is to focus attention on strategies that:
- Identify infant and maternal contributions to comfortable breastfeeding that impact on breastfeeding duration.
- Influence the attitudes and beliefs of the mother’s support network, particularly their partner and own mother.
- Shift the emphasis of education from nutritional and immunological benefits of breastfeeding to a focus on addressing the day-to-day realities and practicalities of breastfeeding through problem solving, support, and promotion of breastfeeding as the social norm.  
- Examine hospital practices, workforce reform, staff capacity and skills and community health practices and policies.

Evidence suggests that long-term intensive promotion of breastfeeding is most successful, spanning the pre and postnatal period, and involving multiple contacts with a professional breastfeeding promoter or peer support.  

Evidence-based strategies for supporting breastfeeding

Reviews of interventions to support breastfeeding have found that the optimal mix of interventions to improve breastfeeding practices includes education of mothers, peer support, hospital practices such as rooming-in and early skin-to-skin contact, staff training, development and implementation of hospital policies, media campaigns and paid maternity leave.

Structured education and support programs

Reviews show that education before birth and continuing support after birth for breastfeeding mothers were effective in breastfeeding continuation. Effective education programs include information about the benefits of breastfeeding, principles of lactation, myths, common problems and solutions and skills training. Postnatal home visits may also enhance effectiveness. One-to-one education is best for encouraging those women planning to use infant formula to reconsider breastfeeding.

Beyond three months, interventions involving parenting groups, face-to-face contacts and home visiting by professional or trained peer counselors may be effective, particularly in maintaining exclusive breastfeeding. Cultural and language-specific interventions, in conjunction with child health visits, are associated with some increases in breastfeeding duration.

There is some evidence that peer counselling, formal lactation consultations, and breastfeeding education result in increased initiation of breastfeeding. Additional support offered by peers provides modest effects when combined with formal education.

Baby Friendly Hospital Initiatives (BFHI)

The UNICEF and WHO Baby Friendly Hospital Initiative (BFHI) has been shown to increase breastfeeding initiation, continuation and exclusivity in accredited hospitals. Supportive health policies such as the Ten Steps to Successful Breastfeeding, the foundation of BFHI, are important in promoting consistency and integrated...
implementation. In Australia, the Australian College of Midwives administers the BFHI.

The BFHI aims to eliminate hospital practices that may interfere with the successful initiation and promotion of breastfeeding. Hospitals that are not supportive of breastfeeding have lower initiation rates. The Ten Steps to Successful Breastfeeding were developed to strengthen maternity practices and support breastfeeding. Maternity hospitals are advised to adopt these steps and support the BFHI. These are listed in Appendix B.

Community health services have a specific set of guidelines to support successful breastfeeding. This is called the ‘Seven Point Plan for Community Health Services’ and the points are listed below.

**The Seven Point Plan for Community Health Services**

1. Have a written breastfeeding policy that is routinely communicated to all healthcare staff and volunteers.
2. Train all staff involved in the care of mothers and babies in the skills necessary to implement the policy.
3. Inform all pregnant women about the benefits and management of breastfeeding.
4. Support mothers to initiate and maintain breastfeeding.
5. Encourage exclusive and continued breastfeeding, with appropriately-timed introduction of complementary foods.
6. Provide a welcoming atmosphere for breastfeeding families.
7. Promote co-operation between healthcare staff, breastfeeding support groups and the local community.

**Baby-led attachment and feeding**

Baby led attachment refers to the infant using reflexes to self attach to the breast, with the mother providing minimal assistance to support the infant. Unrestricted, infant-led feeding should be encouraged, allowing the infant to regulate intake according to need and letting the infant finish the feed in their own time, not according to the clock. This results in optimum milk production.

**Support for vulnerable groups**

There is evidence that certain groups are less likely to breastfeed than others and would benefit from increased antenatal and postnatal support. These vulnerable groups include Aboriginal women, younger women, less educated women, and/or those of lower socioeconomic status.

**Educating fathers**

 Fathers can influence the initiation of breastfeeding, contribute to maternal breastfeeding confidence and influence decisions about duration and weaning. Without fathers’ support, there is evidence that duration of breastfeeding is likely to be shorter.
Expressed breast milk\(^1,34\)

Situations arise where the mother may need to express milk. Therefore, all mothers should be taught how to express and store breast milk while in hospital or at home. Written information on how to express, such as KEMH’s booklet ‘Breastfeeding and breast care’, may assist in education, or the Child and Adolescent Health Service pamphlet ‘Breastfeeding – expressing and storing breast milk’.

Breast milk can be expressed by hand or by using a manual or electric breast pump. Expressed breast milk can be fed to an infant by finger feeding, cup, spoon or bottle teat.

Key points for expressing breast milk:

- Have all expressing and storing equipment ready.\(^34\)
- Cleanliness is crucial. Always use a clean container, always wash hands with soap and water and dry on a clean towel before expressing the breast, and store expressed milk in the refrigerator or freezer.
- Relaxation is important. Comfortable seating, mother visualising baby and music may help.

Storage\(^1\)

Date the container at the time of collection. Freeze any breast milk that will not be used within two days, and use the oldest milk first. Specific storage guidelines are listed in Table 4 below.

Table 4: Breast milk storage guidelines\(^1\)

<table>
<thead>
<tr>
<th>Breast milk</th>
<th>Room temperature (26°C or lower)</th>
<th>Refrigerator (4°C or lower)</th>
<th>Freezer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshly expressed into closed container</td>
<td>6-8 hours (26°C or lower).</td>
<td>No more than 72 hours.</td>
<td>2 weeks in freezer compartment inside refrigerator (-15°C)</td>
</tr>
<tr>
<td></td>
<td>If refrigeration is available store milk there.</td>
<td>Store at back, where it is coldest.</td>
<td>3 months in freezer section of refrigerator with separate door (-18°C)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6-12 months in deep freeze (-20°C).*</td>
</tr>
<tr>
<td>Previously frozen- thawed in refrigerator but not warmed</td>
<td>4 hours or less – that is, the next feeding.</td>
<td>Use within 24 hours(store in refrigerator)</td>
<td>Do not refreeze</td>
</tr>
</tbody>
</table>
**Thawed outside refrigerator in warm water**
For completion of feeding.  Use within 4 hours or at next feeding if sooner.  Do not refreeze

**When infant has begun feeding (remaining in container)**
Only for completion of feeding.  Discard  Discard

* Chest or upright manual defrost deep freezer that is opened infrequently and maintains ideal temperature.

**Thawing**
When milk is thawed it should not be refrozen. Breast milk should not be thawed in the microwave but instead allowed to thaw in warm water or in the refrigerator. Use at room temperature. Thawed milk should be refrigerated and used within 24 hours. Breast milk that has been thawed outside the fridge in warm water can be used immediately, or stored in the fridge for up to 4 hours.

- If thawed in the fridge, breast milk will keep for 24 hours in the fridge.
  - DO NOT thaw breast milk by:
    - placing in boiling water, as it will curdle
    - standing at room temperature until it thaws.
  - DO NOT thaw or heat breast milk in the microwave.
  - DO NOT refreeze thawed breast milk.

Once a baby has started to feed from a bottle, throw away any milk left after about an hour.

**Transport**
If breast milk needs to be transported, the following steps should be followed:

- Transport breast milk in an insulated container, e.g. an Esky with a freezer brick.
- If some milk has thawed, it should be used within 24 hours. Do not refreeze.
- Place the milk in the refrigerator (or in the freezer if it is still frozen) immediately upon arrival.

**Feeding cups**
Expressed breast milk can be given in a feeding cup, cup or spoon. Infant oral-motor function differs from teat feeding to breastfeeding. Feeding cups can be used from birth if required, to protect breastfeeding by reducing the risk of confusion for the infant. Babies that are weaned can be weaned onto a cup. Feeding cups containing breast milk or formula should continue to be sterilised up to 12 months.
Sterilisation methods

Boiling is the preferred option for sterilising bottles and other infant feeding equipment. Boiling gives consistent and reliable results if the steps outlined below are taken:

- Wash all equipment in hot, soapy water and rinse.
- Place equipment in a large saucepan on the back burner of the stove.
- Cover equipment with water, making sure to eliminate air bubbles from bottles and cups.
- Bring water to the boil and boil for 5 minutes. Turn off – do not allow to boil dry.
- Allow equipment to cool in the saucepan until it is hand hot before removing it.
- Store equipment that is not being used in a clean container in the fridge.
- Boil all equipment within 24 hours of use.

Common breastfeeding problems

Physiologically most mothers are able to produce sufficient milk to breastfeed exclusively from birth. Contraindications to breastfeeding occur for only a few medical conditions. The NHMRC’s Infant Feeding Guidelines for Health Workers outline the mechanics and practicalities of breastfeeding as well as suggestions for problem solving.

Maternal factors affecting breastfeeding

Painful nipples

Nipple pain is commonly reported by breastfeeding mothers, and is the most frequently cited reason for early cessation of breastfeeding. Some nipple tenderness when the infant first attaches is normal. Continued nipple pain is linked to emotional distress and decreased breastfeeding duration.

Common causes of nipple trauma and pain include:

- incorrect attachment of the infant to the breast
- infant postural deviations from normal such as head preference or postural variation
- mouth and palatal abnormalities
- ankyloglossia (tongue tie)
- Unrelieved negative pressure and breaking suction incorrectly
- Candida infection (thrush)
- dermatitis
- nipple vasospasm
- white sports on the nipple (blebs)
• incorrect use of expressing equipment
• poor skin health or eczema
• dietary deficiencies
• flat or retracted nipples
• lack of exposure to light and air
• breast engorgement.

Engorgement
A mother’s breasts may become very full and uncomfortable if the infant is unable to efficiently drain the breast. Engorgement is preventable and management involves draining the breast completely (sometimes by expressing). The Academy of Breastfeeding Medicine (ABM)\textsuperscript{36} suggests emptying one breast at each feed and changing which breast is offered first. This may vary between individual mothers as breastfeeding duration increases.

Blocked ducts
A tender and sometimes painful lump in the breast of an otherwise healthy breastfeeding mother may be caused by blockage in the milk ducts. The milk builds up behind the blockage causing inflammation of the surrounding tissues. Predisposing factors include missed feeds, long intervals between feeds, inadequate emptying of the breast, oversupply of breast milk, trauma/external pressure, blebs on the nipple and exhaustion/fatigue. Prompt management will reduce occurrence of complications such as mastitis or abscess formation.

Inflammatory conditions of the breast\textsuperscript{35}

• Mastitis
Lactation mastitis may affect women in the early postnatal period with the vast majority of cases occurring in the first 3 months of feeding. Diagnosis is based on signs and symptoms including elevated temperature (above 38.5°C), chills, general malaise and a red, hot, painful segment of the breast. Approximately 10–25% of breastfeeding women experience at least one episode of mastitis. Risk factors for mastitis are not well established but may include nipple damage, inadequate drainage of the breast and a prior history of mastitis. The ABM states the most important step in treating mastitis is frequent and effective milk removal.\textsuperscript{36}

• Breast abscess
A breast abscess is a serious and painful complication of mastitis that occurs when there has been inadequate treatment or where treatment has been delayed. A breast abscess is a localised collection of pus following bacterial infection of breast tissue. The mother usually presents as feeling unwell, usually with a localised red, swollen or painful area on her breast. Ultrasound is used to diagnose abscess formation in an inflamed breast.
Milk Supply

- **Too much milk**\(^{21}\) - Some women produce too much milk in the early days of breastfeeding. Approximately 30-40 hours after birth there is an onset of copious milk secretion. This occurs in response to the expulsion of the placenta, resulting in withdrawal of progesterone and release of additional hormones.\(^{37}\)

- **Too little milk**\(^{35}\) - Mothers are often concerned that they are not producing enough breast milk. Evidence suggests that approximately 25–35% of women commence infant formula and/or solid foods for this reason, resulting in the early cessation of exclusive breastfeeding. In the absence of infant and maternal health concerns, there is little evidence to support maternal breast milk insufficiency.

**Postnatal depression and other mental health disorders**\(^{35}\)

Mood changes are common during and after pregnancy, occurring in up to 85% of women within the first week after the birth, peaking on the third to fifth day.

Postnatal mental health disorders may interfere with the mother–infant relationship and contribute to difficulty in establishing breastfeeding. Studies in multiple countries have confirmed the relationship between postnatal depression and early discontinuation of breastfeeding.\(^1\) There is also evidence suggesting that postnatal depression is associated with shorter breastfeeding duration, psychological attachment difficulties, behavioural difficulties and growth disturbance in the infant related to feeding issues.\(^1\)

**Infant factors affecting breastfeeding**

**Unsettled infants**

Parents of one in five Australian infants report concerns with crying and fussing, and many seek medical advice despite the fact that crying is a part of normal infant development.\(^1\)

Breast milk supply increases to match an infant’s increased needs for growth and development. Mothers are encouraged to feed on demand. The milk production and ejection reflex is stimulated by the infant’s sucking and milk extraction. The frequency and efficiency with which the infant removes milk will regulate the rate of breast milk production. Mothers may notice they are breastfeeding more frequently at certain times due to growth spurts.\(^1\)

Unrealistic expectations that infants breast feed according to a regular x-hourly pattern may cause maternal anxiety. Mothers need to be reassured that this is not common; the frequency of feeds is variable and may be 8-12 times or more during a 24-hour period. The duration of feeds is also variable, based on the infant’s age and efficiency along with the mother’s breast milk volume. However, positioning and attachment should be checked if an infant is spending a long period at the breast. Breastfeeding deviations at any age require further assessment.

Where excessive crying persists, underlying illness including temporary lactose overload or gastro-oesophageal reflux\(^1\) should be excluded, and feeding
management investigated. Use of formula does not provide a solution to the problem.

**Breast refusal**

Breast refusal is sometimes stated as a reason for ceasing breastfeeding and while numerous causes have been postulated, often no cause can be found. Possible infant related causes of breast refusal include infection, illness and distraction while feeding. Possible mother related causes include a change in perfume or talcum powder, mastitis, hormonal changes and an unwell mother.\(^1\)

**Slow weight gain**

Average weight gain in infants is generally calculated on a 4 week basis, where infants may gain:

- 150–200 g per week from birth to 3 months
- 100–150 g per week from 3 to 6 months, and
- 70–90g per week from 6 to 12 months.

However, all babies grow differently and these are just general guidelines. There is no need to add formula to expressed breast milk. If the infant requires additional kilojoules, the breastfeeding dyad should first be assessed for correct positioning and attachment. Additional feeds may be necessary. Where growth faltering occurs, infants should be referred to a medical practitioner for further assessment.

The Infant Feeding Guidelines\(^1\) list the following factors that can impact on breastfeeding:

- regurgitation and gastro-oesophageal reflux
- eosinophilic oesophagitis
- physiological jaundice
- breast milk jaundice
- ankyloglossia (tongue-tie)
- oropharyngeal dysphagia.

**Strategies for success**

There are a number of strategies to promote successful breastfeeding including:

- Increasing breastfeeding knowledge, mother staying relaxed and ‘looking after herself’, the use of positive self-talk, challenging unhelpful beliefs, problem solving, goal setting and the practice of mindfulness.\(^2\)

- Attendance at parent groups where peers are breastfeeding infants of a similar age may have an important influence on the continuation of breastfeeding to 6 months. First-time parent groups or other similar groups may be an important setting in which to promote the continuation of breastfeeding.\(^3\)
Healthy eating for lactating mothers

Breastfeeding requires an adequate diet to ensure optimum lactation. Poor maternal diet may result in reduced feelings of well-being. By feeling tired and ‘run down’, the mother’s motivation to continue breastfeeding may be limited.

No particular foods should be avoided by lactating women. However, if a mother feels that a specific food item causes problems, she may avoid or eat only small amounts of that food. The adequacy of the maternal diet should be considered at all times. Food issues are individual and it is important to reassure the mother and assist in investigating practical solutions to any issues and/or refer appropriately.

Nutrition requirements

The Recommended Daily Intake (RDI) for most nutrients, particularly calcium, vitamin D, and vitamin C, are increased during lactation. Vitamin D deficiency has re-emerged recently as a significant maternal and paediatric health issue in specific population groups. The vitamin D content in breast milk is highly variable and directly related to the mother’s vitamin levels. For more information on screening for vitamin D and treatment for deficiency, see the KEMH policy listed in the Related policies, procedures and guidelines at the end of this chapter. The need for extra nutrients and energy can usually be supplied by consuming a variety of foods from the five food groups.

Australian Dietary Guidelines recommended serves

The minimum recommended numbers of serves of each food group for lactating women are listed in Appendix C.

The production of breast milk requires energy. However, a woman's body uses energy more efficiently when lactating. In general, lactating women should aim for 9200 - 12300 kJ per day, or an additional 2000 – 2100 (445kCal) kilojoules per day.

Calcium (RDI = 1000–1300 mg/day) is necessary to maintain the mother’s nutritional status. Nutrients in high need during breastfeeding include: protein, folate, iodine, zinc, vitamin A, and vitamin B₆. A women’s absorption becomes more efficient during lactation to meet these needs, hence no additional dietary calcium is required. Generally, vitamin and mineral supplements are not necessary. For lactating mothers who cannot eat dairy products, supplemental calcium may be necessary. For vegans who do not consume soy drinks fortified with vitamin B₁₂, a supplement may be necessary.

Lactating mothers generally have good appetites. Healthy food choices are recommended in preference to high-energy, low-nutrient foods such as sweet biscuits, cakes, chocolate and lollies.

Nutritious between-meal snacks are recommended to ensure an adequate nutrient intake. Suitable choices include:

- fresh fruit
- fruit smoothie and low-fat milkshakes
- low-fat yoghurt
Successful breastfeeding is not dependent on an excessively high fluid intake for the mother. Drinking more water will not lead to increased milk production, however adequate fluid intake and hydration is important. Water is the best thirst quencher.

**Weight management**

The impact of breastfeeding on maternal weight after childbirth varies amongst individuals. It is important that health professionals focus on healthy eating, based on food and nutrition guidelines, as opposed to a weight-centred approach. Regular meals including a variety of foods should be the dietary foundation.

Rapid weight loss, crash-dieting and skipping meals are not recommended. Gradual weight loss (approximately half a kilogram per week) achieved by reducing the fat content of the diet and exercising regularly, e.g. walking, cycling and swimming, is the best approach. Eating the recommended serves from the *Australian Dietary Guidelines 2013*[^6], avoiding “discretionary” foods and choosing reduced fat milk, cheese, yoghurt and/or alternative products and lean meats, will provide all the essential nutrients and energy required. Fad diets that avoid whole food groups (eg. wheat or dairy groups) may result in nutrient deficiencies that can compromise a mother's health. Referral to a dietitian may be indicated if there is concern about maternal diet or weight loss.

Women who are losing too much weight should continue to breastfeed and visit their GP to exclude medical issues. Strategies to help maintain body weight include eating regular nutritious meals and snacks. Snacks requiring minimal preparation such as dried fruit, nuts, yoghurts and crackers with cheese are suitable choices.

**Physical activity**

Regular physical activity has positive effects on physical, social and mental health and well-being as well as improving the mother’s ability to cope with the physical demands of a new baby, The Australian Breastfeeding Association recommend thirty minutes of moderate exercise daily.[^39]

Physical activity can be promoted in many ways and walking is an ideal activity. Swimming, low impact exercises and those that exercise pelvic floor muscles are also beneficial activities. Incidental activity can be as beneficial as planned classes.

**Lifestyle considerations**

In Australia there are very few situations in which breastfeeding is absolutely contraindicated, although temporary avoidance of breastfeeding may be needed while certain medical conditions are treated.[^1] Breastfeeding women should be encouraged to avoid smoking, passive smoking, alcohol and illicit drugs.

[^6]: *Australian Dietary Guidelines 2013*[^6]
[^39]: Thirty minutes of moderate exercise daily.
Caffeine

Caffeine passes into breast milk, with peak amounts circulating in maternal blood approximately 60 minutes after consumption. Anecdotal evidence from breastfeeding mothers consuming high amounts of caffeine suggest that their babies are often jittery, colicky, constipated and generally unsettled. Occasional use of caffeine appears to have little effect on the breastfeeding infant. The American Academy of Paediatrics recommends that breastfeeding mothers restrict caffeine consumption to less than 300 mg a day (approximately three cups of instant coffee). Large amounts of tea, coffee, cocoa and cola drinks are best avoided.\(^1\) Newborn babies can be particularly sensitive to caffeine.\(^40\) Caffeine levels in common beverages are listed in Table 5 below.

### Table 5: Amount of caffeine in common beverages\(^1\)

<table>
<thead>
<tr>
<th>Beverage</th>
<th>Amount of caffeine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Espresso coffee</td>
<td>60-120mg per 250ml cup</td>
</tr>
<tr>
<td>Tea</td>
<td>10-50mg per 250ml cup</td>
</tr>
<tr>
<td>Instant coffee</td>
<td>60-80mg per 250ml cup</td>
</tr>
<tr>
<td>Cola</td>
<td>Australian and New Zealand Food Standards Code restricts the total caffeine content in cola type drinks to 145mg/kg</td>
</tr>
<tr>
<td>Energy drinks</td>
<td>Australian and New Zealand Food Standards Code restricts the total caffeine content in energy type drinks to 350mg/L</td>
</tr>
</tbody>
</table>

Alcohol

Alcohol enters breast milk by passive diffusion and levels are reflected in maternal blood within 30 to 60 minutes of ingestion. If not timed appropriately, drinking alcohol throughout the period of lactation can negatively impact on lactation performance and the mental development of the infant.\(^41\) Studies show that women who consume alcohol at levels of more than two standard drinks per day are almost twice as likely to discontinue breastfeeding before the infant is 6 months old than women who drink below this level.\(^42\) Drinking alcohol while lactating is also associated with deficits in infant psychomotor development and disrupted infant sleep wake behavioural patterns.\(^1\)

**Alcohol recommendations**

**No alcohol is the safest choice.**

- No alcohol in the first month until breastfeeding is well established.
- Once breastfeeding is established, limit alcohol intake to 1-2 standard drinks per day. If mother wishes to drink more than 2 standard drinks, then express milk in advance and skip one feed as an option.
- Breastfeed before having alcohol.
- Eat before and while drinking alcohol\(^1\)
Drugs and medications

The WHO Guidelines on Acceptable use of Breast Milk Substitutes gives the following guidance on substance use (WHO 2009): “maternal use of nicotine, alcohol, ecstasy, amphetamines, cocaine and related stimulants has been demonstrated to have harmful effects on breastfed babies; - alcohol, opioids, benzodiazepines and cannabis can cause sedation in both the mother and the baby. Mothers should be encouraged not to use these substances, and given opportunities and support to abstain.”

Some medications pass into breast milk and affect the baby. The safety of any medication, prescribed or otherwise, should be checked by contacting the KEMH Obstetric Drug Information Service, a pharmacist or medical practitioner before being taken by a lactating woman. In many cases, the medication can be safely consumed, or alternatives can be prescribed to reduce the risk to the infant.³

Marijuana, heroin and methadone are excreted in breast milk. In addition, a mother who is not fully alert can present hazards while breastfeeding or preparing infant formula or sleeping near her infant. The active components of these drugs are fat-soluble and concentrate in the breast milk. However, where the mother has used heroin or methadone throughout her pregnancy, it is considered safer for the infant to continue to receive them in the breast milk than be subjected to symptoms associated with withdrawal. In this case, the other associated benefits of receiving breast milk outweigh the costs of inducing a state of withdrawal in the infant.

The National Clinical Guidelines for the Management of Drug Use during Pregnancy, Birth and the Early Development Years of the Newborn (2006) provides information for all health professionals working with pregnant and lactating women experiencing a drug or alcohol use problem, particularly drug dependency, but including other drug uses such as alcohol bingeing.

Drug and medication recommendations

- All prescription and over the counter medicines, as well as herbal medicines, should be checked with a medical practitioner.

- Statins are a commonly used class of pharmaceuticals that should not generally be used during pregnancy or breastfeeding because of their action on lipid metabolism.

³ KEMH Obstetric Drug Information Service can be contacted for expert, current practice information.

Hours: Monday to Friday 8:30am to 5:00pm. Phone: (08) 9340 2722

Smoking

There is significant evidence that maternal and paternal smoking is negatively associated with breastfeeding outcomes, including initiation and duration.⁴ Nicotine can affect a mother’s milk supply by reducing basal Prolactin levels and Oxytocin levels. Smoking also exposes infants to the toxic, carcinogenic and mutagenic compounds in tobacco smoke, and can cause gastro-intestinal upsets.⁵ There is strong evidence that infants of mothers who smoke after birth experience more lung conditions in their first year of life, and have double the normal risk of serious airway
infection. Smoking is also associated with increased risk of Sudden Unexpected Death in Infancy (SUDI) and premature cessation of breastfeeding.43

If a mother smokes it is advised she give up or limit her smoking as much as possible. Cigarettes should be completely avoided one hour before feeding and during feeding to decrease the harmful effects of nicotine.1 However, breastfeeding is still recommended over formula feeding. If the mother smokes, it is recommended that she smoke after a breastfeed and in another room or avoid smoking in the house completely. In WA, smoking is prohibited in a car when a child under 17 years is present.

The two most commonly used medications to assist smoking cessation in Australia, varenicline (Champix) and bupropion (Zyban), are not recommended during pregnancy or lactation.

Allergies

The Australasian Society of Clinical Immunology and Allergy (ASCIA) state that allergen avoidance is not recommended for infant allergy prevention during lactation. There is no convincing evidence that maternal dietary restriction while breastfeeding has a protective effect for the infant.44 The Infant Feeding Guidelines state that exclusive breastfeeding for around 6 months, as well as continuation of breastfeeding with the introduction of solid food reduces the incidence of food allergy in infants. An accredited practising dietitian can assist with information and counselling to address allergy concerns and maternal dietary restrictions.1

Contraindications

Maternal conditions

HIV/AIDS

In Australia, the NHMRC recommends Human Immunodeficiency Virus (HIV) positive women not to breastfeed.1 HIV can be passed on through breastfeeding.

Active Tuberculosis (TB)

Active pulmonary tuberculosis that has not yet been treated is a contraindication to breastfeeding. In order to prevent respiratory transmission of TB, any close contact with the infant, including breastfeeding or any infant feeding, is not permitted until the mother has finished two weeks treatment. The infant is usually prescribed prophylactic treatment. Lactation is initiated and maintained by expressing breast milk until contact is approved.1

Breastfeeding is also contraindicated in the following situations1:

- during breast cancer treatment where the mother is receiving chemotherapy
- Syphilis lesions of the breast or nipples
- untreated brucellosis.
Infant conditions

Rare metabolic disorders - disorders such as Galactosaemia and Maple syrup urine disease, severely limit or render impossible the infant’s metabolism of certain milk components and specialist prescription formula is required.¹

Phenylketonuria (PKU) - Phenylalanine-free formula is prescribed. It is possible to breastfeed infants with PKU and maintain plasma phenylalanine at a safe level. However, cautious monitoring by a paediatrician and a dietitian with expertise in metabolic disease is required.

Glossary and definitions

To assist communication and monitoring of breastfeeding the WA Department of Health recommends health professionals use the WHO standardised breastfeeding definitions⁴ which are consistent with the NHMRC Infant Feeding Guidelines 2012 and the Australian National Breastfeeding Strategy 2010-2015.

There are internationally recommended terms defining breastfeeding practices which are used to guide breastfeeding data collection and reporting (WHO 2008). The following definitions are used in the monitoring of infant feeding status in WA.

- **Exclusive breastfeeding** requires that the infant receive only breast milk (including expressed milk) and medicines (including oral rehydration solutions, vitamins and minerals) but no infant formula or non-human milk.

- **Predominant or ‘full’ breastfeeding** has a slightly less stringent definition as in addition to breast milk and medicines the infant may receive water, or water-based drinks, tea or fruit juice (which are not recommended for babies) but no non-human milk or formula.

- **Complementary feeding or partial breastfeeding** requires that the infant receive solid or semi-solid food in addition to breast milk, including expressed milk. This may include any food or liquid, including non-human milk and formula.

- **Breastfeeding or ‘any’ breastfeeding** includes all of the above definitions.

- **Ever breastfed** means that the infant has been breastfed or received expressed breast milk or colostrum, at least once.

Other relevant terms -

- **Breastfeeding duration** - The total length of time an infant received any breast milk at all from initiation through until weaning is complete

- **Breast milk** - Human milk and colostrum

- **Breast milk substitute** - Any milk (other than breast milk), or food based fluid used in infant feeding as a replacement for breast milk, whether or not it is suitable for that purpose (commonly includes infant formulae, cow’s milk, and other milks fed to infants)

- **Complementary feeding** - The child has received both breast milk and solid or semi-solid food (this may include any food or liquid including
non-human milk). Sometimes referred to as ‘partial’ feeding.

**Complementary foods** Any nutrient-containing foods or liquids (other than breast milk) given to infants who are breastfeeding

**Infant** refers to < 12 months old. ‘Children’ are 12 months or older

**Initiation** The infant’s first intake of breast milk

**Solid foods** Any nutrient containing foods (semi-solid or solid) e.g. dilute infant cereals. Does not include breast milk or breast milk substitutes, fruit and vegetable juices, sugar water, etc.

**Weaning** The period during which infants are introduced to breast milk substitutes and/or solid foods with the intention of replacing some or all of the breast milk in the diet.

**Weaned** The infant/child no longer receives any breast milk

**Related policies, procedures and guidelines**

The following can be read in conjunction with this document.

<table>
<thead>
<tr>
<th>3.6.1 Community Breastfeeding Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.6.2 Guidelines for the protection, promotion and support of breastfeeding by community health staff</td>
</tr>
<tr>
<td>3.6.3 Breastfeeding deviations from normal - clinical protocols from mothers and infants assessed as having some need</td>
</tr>
<tr>
<td>3.6.4 Breastfeeding Deviation from Normal-Clinical Referral Pathway</td>
</tr>
<tr>
<td>3.6.5 Breastfeeding Assessment Guide (CHS012)</td>
</tr>
<tr>
<td>3.6.6 Lactation Consultant Assessment Form (CHS663)</td>
</tr>
</tbody>
</table>

**Screening for and treatment of vitamin d deficiency in pregnancy** (KEMH policy 1.1.9)

**References**


**Professional resources**

**Western Australia**

- King Edward Memorial Hospital Clinical Guidelines Section B: Obstetric and Midwifery Care, Sub-section 8: Newborn Feeding, December 2008. Available from:
Breastfeeding Centre of WA King Edward Memorial Hospital

College of Lactation Consultant Association, Western Australia

Breastfeeding Matters e-learning is available online from

National

- Australian Infant Guidelines 2012, National Health and Medical Research Council available online from


- Marketing in Australia of Infant Formula (MAIF) Agreement, 1992. Available from:

- National Clinical Guidelines for the Management of Drug use During Pregnancy, Birth and the Early Development Years of the Newborn. Available from:

- UNICEF Australia/ Baby Friendly Health Initiative, Available from


- Better Health Channel Victoria- Breastfeeding information available from

- There is a Baby friendly online education program in South Australia which can be accessed at http://www.babyfriendly.com.au/moodle/ for a fee of $60

International

- Global Strategy on infant and young child feeding. World Health Organisation (WHO), 2003. Available from:
  www.who.int/nutrition/publications/gs_infant_feeding_text_eng.pdf


Resources for families

- Breastfeeding Centre, KEMH: The Breastfeeding Centre of WA provides breastfeeding information and support for families in WA. The centre offers a state-wide telephone counselling service for health professionals and women experiencing breastfeeding problems. Phone: (08) 9340 1844 or visit website http://kemh.health.wa.gov.au/services/breastfeeding/

- HealthInfo - Pamphlets, booklets and posters can be obtained by contacting HealthInfo on 1300 135 030 (WA only) or Department of Health and Ageing on 1800 020 103 extension 8654.

- Ngala - offer a helpline and a “healthy baby, healthy you” app for smart phones and online resource for those without smart phones. The helpline is 9368 9368 or 1800 111 546 for regional areas. Parents can contact NGALA helpline online by sending an online request to be phoned. The “healthy baby, healthy you” resource provides assistance to support parents and their family develop and maintain a healthy lifestyle during pregnancy and the first part of their baby’s life. This tool is designed to track health and wellbeing during pregnancy and the early stages of being a parent (up until the baby is about 18 months old). Visit the website for further information www.ngala.com.au/

- Australian Breastfeeding Association (ABA) - have a forum for mums to communicate online, they also have a Facebook, twitter and instagram account. Parents can attend local groups which can be sourced online from their website. ABA runs over 280 local supportive groups and there is one run in Perth; for more information visit their website. ABA offers a webinar for mums returning to the workplace who wish to continue breastfeeding. The webinar can be accessed online and costs $29 for members and $49 for non members. The webinar offers practical advice on successfully combining breastfeeding/expressing breast milk and paid work. A breastfeeding helpline
is also offered on 1800 686 268 or visit the website at https://www.breastfeeding.asn.au/

- Raising Children Network’s website - offers a range of videos on breastfeeding and offer practical support for parents. The Raising Children Network have a book making feature which allows parents/carers to collate information from the website and a make a book and parents can sign up for email alerts to track their child’s growth and development. Visit their website at: http://raisingchildren.net.au

Other useful resources include:

- HealthDirect Australia- 1800 022 222.
- Beyond Blue - work to achieve an Australian community that understands depression and anxiety. They offer a wide range of services to the community and can be contacted on 1300 22 4636 or http://www.beyondblue.org.au/resources/for-me/pregnancy-and-early-parenthood/helping-yourself-and-others/what-about-dads-partners
- Better Health Channel Victoria - provides health and medical information to the public which is quality assured, easy to understand and regularly reviewed http://www.betterhealth.vic.gov.au/bhc2/bhcarticles.nsf/pages/Breastfeeding
- The Royal Women’s Hospital, Victoria http://www.thewomens.org.au/Breastfeeding

Aboriginal and CaLD specific Resources

Breastfeeding resources in other languages can be located online from a number of sources including:

- The Royal Women’s Hospital Victoria Multilingual Fact Sheets- http://www.thewomens.org.au/MultilingualFactSheets

Aboriginal specific resources

- Aboriginal specific resources are also available online from the Aboriginal Resource Matrix: http://www.pmh.health.wa.gov.au/general/CACH/resources.htm
The Australian Indigenous HealthInfoNet also has tailored breastfeeding information which can be accessed via:

WA Child Health Services

Child health centres are staffed by registered nurses with qualifications in child and family health. They provide a range of services in partnership with parents and carers of babies and young children up to the age of 4 years.

Community child health nurses can assess children's health and development as well as provide information about many aspects of parenting, maternal and family health and healthy lifestyles.

There are over 310 child health centres across Western Australia. Most child health centres operate an appointment system Monday to Friday, but some are only open part time. You will usually need to make an appointment for your visit. Please ask the nurse for further details. All services are free.

For more information and to obtain a current list of child health clinics in WA, visit www.health.wa.gov.au/services/category.cfm?Topic_ID=18
### APPENDIX A: Evidence for health advantages of breastfeeding to infants, children, mothers and adults in developed countries

<table>
<thead>
<tr>
<th>Level of Evidence</th>
<th>Health outcomes of which breastfeeding is protective.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Infants and Children</td>
</tr>
<tr>
<td>Convincing</td>
<td>• Gastrointestinal illnesses • Otitis media • Respiratory tract infections • Neonatal necrotising enterocolitis • Asthma and allergy</td>
</tr>
<tr>
<td>Probable</td>
<td>• Cognitive ability; intelligence • Some childhood leukaemias • Urinary tract infection • Coeliac disease • Sudden unexpected death in infancy (SUDI)</td>
</tr>
<tr>
<td>Possible</td>
<td>• Insulin dependent diabetes mellitus • Bacteraemia &amp; Meningitis • Dental occlusion</td>
</tr>
</tbody>
</table>

- The classification of evidence of the relationship between breastfeeding and health benefits is based on a comprehensive overview of the evidence base (systematic reviews, meta-analyses, reviews, recent single studies).
- Convincing: evidence of the relationship was critically identified in a review and/or shown in meta-analyses to be significant.
- Probable: most studies have found an association, but confirmation is required in more, or better designed, studies.
- Possible: too few methodologically-sound studies.

Reference list for Appendix A


   http://www.biomedcentral.com/1471-2431/7/39

   http://www.bmj.com/content/319/7213/815.pdf?2Bhtml


   http://www.ncbi.nlm.nih.gov/books/NBK38337/

   http://pediatrics.aappublications.org/content/115/5/1367.full.pdf+html

   http://www.nature.com/ijo/journal/v28/n10/pdf/0802758a.pdf

   http://web.ebscohost.com.ezproxy.library.uwa.edu.au/ehost/pdfviewer/pdfviewer?sid=100a4fa3-c0d6-42be-962c-2689399e8a2a%40sessionmgr14&vid=2&hid=12

   http://aje.oxfordjournals.org/content/162/5/397.full.pdf+html


Date Issued: 1997
Date Reviewed: April 2014
Next Review: April 2017
NSQHS Standards: 1.7
Appendix B: BFHI ten steps to successful breastfeeding

**The Ten Steps to Successful Breastfeeding**

Every facility providing maternity services and care for newborn infants should:

1. Have a written breastfeeding policy that is routinely communicated to all health care staff.
2. Train all health care staff in skills necessary to implement this policy.
3. Inform all pregnant women about the benefits and management of breastfeeding.
4. Help mothers initiate breastfeeding within a half-hour of birth.*
5. Show mothers how to breastfeed, and how to maintain lactation even if they are separated from their infants.
6. Give newborn infants no food or drink other than breast milk, unless medically indicated.
7. Practice rooming-in – allow mothers and infants to remain together – 24 hours a day.
8. Encourage breastfeeding on demand.
9. Give no artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants.
10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

*This step is now interpreted as: Place babies in skin to skin contact with their mothers immediately following birth for at least an hour. Encourage mothers to recognise when their babies are ready to breastfeed and offer help if needed*.

APPENDIX C: Dietary guidelines recommendations for breastfeeding women

<table>
<thead>
<tr>
<th>Food group</th>
<th>Daily serves</th>
<th>Recommended serve size…</th>
<th>Approximate energy per Serve (kJ/serve)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grain (cereal) foods, mostly wholegrain and/or high fibre cereal varieties</td>
<td>9</td>
<td>= 1 slice of bread or ½ a medium roll or flat bread (40g)</td>
<td>500kJ</td>
</tr>
<tr>
<td></td>
<td></td>
<td>= ½ cup cooked rice, pasta, noodles, barley, buckwheat, semolina, polenta, bulgur or quinoa (75–120g)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>= ½ cup cooked porridge (120g), 2/3 cup wheat cereal flakes (30g) or cup muesli (30g)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>= 3 crispbreads (35g)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>= 1 crumpet (60g) or 1 small English muffin or scone (35g)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>= cup flour (30g)</td>
<td></td>
</tr>
<tr>
<td>Vegetables and legumes/beans</td>
<td>7 ½ for women 19-50 years</td>
<td>= 75g (½ cup) cooked green or Brassica or cruciferous vegetables</td>
<td>100-350kJ</td>
</tr>
<tr>
<td></td>
<td>5 ½ for women up to 18 years</td>
<td>= 75g (½ cup) cooked orange vegetables</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>= 75g (½ cup) cooked, dried or canned beans, chickpeas or lentils**</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>= 75g (1 cup) raw green leafy vegetables</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>= 75g starchy vegetables (e.g. ½ medium potato, or equivalent of sweet potato, taro, sweet corn</td>
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<tr>
<td></td>
<td></td>
<td>= 75g other vegetables e.g. 1 medium tomato</td>
<td></td>
</tr>
<tr>
<td>Fruit</td>
<td>2</td>
<td>= 150g (1 piece) of medium-sized fruit e.g. apple, banana, orange, pear</td>
<td>350kJ</td>
</tr>
<tr>
<td></td>
<td></td>
<td>= 150g (2 pieces) of small fruit e.g. apricots, kiwi fruit, plums</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>= 150g (1 cup) diced, cooked or canned fruit*</td>
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<tr>
<td></td>
<td></td>
<td>= 125ml (½ cup) 100% fruit juice*#</td>
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<tr>
<td></td>
<td></td>
<td>= 30g dried fruit*# e.g. 4 dried apricot halves, 1½ tablespoons of sultanas</td>
<td></td>
</tr>
<tr>
<td>Milk, yoghurt, cheese and/or alternatives, mostly reduced fat</td>
<td>2 ½ for women 19-50 years</td>
<td>= 1 cup (250ml) milk – fresh, UHT long life or reconstituted powdered</td>
<td>500-600kJ</td>
</tr>
<tr>
<td></td>
<td>4 serves for women up to 18 years</td>
<td>= 1/2 cup (120ml) evaporated unsweetened milk</td>
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<tr>
<td></td>
<td></td>
<td>= 3/4 cup (200g) yoghurt</td>
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<tr>
<td></td>
<td></td>
<td>= 40g (2 slices or 4 x 3 x 2 cm piece) hard cheese e.g. cheddar</td>
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<tr>
<td></td>
<td></td>
<td>= 1/2 cup (120g) ricotta cheese</td>
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<td></td>
<td></td>
<td>= 1 cup (250ml) soy, rice or other cereal drink with at least 100mg of added calcium per 100ml</td>
<td></td>
</tr>
<tr>
<td>Lean meat and poultry, fish, eggs, tofu, nuts and seeds and legumes/beans.</td>
<td>2 ½</td>
<td>= 65g cooked lean red meats (e.g. beef, lamb, pork, venison or kangaroo) or ½ cup of lean mince, 2 small chops</td>
<td>500-600kJ</td>
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<tr>
<td></td>
<td></td>
<td>= 2 slices of roast meat (about 90–100g raw weight)</td>
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<tr>
<td></td>
<td></td>
<td>= 80g cooked poultry (about 100g raw weight) e.g. chicken, turkey</td>
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<tr>
<td></td>
<td></td>
<td>= 100g cooked fish fillet (about 115g raw weight) or 1 small can of fish, no added salt, not in brine</td>
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<tr>
<td></td>
<td></td>
<td>= 2 large eggs (120g)</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>= 1 cup (150g) cooked dried beans, lentils, chickpeas, split peas, or canned beans (preferably with no added salt)</td>
<td></td>
</tr>
</tbody>
</table>
= 30g nuts or seeds or nut/seed paste (no added salt)*

<table>
<thead>
<tr>
<th>Unsaturated spreads and oils</th>
<th>= 10g polyunsaturated spread</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>= 10g monounsaturated spread</td>
</tr>
<tr>
<td></td>
<td>= 7g monounsaturated or polyunsaturated oil, for example olive, canola or sunflower oil</td>
</tr>
<tr>
<td></td>
<td>250kJ</td>
</tr>
</tbody>
</table>

For taller or more active women, additional serves of foods from the five food groups and/or unsaturated spreads and oils and/or discretionary food choices may be consumed to meet increased energy needs. For breastfeeding women 19-50 years of age, the approximate number of additional serves is 0-2½.

**Examples of discretionary choices and unsaturated spreads and oils**

<table>
<thead>
<tr>
<th>Recommended serve size</th>
<th>Approximate energy per Serve (kJ/serve)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discretionary choices* (foods which should only be consumed sometimes and in small amounts)</td>
<td>500-600</td>
</tr>
<tr>
<td>= 2 scoops (75g) ice-cream</td>
<td></td>
</tr>
<tr>
<td>= 2 slices (50-60g) processed meats, salami or mettwurst</td>
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</tr>
<tr>
<td>= 1½ think or 2 think (50-70g) regular sausages</td>
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</tr>
<tr>
<td>= ½ snack-size packet (30g) salty crackers or crisps</td>
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<tr>
<td>= 2-3 (35g) sweet plain biscuits</td>
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</tr>
<tr>
<td>= 1 (40g) doughnut</td>
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<tr>
<td>= 1 slice (40g) plain cake/small cake-type muffin</td>
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</tr>
<tr>
<td>= 5-6 (40g) sugar confectionary/small lollies</td>
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</tr>
<tr>
<td>= 1 tblsp (60g) jam or honey</td>
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</tr>
<tr>
<td>= ½ bar (25g) chocolate</td>
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</tr>
<tr>
<td>= 2 tblsp (60g) cream</td>
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</tr>
<tr>
<td>= 1 tblsp (20g) butter</td>
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</tr>
<tr>
<td>= 1 can (375ml) soft drink (sugar-sweetened)</td>
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<tr>
<td>= ¼ pie or pastie (60g) commercial meat pie or pastie (individual size)</td>
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</tr>
<tr>
<td>= 12 (60g) fried hot chips</td>
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</tr>
</tbody>
</table>
| *Discretionary food are usually high in saturated fat, added sugar, added salt or are low in fibre, and are low in essential nutrients. Overweight women trying to lose weight should avoid these foods.