# Complete Summary

## GUIDELINE TITLE

Management of breastfeeding for pre-term infants.

## BIBLIOGRAPHIC SOURCE(S)

Singapore Ministry of Health. Management of breastfeeding for pre-term infants. Singapore: Singapore Ministry of Health; 2006 Dec. 78 p. [96 references]

## GUIDELINE STATUS

This is the current release of the guideline.

## COMPLETE SUMMARY CONTENT



## SCOPE

### DISEASE/CONDITION(S)

Newborn nutrition (breastfeeding of pre-term infants)

### GUIDELINE CATEGORY

Counseling
Evaluation
Management

### CLINICAL SPECIALTY

Family Practice
Nursing
Nutrition

Obstetrics and Gynecology
Pediatrics

## INTENDED USERS

Advanced Practice Nurses
Health Care Providers
Hospitals
Nurses
Physician Assistants
Physicians

## GUIDELINE OBJECTIVE(S)

- To serve as a guide for practitioners who are involved in caring for breastfeeding mothers and their pre-term infants
- To allow clinicians, especially those working with sick pre-term infants to provide mothers with complete and current information on the benefits of breastfeeding; promote initiation and support of early expression of breast milk; manage and support enteral feeding with supplementation; prevent and manage breastfeeding problems as well as provide continual support for breastfeeding after discharge from hospital

## TARGET POPULATION

- Pre-term infants
- Breastfeeding mothers

## INTERVENTIONS AND PRACTICES CONSIDERED

1. Antenatal preparation for breastfeeding including breastfeeding education and breast care
2. Expression and storage of breastmilk
3. Prevention and management of low milk volume including adequate fluid intake, rest and relaxation; providing counseling and emotional support if required; use of galactogogues such as metoclopramide, domperidone, and fenugreek
4. Intermittent or continuous enteral feeds with naso-gastric or oro-gastric tubes
5. Assessment of infant's readiness to breastfeed
6. Progression to breastfeeding including non nutritive sucking, kangaroo mother care (skin-to skin contact), and nutritive sucking
7. Observation of breastfeeding
8. Teaching mothers techniques of breastfeeding
9. Discharge planning including individualized multidisciplinary discharge plan, referral to support group, and providing equipment
10. Follow-up and support for continued breastfeeding

## MAJOR OUTCOMES CONSIDERED

Frequency and duration of breastfeeding

## METHODOLOGY

### METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

### DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Two evidence-based guidelines were reviewed:

- Breastfeeding the Healthy Pre-term Infant ≤37 weeks by British Columbia Reproductive Care Program (BCRCP), 2001.
- Management of Breastfeeding for the Healthy Full-Term Infants by Ministry of Health, Singapore, 2002.

The workgroup felt that an updated literature search for the specific topics addressed on MEDLINE, EMBASE, Cochrane Library, and CINAHL would be sufficient. Literature from the year 1981 to December 2004 was reviewed. Keywords such as "pre-term," "breastfeeding," "breastmilk" were used in the search.

### NUMBER OF SOURCE DOCUMENTS

Not stated

### METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

### RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

#### Individual Study Validity Ratings

**++ All or most** of the criteria have been fulfilled. Where they have not been fulfilled the conclusions of the study or review are thought very unlikely to alter.

**+ Some** of the criteria have been fulfilled. Those criteria that have not been fulfilled or not adequately described are thought unlikely to alter the conclusions.

**- Few or no** criteria fulfilled. The conclusions of the study are thought likely or very likely to alter.

#### Levels of Evidence

Each study is assigned a level of evidence by combining the design designation and its validity rating using the system below:

**1++** High quality meta-analyses, systematic reviews of randomized controlled trials (RCTs), or RCTs with a very low risk of bias

**1+** Well conducted meta-analyses, systematic reviews, or RCTs with a low risk of bias

**1-** Meta-analyses, systematic reviews, or RCTs with a high risk of bias

**2++** High quality systematic reviews of case-control or cohort or studies
High quality case-control or cohort studies with a very low risk of confounding or bias and a high probability that the relationship is causal

**2+** Well conducted case-control or cohort studies with a low risk of confounding or bias and a moderate probability that the relationship is causal

**2-** Case-control or cohort studies with a high risk of confounding or bias and a significant risk that the relationship is not causal

**3** Non-analytic studies e.g., case reports, case series

**4** Expert opinion

## METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

## DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

The guideline developers adopted the revised Scottish Intercollegiate Guidelines Network (SIGN) system which gives clear guidance on how to evaluate the design of individual studies, grade each study's level of evidence and assign a grade to the recommendation after taking into account external validity, result consistency, local constraints and expert opinion.

## METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

## DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The extensive reliance on the British Columbia Reproductive Care Program (BCRCP) guideline is acknowledged and treated as a very special case of published expert opinion. For areas where available evidence was inconsistent or inconclusive, recommendations were made based on the clinical experience and judgement of the workgroup or expert committee reports.

## RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

### Grades of Recommendations

The detailed results of each study and mitigating local circumstances were considered in formulation of each recommendation which was then graded using the system below:

A. At least one meta-analysis, systematic review, or randomized controlled trial (RCT) rated as 1++, and directly applicable to the target population; or

   A body of evidence, consisting principally of studies rated as 1+, directly applicable to the target population, and demonstrating overall consistency of results

B. A body of evidence, including studies rated as 2++, directly applicable to the target population, and demonstrating overall consistency of results; or

   Extrapolated evidence from studies rated as 1++ or 1+

C. A body of evidence including studies rated as 2+, directly applicable to the target population and demonstrating overall consistency of results; or

   Extrapolated evidence from studies rated as 2++

D. Evidence level 3 or 4; or

   Extrapolated evidence from studies rated as 2+

**Interpretation of the D/4 Grading**

The grading system emphasises the quality of the experimental support underpinning each recommendation. The grading D/4 was assigned in cases where:

- It would be unreasonable to conduct a RCT because the correct practice is logically obvious
- Recommendations were derived from existing high quality evidence-based guidelines. The guideline developers alert the user to this special status by appending the initials of the source in the original guideline document. e.g., (D/4 – ILCA, WHO).

## COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

## METHOD OF GUIDELINE VALIDATION

External Peer Review

## DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Drafts of the guidelines were circulated to various stakeholders and experts for peer review on validity, reliability and practicality of the recommendations.

## RECOMMENDATIONS

### MAJOR RECOMMENDATIONS

Definitions for the grades of recommendations (**A, B, C, D**) and the levels of evidence (**1++** to **4**) are provided at the end of the "Major Recommendations" field.

**Assessment and Antenatal Preparation for Breastfeeding**

**Contraindications to Breastfeeding**

**D/4** Identify maternal and infant contraindications to breastfeeding so as to appropriately advise mother in relation to the following conditions:

Maternal:

- Human immunodeficiency virus (HIV) and certain infectious diseases (e.g., untreated tuberculosis)
- Substance abuse
- Certain medications (e.g., chemotherapy drugs)

Infant:

- Galactosaemia
- Phenylketonuria

(International Lactation Consultant Association [ILCA], 1999; WHO, 2000)

**Antenatal Breastfeeding Education**

**D/3** Provide parents with complete, current information on the benefits, techniques of breastfeeding, and prevention of breastfeeding problems through breastfeeding booklets and individual counseling.

**D/4** Provide anticipatory guidance and education to parents and family members of pre-term infants on:

- Initiation and early expression of breastmilk
- Realistic expectations of breastfeeding pre-term infants
- Lactation consultant services, breastfeeding support groups, breast pump rental and sales outlets
- Options for feeding to facilitate parents to make an informed choice

(ILCA, 1999; National Health and Medical Research Council [NHMRC], 1998)

**D/4** Educational materials should be free of commercial advertisements related to breast milk substitutes in accordance with SIFECS (Sale of Infant Formula Ethics Committee, Singapore) Code. (SIFECS, 2002)

**Breast Care**

**D/4** Wash areola and nipple with water. Avoid using soap and alcohol.

**D/4** Avoid antenatal expression of colostrum, nipple rolling, or application of breast cream.

**Initiation and Support of Early Expression of Breastmilk**

**Establishing and Maintaining Milk Supply**

*Expression of Breastmilk*

**D/4** Assist and encourage mothers of pre-term infants to express breastmilk early (within 6 hours of delivery) if medically fit. (British Columbia Reproductive Care Program [BCRCP], 2001)

**D/4** Teach the mother the expression, collection, and storage of breastmilk. (NHMRC, 1998; ILCA, 1999)

**D/4** Provide mothers with information regarding the importance of high quality electric breast pumps for long term milk expression. (BCRCP, 2001)

*Preparation for Expression*

**D/4** Instruct mother to wash her hands with soap and water before handling the equipment and expressing.

**D/4** Instruct mother to maintain daily personal hygiene.

**D/4** Massage the entire breast gently, both top and underside, starting from the top and stroking towards the nipple. Do this several times so that the whole breast is massaged. (NHMRC, 1998)

*Cleaning of Breast Pumps and Attachments*

**D/4** Wash and sterilise all equipment such as pump attachments (plastic breast shield, valve and membrane) and collection bottles before expressing.

*Methods of Expressing Breastmilk*

**D/4** Express milk preferably using a high quality pump with double pumping kit. (BCRCP, 2001)

**D/4** Teach and show the mother how to pump both her breasts simultaneously.

**D/4** Collect colostrum using hand expression. (BCRCP, 2001)

**D/4** Follow the steps for the different methods of expressing milk:

Hand Expressing

- Place the thumb and finger diagonally opposite on the edge of the areola.
- Gently press inward towards the centre of the breast and squeeze the finger and thumb together. Repeat with a rhythmic movement.
- Move fingers around areola and express to empty all sectors of the breast.

Electric Pump Expressing

- Place the breast cup on the areola, centering the nipple.
- Start the suction strength on low, gradually increase the suction strength as long as there is no discomfort.

(NHMRC, 1998)

*Duration and Frequency of Expressing*

**D/4** Express for 15 minutes for simultaneous double pumping. Express for 30 minutes for single pumping, alternating between breasts every 5 minutes.

**D/4** Express 6 to 8 times in 24 hours including once or twice at night. (BCRCP, 2001)

*Storage of Breastmilk*

**D/4** Instruct mothers to store milk in quantities approximately equivalent to the amount the infant requires for each feed.

**D/4** Store milk in sterile, hard plastic or glass bottles. Label bottles of expressed milk with name, date, and time of expression.

**D/4** Use freshly expressed breast milk as soon as possible within 1 hour of expression; otherwise it should be refrigerated immediately. (Human Milk Banking Association of North America, [HMBANA], 1993)

**D/4** Use all colostrum first, followed by fresh breastmilk if possible.

**D/4** Transport breastmilk in an insulated container with ice packs. (NHMRC, 1998)

**D/4** Store breastmilk following the recommended guidelines:

| Location and Temperature | Time |
|---|---|
| Milk stored at 25 degrees Celsius (C) | 4 hr |
| Milk in a cooler with ice pack (15 degrees C) | 24 hr |
| Fresh milk in refrigerator (4 degrees C) | 48 hr |

| Location and Temperature | Time |
|---|---|
| Previously thawed milk in refrigerator (4 degrees C) | 24 hr |
| Frozen milk: | |
| Freezer with separate door from refrigerator (-5 to -15 degrees C) | 3 to 6 months |
| Deep freezer (-20 degrees C) | 6 to 12 months |

*Thawing and Warming of Breastmilk*

**D/4** Thaw frozen breast milk in the refrigerator or by placing it in warm water. Do not thaw or warm breast milk in the microwave oven. (NHMRC, 1998)

**D/4** Give warmed milk straight away and discard any left over. Do not re-freeze or re-warm breast milk. (NHMRC, 1998)

**Strategies to Maintaining Adequate Milk Supply**

*Prevention and Management of Low Milk Volume*

**D/4** Review mother's pumping technique, schedule, and type of pump used. (BCRCP, 2001)

**D/4** Discuss the need for adequate fluid intake, rest, and relaxation techniques with mother. (BCRCP, 2001)

**D/4** Provide counseling and emotional support to mother if required. (BCRCP, 2001)

**D/4** Determine other possible causes that could affect low milk volume.

*Management of Low Milk Volume with Galactogogues*

**D/4** Use pharmacological enhancement of prolactin secretion.

**D/4** Prescribe Metoclopramide (Maxalon) tablets, 10 mg, three times a day (tds) over 1 to 2 weeks.

**A/1+** Prescribe Domperidone (Motilium) tablets, 10 mg, tds for seven days.

**D/4** Recommend Fenugreek, two capsules three times a day.

**Breastfeeding Progression**

**Begin Enteral Feeds**

**D/4** Provide intermittent or continuous enteral feeds with indwelling naso-gastric (NG)/Oro-gastric tubes. (BCRCP, 2001)

**Supplementation During Enteral Feeds**

**A/1+** Provide supplementation of protein, fat, calcium and phosphate, and carbohydrate to meet the nutritional requirements of the pre-term infant.

**A/1+** Provide infant with supplementation of human milk fortifier (HMF) or formula milk as prescribed.

**D/4** Add fortifier immediately before feeding followed by thorough mixing when the infant is prescribed HMF.

**Assessment: Determining Readiness to Breastfeed**

**D/4** Assess readiness for breastfeeding based on the following parameters: gestational age, physiological status, sleep/wake states, sucking patterns, and behavioural cues. (BCRCP, 2001)

*Gestational Age*

**D/4** At 32 to 35 weeks gestational age, breastfeeding can be initiated. (BCRCP, 2001)

*Physiologic Stability*

**D/4** Assess the physiological status of the infant prior to, during, and following each feed (able to regulate colour, heart rate, and respiration). (BCRCP, 2001)

**D/4** Observe for instability of the autonomic system (tachypnoea, pallor, mottling, apnoea, bradycardia, oxygen desaturation). (BCRCP, 2001)

*Sleep/Wake States*

**D/4** Assess the infant's behaviour and hunger states that indicate readiness to feed. (BCRCP, 2001)

**D/4** A feed should be offered when an infant comes to an awake and quiet state (eyes open, without movement and fussing).

*Sucking Patterns*

**D/4** Assess infant's sucking patterns on a pacifier, finger, and/or at the breast. (BCRCP, 2001)

*Motor Cues*

**D/4** Assess infant's stable motor cues (good posture and motor tone, synchronous smooth movements, grasping, hand to mouth activity, suck searching, and hand holding). (BCRCP, 2001)

**D/4** Observe for instability of the motor system (generalized hypotonia, hyperextension of extremities, finger splay, and facial grimace). (BCRCP, 2001)

**Non Nutritive Sucking (NNS)**

**A/1++** Provide the pre-term infant (recommended gestation 32 to 35 weeks) with opportunities for NNS (e.g., have infant suck on emptied breast or pacifier during gavage feeding or pre-feeds).

(Refer to Appendix 1– Non Nutritive Sucking Algorithm in the original guideline document).

*Kangaroo Mother Care (KMC)*

**D/4** Assess infant's physiological stability and medical condition prior to KMC (skin-to-skin cuddling). (BCRCP, 2001)

**D/4** Assist the mother to hold the infant with diaper only, skin to skin, upright on the mother's chest. (BCRCP, 2001)

**D/4** Refer to World Health Organization (WHO) guidelines on KMC (refer to Appendix 3 in the original guideline document). (WHO, 2003)

**Nutritive Sucking (NS) Progressing to Full Breastfeeding**

**D/4** Initiate breastfeeding when an infant reaches 32 to 35 weeks corrected gestational age, is eager to suck, has sustained alertness and is physiologically stable. (BCRCP, 2001)

**D/4** Allow gradual progression of breastfeeding in the following sequence:

- NS time <5 minutes followed by supplementation with total volume of enteral feed
- NS time 5 to 10 minutes followed by supplementation with three quarter volume of enteral feed
- NS time 10 to 15 minutes followed by supplementation with half volume of enteral feed
- NS time 15 to 20 minutes with no supplement required
- Subsequent feeding times may be early, based on the infant's cues

(BCRCP, 2001)

**D/4** Assess infant behaviour during feeding. Stop breastfeeding if infant manifests stress behaviours. (BCRCP, 2001)

**D/4** Provide gavage feeding with expressed breastmilk (EBM), EBM fortified with human milk fortifier, pre-term formula, or formula milk as prescribed.

**D/4** Feed with cup or bottle when mother is unavailable and infant is on oral feeds.

(Refer to Appendix 2– Nutritive Sucking Algorithm in the original guideline document).

## Monitoring the Progress of Breastfeeding for Pre-Term Infants

### Observation of Breastfeeding

**D/4** Observe the following during breastfeeding sessions:

- Correct positioning of infant at the breast
- Ability of infant to maintain physiologic stability during feeds
- Ability of infant to nuzzle or lick the breast during the early feed

(BCRCP, 2001)

**D/4** Observe the following indicators for adequate intake/satiation cues:

- Mother's breasts should feel softer after the infant has breastfed
- Active NS for 15 minutes or more with frequent audible swallowing
- Adequate output (more than 6 wet diapers/day)
- Daily weight gain (more than 15 g/kg/day)
- Test weighing

(BCRCP, 2001; WHO, 2003)

### Techniques on Breastfeeding

**D/4** Create a suitable environment that facilitates breastfeeding, as the pre-term infant is particularly sensitive to his/her surroundings:

- Provide a comfortable upright chair and footstool for the mother.
- Provide pillows to position the infant at breast level and for the mother's comfort.
- Create a quiet relaxing space.
- For the infant who is able to regulate his/her temperature, assist the mother to undress and unwrap the infant to encourage a wakeful state.

(BCRCP, 2001)

**D/4** Show and teach the mother how to adopt a comfortable position and ensure that the infant is positioned correctly. The infant is held at the level of the breast and body facing the breast with head and body aligned. (See illustrations of positions in the original guideline document.)

**D/4** Show and teach the mother to position the infant at the breast using the modified cradle or football hold, or with dancer hand hold. (BCRCP, 2001)

**D/4** Guide the mother to ensure effective latching is achieved. (BCRCP, 2001)

### Frequency and Duration of Breastfeeding

**D/4** Nurse the pre-term infant on demand and/or every 2-3 hourly whenever the infant shows signs of hunger, such as waking from sleep, hand to mouth, rooting, sucking, or crying. (BCRCP, 2001)

**D/4** Allow the pre-term infant to nurse for 15 minutes, or until the infant detaches from the breast or falls asleep. (BCRCP, 2001)

**Support for Continued Breastfeeding**

**Discharge Planning**

**D/4** Plan for discharge when the infant is:

- Medically fit
- Physiologically stable
- Able to maintain normal temperature in an open environment
- On full oral feeds and achieves a weight gain of 20 to 30 gm/kg/day
- Approximately 2 kg in weight
- At least 35 weeks (corrected gestational age), and
- Comfortably and competently cared for and fed by parents
- No recent major changes in medications or oxygen administration have occurred.

(BCRCP, 2001)

**D/4** Develop an individualised, multidisciplinary discharge plan with parents, lactation consultant, dietician, and physician.

**D/4** Refer to support group to encourage continuation of breastfeeding.

**D/4** Arrange for equipment such as an electric breast pump kit, and milk storage bottles if necessary.

**D/4** Conduct a telephone followup after discharge until the infant is fully breastfed, if necessary.

**Support for Continued Breastfeeding**

**D/4** Provide follow-up and support for continued breastfeeding during the infant's post discharge medical visits. (BCRCP, 2001)

**D/4** Support continued breastfeeding during any re-hospitalisation of the mother or infant. (ILCA, 1999)

**D/4** Provide a list of available support resources:

- Helplines
- Lactation consultants
- Breastfeeding support groups
- Parents support groups
- Breast pump rental and sales outlets

(ILCA, 1999)

**D/4** Refer to a lactation consultant for common problems that may interfere with continued breastfeeding. (ILCA, 1999)

**Definitions**:

**Individual Study Validity Ratings**

**++ All or most** of the criteria have been fulfilled. Where they have not been fulfilled the conclusions of the study or review are thought very unlikely to alter.

**+ Some** of the criteria have been fulfilled. Those criteria that have not been fulfilled or not adequately described are thought unlikely to alter the conclusions.

**- Few or no** criteria fulfilled. The conclusions of the study are thought likely or very likely to alter.

**Levels of Evidence**

Each study is assigned a level of evidence by combining the design designation and its validity rating using the system below:

**1++** High quality meta-analyses, systematic reviews of randomized controlled trials (RCTs), or RCTs with a very low risk of bias.

**1+** Well conducted meta-analyses, systematic reviews, or RCTs with a low risk of bias.

**1-** Meta-analyses, systematic reviews, or RCTs with a high risk of bias.

**2++** High quality systematic reviews of case-control or cohort or studies.
High quality case-control or cohort studies with a very low risk of confounding or bias and a high probability that the relationship is causal.

**2+** Well conducted case-control or cohort studies with a low risk of confounding or bias and a moderate probability that the relationship is causal.

**2-** Case-control or cohort studies with a high risk of confounding or bias and a significant risk that the relationship is not causal.

**3** Non-analytic studies e.g., case reports, case series.

**4** Expert opinion.

**Grades of Recommendations**

The detailed results of each study and mitigating local circumstances were considered in formulation of each recommendation which was then graded using the system below:

A. At least one meta-analysis, systematic review, or randomized controlled trial (RCT) rated as 1++, and directly applicable to the target population; or

   A body of evidence, consisting principally of studies rated as 1+, directly applicable to the target population, and demonstrating overall consistency of results

B. A body of evidence, including studies rated as 2++, directly applicable to the target population, and demonstrating overall consistency of results; or

   Extrapolated evidence from studies rated as 1++ or 1+

C. A body of evidence including studies rated as 2+, directly applicable to the target population and demonstrating overall consistency of results; or

   Extrapolated evidence from studies rated as 2++

D. Evidence level 3 or 4; or

   Extrapolated evidence from studies rated as 2+

**Interpretation of the D/4 Grading**

The grading system emphasises the quality of the experimental support underpinning each recommendation. The grading D/4 was assigned in cases where:

- It would be unreasonable to conduct a RCT because the correct practice is logically obvious
- Recommendations were derived from existing high quality evidence-based guidelines. The guideline developers alert the user to this special status by appending the initials of the source in the original guideline document. e.g., (D/4 – ILCA, WHO).

## CLINICAL ALGORITHM(S)

Clinical algorithms are provided in the original guideline document for:

- Management of Breastfeeding
- Non Nutritive Sucking (NNS)
- Nutritive Sucking (NS)

## EVIDENCE SUPPORTING THE RECOMMENDATIONS

### REFERENCES SUPPORTING THE RECOMMENDATIONS

References open in a new window

### TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

## BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

### POTENTIAL BENEFITS

#### General Benefits

This set of clinical practice guidelines will enable healthcare professionals in Singapore to adopt them into their practice where appropriate, to achieve optimal growth and development for pre-term infants.

#### Specific Benefits

Breastfeeding is universally accepted as the best method of feeding pre-term infants and the nutritional and immunological superiority of breastmilk is well documented in literature.

### POTENTIAL HARMS

#### Adverse Effects of Galactogogues

- *Metoclopramide* can cause maternal fatigue, irritability, depression and extrapyramidal side effects, which include tremor, bradykinesia (slow movements), and other dystonic reactions.
- The U.S. Food and Drug Administration (FDA) has cautioned against the use of *domperidone* as several published reports and case studies have linked domperidone to cardiac arrhythmia, cardiac arrest, and sudden death in patients receiving the intravenous form of the drug.
- Reported adverse events of *fenugreek* are rare and may include a maple-like odour to urine and sweat, diarrhoea, and aggravation of asthmatic symptoms.

## CONTRAINDICATIONS

### CONTRAINDICATIONS

#### Contraindications to Breastfeeding

*Maternal*

- Human immunodeficiency virus (HIV) and certain infectious diseases (e.g., untreated tuberculosis)
- Substance abuse
- Certain medications (e.g., chemotherapy drugs)

*Infant:*

- Galactosaemia
- Phenylketonuria

### Contraindications to Medications

Use of *fenugreek* during pregnancy is contraindicated because of its uterostimulant effects.

## QUALIFYING STATEMENTS

### QUALIFYING STATEMENTS

- These guidelines offer recommendations that are based on current scientific evidence and professional judgement. They are not intended as the legal standard of care.
- Users of these guidelines should determine the appropriate and safe patient care practices based on assessment of the circumstances of the particular patient, their own clinical experiences and their knowledge of the most recent research findings.
- These clinical guidelines are primarily tools to assist healthcare professionals and interest groups who are actively involved in the management of breastfeeding mothers and their pre-term infants in institutions and in the community. They should be adapted to suit the needs of individual patients and mothers.
- These guidelines are intended as a simple and readable reference for the management of breastfeeding for both healthy and sick preterm infants. Knowledge of the Ministry of Health (MOH) Clinical Practice Guidelines on the Management of Breastfeeding for Healthy Full-Term Infants (2002) is a pre-requisite to health professionals utilising these guidelines.
- The recommendations are based on the best available evidence and existing evidence-based guidelines. New research studies are ongoing; thus the contents are subject to updates as scientific knowledge unfolds.
- Every practitioner must exercise clinical judgement in the nursing management of mothers who breastfeed their infants. It is recommended that every practitioner utilises the suggested guidelines with regards to the individual mother's and her infant's condition, overall treatment goal, resource availability, institutional policies, and treatment options available.

## IMPLEMENTATION OF THE GUIDELINE

### DESCRIPTION OF IMPLEMENTATION STRATEGY

#### Quality Assurance

Hospital and institution administrators should consider these guidelines in their in-house quality assurance programmes. Nurses should critically review the implications of these guidelines for their routine care delivery, trainee teaching and patient education needs.

#### Parameters for Evaluation

See section 9.1 in the original guideline document for several parameters that should be monitored periodically and that may be used to evaluate quality of care.

### Management Role

Hospital and institution administrators, together with quality assurance teams, should ensure that outcome indicators are met and benchmarked against hospitals or institutions that perform well.

### Implementation of Guidelines

It is expected that these guidelines will be adopted after discussion with hospital and institution administrators and clinical staff. They may review how these guidelines may complement or be incorporated into their existing institution protocols. Feedback may be directed to the Singapore Ministry of Health for consideration in future reviews.

## IMPLEMENTATION TOOLS

Audit Criteria/Indicators
Clinical Algorithm
Staff Training/Competency Material

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

## INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

## IOM CARE NEED

Staying Healthy

## IOM DOMAIN

Effectiveness
Patient-centeredness

## IDENTIFYING INFORMATION AND AVAILABILITY

## BIBLIOGRAPHIC SOURCE(S)

Singapore Ministry of Health. Management of breastfeeding for pre-term infants. Singapore: Singapore Ministry of Health; 2006 Dec. 78 p. [96 references]

## ADAPTATION

This guideline is a partial adaptation of the following two evidence-based guidelines:

- Breastfeeding the Healthy Pre-term Infant ≤37 weeks by British Columbia Reproductive Care Program (BCRCP), 2001.

- Management of Breastfeeding for the Healthy Full-Term Infants by Ministry of Health, Singapore, 2002.

## DATE RELEASED

2006 Dec

## GUIDELINE DEVELOPER(S)

Singapore Ministry of Health - National Government Agency [Non-U.S.]

## SOURCE(S) OF FUNDING

Singapore Ministry of Health

## GUIDELINE COMMITTEE

Workgroup on the Management of Breastfeeding for Pre-term Infants

## COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

*Workgroup Members*: Koh Serena,RN, RM, BSc (Hons) Nursing Studies, Adv Dip (Midwifery) (*Chairperson*); Pang Pui Chan Cynthia, RN, RM, BSN, IBCLC (*Co-Chairperson*); Kang Phaik Gaik, RN, RM, IBCLC; Lim Geok Suan, RN, IBCLC; Mary Fong, RN, RM, Paediatric & Neonatal Nursing Certificate, MN; Pauline Chia, RN, RM, Cert (NeoN), Adv Dip (Maternal & Child Health), BN, MCN (Master of Clinical Nursing); Yan Chau Chin, RN, BSN, Adv Dip (Community Health); Tong Ling Hoh, RN, RM, BHSN; Tan Guat Choo, RN, RM, IBCLC; BSc (Hons) Midwifery Studies, Adv Dip (Midwifery); Ng Peck Luan, RN, BHSN, Paediatric & Neonatal Nursing Certificate

## FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

## GUIDELINE STATUS

This is the current release of the guideline.

## GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the Singapore Ministry of Health Web site.

Print copies: Available from the Singapore Ministry of Health, College of Medicine Building, Mezzanine Floor 16 College Rd, Singapore 169854.

## AVAILABILITY OF COMPANION DOCUMENTS

Audit indicators and a continuing medical education (CME) self-assessment are available in the original guideline document.

### PATIENT RESOURCES

None available

### NGC STATUS

This NGC summary was completed by ECRI Institute on May 31, 2007.

### COPYRIGHT STATEMENT



## DISCLAIMER

### NGC DISCLAIMER

Date Modified: 11/3/2008