BREASTFEEDING

natural is best
The information in this booklet is meant for educational purposes and should not be used as a substitute for professional medical care. Please seek your doctor’s advice if you have any questions related to the health, physical fitness or medical conditions of you and your baby.

The information in this book is correct at the time of printing (December 2005) and subject to revision without notice.
ABOUT NATIONAL UNIVERSITY HOSPITAL (NUH)

NUH is a 928-bed acute care tertiary hospital and the only university hospital in Singapore. We provide quality care and a comprehensive range of services in more than 20 clinical disciplines to meet the diverse needs of our patients.

We are also the first hospital in Singapore to be granted accreditation by the Joint Commission International in September 2004, which recognises our ongoing commitment to provide world class standards in the delivery of patient care.

DEPARTMENT OF OBSTETRICS & GYNAECOLOGY

Our Department of Obstetrics and Gynaecology provides a comprehensive range of healthcare services for women of all ages. Our team of dedicated and experienced medical and nursing professionals strives to deliver quality, accessible and cost-effective care to our patients.

Our range of services includes:

- Fetal-maternal medicine (pregnancy consultation and management, including high-risk pregnancy care)
- Reproductive medicine (fertility management for couples)
- Gynaecological oncology (screening and treatment of gynaecological cancers)
- Urogynaecology (investigation of various urinary problems)

For further enquiries or appointments, you may contact us at:

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You may also visit our website at www.nuh.com.sg/medss/og.htm
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INTRODUCTION

Breastfeeding is natural and has many wonderful benefits for both the mother and baby.

At the initial stage of breastfeeding, mothers need the most support and encouragement. It also requires much patience and perseverance at times. This booklet shares useful tips on strategies to establish breastfeeding and continue to do so even after you return to work.

Our nursing staff are available to provide advice and guidance on breastfeeding during your stay in our hospital and after your discharge. You can call us or make an appointment for a personal consultation.

We wish you an enjoyable motherhood journey.

Helen Tan
Nurse Clinician
Lactation Care
Clinical Nursing Unit
Based on the results from an expert consultation, WHO recommends exclusive breastfeeding for six months, with introduction of complementary foods and continued breastfeeding thereafter.

**Benefits to Your Baby**

1. Breast milk is natural food and nutritionally complete for babies.
2. It is a rich source of antibodies that protects your baby against infection, especially acute respiratory infections and diarrhoea.
3. Breast milk is more easily digested than formula milk.
4. Breastfed babies are less likely to develop colic, allergies and eczema.
5. Breastfeeding satisfies your baby’s emotional needs and promotes mother-child bonding.

**Benefits to the Mother**

1. Breastfeeding helps the mother to lose weight after delivery.
2. It helps to shrink the uterus to its pre-pregnancy state after childbirth.
3. Breastfeeding is convenient and saves money.
4. It provides emotional satisfaction to the mother.
5. The risks of breast and ovarian cancer may be reduced.
BREASTFEEDING...natural is best

6. Breastfeeding can serve as a form of natural birth control by delaying ovulation if used under well-defined guidelines (ACOG Educational Bulletin, 2000).

DIFFERENCES BETWEEN BREAST MILK AND ANIMAL-BASED FORMULA

Breast milk contains all the nutrients needed by a baby. Animal-based formula differs in the levels and quality of proteins, the presence of fatty acids, the types of vitamins and the levels of iron in the milk.

Breast milk is not solely a source of food for babies. It is also a living fluid, which contains white blood cells and helps to protect against infections when the baby’s immune system is not fully developed.
SKIN-TO-SKIN CONTACT

Provide skin-to-skin contact with your baby by placing him/her on your abdomen and chest immediately after a normal delivery.

EARLY START

At the delivery suite, you should breastfeed within the first half to one hour after birth unless medical reasons do not allow you or your baby to do so.

ROOMING-IN

You are encouraged to room-in with your baby so that it will be easier to recognise your baby’s feeding cues. This also helps the mother-child bonding process. Mothers who have gone through a Caesarean delivery can breastfeed while lying down, with help from the nursing staff. Once you are able to sit up, you can breastfeed using the ‘football hold’ (refer to page 12).
**FREQUENCY OF FEEDS**

Newborns should be breastfed whenever they show signs of hunger such as sucking motion of the mouth or increased alertness (crying is a late sign of hunger). You can expect at least 8 to 12 feeds in 24 hours. Initially, babies who show no signs of hunger should be awakened to feed if three hours have lapsed since the last feed.

**DURATION OF FEEDS**

There is no restriction on the duration of each feed. Let your baby finish feeding from the first breast, then offer the other breast. Sometimes, your baby may not suckle from the second breast, if he/she is satisfied with the feed from the first side.
3 HOW TO BREASTFEED

BREAST CARE

- Clean your breast at least once a day.
- Avoid soap on the nipple and areola (dark area surrounding the nipple) to prevent dryness.

STEPS TO BREASTFEEDING (CRADLE HOLD)

1. Wash your hands with soap and water.
2. Position yourself comfortably.
3. Massage both breasts to stimulate milk flow (refer to page 15).
4. Cradle your baby in the crook of your arm and support his/her buttocks.
5. Your baby’s face and entire body should be turned on his/her side, facing your body. Your baby should be at the same level as your breast and his/her mouth should be at nipple height.
6. Support your breast by placing your thumb on top and the other four fingers below your breast. (Ensure that your fingers below the breast are not in the way of your baby’s chin.)

7. Stroke his/her lower lip and chin with your areola and breast.

8. As soon as your baby opens his/her mouth, quickly guide his/her mouth onto your breast.

9. Ensure that your baby takes in as much of the areola as possible and his/her chin is touching your breast.

10. Keep your baby close to your body during the feed.

11. Allow your baby to finish from the first breast before offering the other breast. A baby who is sleepy at the breast needs to be woken up for the feed.

12. When your baby does not release spontaneously at the end of a feed or if there is a need for repositioning, gently depress your baby’s lower jaw or insert a finger into the corner of his/her mouth to break the suction.

13. Burp your baby when he/she has finished feeding from the first breast and at the end of a feed. Your baby may or may not burp.

14. Air-dry your breast briefly after a feed.
**SIGNS OF CORRECT ATTACHMENT**

- Baby’s mouth is wide open.
- Baby’s chin is in contact with your breast.
- Baby’s lips form a seal.
- Baby’s lower lip is turned out.
- Baby’s nose is not blocked.

**SIGNS OF CORRECT SUCKLING**

- There is no nipple pain.
- Baby’s jaw is moving rhythmically.
- Baby’s cheeks are not drawn in.
- There is no clicking sound.
4 Ways of Holding Your Baby While Breastfeeding

Football Hold

- Sit up comfortably and lean back on a pillow.
- Place pillows by your side.
- Position your baby on the pillow with his/her legs pointing towards your back and his/her mouth positioned in front of your nipple.
- Support your baby’s neck and shoulders with the palm of your hand while his/her upper back rests along your forearm.
- Use your other hand to support your breast, with the thumb above and your remaining fingers below. (Ensure that your fingers below the breast are not in the way of your baby’s chin.)

Modified Cradle Hold

- Sit up comfortably and lean back on a pillow.
- Place a pillow across your lap.
- Position your baby across your lap on the pillow with his/her entire body facing you and his/her mouth positioned in front of your nipple.
- Use the arm nearer to your baby’s feet to support his/her neck, shoulders and back.
• Use your other hand to support your breast with the thumb above and your remaining fingers below. (Ensure that your fingers below the breast are not in the way of your baby’s chin.)

SIDE-LYING HOLD

• Lie on your side with your head propped up and a pillow to support your back.

• Cradle your baby in the crook of your arm with his/her entire body facing you and his/her mouth positioned in front of your nipple.

• Use your other hand to support your breast, with the thumb above and your remaining fingers below. (Ensure that your fingers below the breast are not in the way of your baby’s chin.)
Urine Output and Bowel Movement of Your Baby

The number of wet nappies and bowel movements of your baby is a good indicator of the amount of milk taken.

- Six to eight wet nappies in 24 hours by the fourth day is an indication of good intake.
- The frequency of your baby’s daily bowel movements may vary widely. On the average, three bowel movements per day indicates that your baby’s milk intake is sufficient.
- When your baby is fully breastfed, the stools will be very soft and golden yellow. This is normal and indicates that the breast milk is well-digested.
6 Breast Massage

1. Using the finger pads of your second, third and fourth fingers, massage the whole breast in a circular motion.

2. Stroke the breast in downward strokes towards the nipple.
Inverted nipples point inward and appear like a slit or fold. The degree of nipple inversion may cause difficulty in latching. A simple ‘pinch test’ can be performed to determine whether the nipples are really inverted. Hold your breast at the edge of the areola between your thumb and index finger, then press in downwards gently. If your nipple does not protrude but retracts or disappears, it is truly inverted.

Seek the help of a trained healthcare professional for an assessment and advice. You will be advised on how to correct this condition. A device that uses suction to gently help draw the nipple out may be used. Consult your doctor before use during the antenatal period.
Expression and Collection of Breast Milk

1. All equipment used for the expression and collection of breast milk must be sterilised before use.

2. Wash your hands thoroughly with soap and water.

3. Clean your breasts at least once a day, avoiding soap on the nipple and areola. For premature and sick babies, it is advisable to clean your breasts before expressing each time.

4. Relax and make yourself comfortable.

5. You can hand express or use a breast pump.

6. Expression of breast milk by hand:
   • Massage your breasts.
   • Place your thumb and index finger opposite each other just slightly away from the nipple.
   • Press your fingers in towards the breast and gently squeeze the thumb and finger together.
   • Repeat the rhythmic movement of pressing and squeezing.
   • Move your fingers around different parts of your areola.
   • Express from each breast for about five minutes.
   • Repeat this process.
   • The entire expression takes about 30 minutes.
   • When the milk flow is well-established, use the timing only as a guide and change sides when the flow of milk slows down.
7. There are two categories of breast pumps:
   - Manual breast pumps
   - Electric breast pumps

• Massage your breasts and then express from each breast for about five minutes. Repeat this process. The whole expression takes about 30 minutes when using a single pump. When the milk flow is well-established, use the above timing only as a guide and change sides when the flow of milk slows down.

8. Expressed breast milk must be collected in a sterilised bottle or breast milk storage container.

9. The breast milk from each expression should be placed into a different bottle or breast milk storage container.

10. Label each bottle or breast milk storage container with your name, date and time of expression.

**Frequency of Expressing Breast Milk**

Ideally, breast milk should be expressed every three hours during the day and at least once at night when the breasts begin to feel full.
STORAGE OF EXPRESSED BREAST MILK (EBM)

1. Freshly expressed milk kept in the general compartment of the refrigerator at a temperature of 4° Celsius should be used within 48 hours.

2. Freshly expressed milk kept at room temperature of 25° Celsius is to be used within four hours. If the room temperature is not known, store the milk in the refrigerator.

3. Breast milk kept in the freezer compartment of a single-door refrigerator should be used within two weeks.

4. Breast milk kept in the freezer compartment of a separate-door refrigerator should be used within three months.
10  **THAWING OF FROZEN EBM**

1. A bottle of frozen EBM can be thawed in the refrigerator by placing it in a cup filled with water at room temperature. Always indicate the date and time of defrosting (i.e. the time when the milk is taken out from the freezer and placed in the general compartment of the refrigerator). Use this milk within 24 hours.

2. For immediate use, frozen EBM can be thawed by placing it in warm water or using an electric warmer. Discard any unused remainder.

3. Do not boil or microwave the milk.
Use an insulated bag or cooler box filled with ice packs to keep the breast milk cool during transportation. Keep the milk immediately in the refrigerator upon arrival at your destination. Any frozen milk that has been thawed during transportation will have to be used within 24 hours. Do not refreeze.
CLEANING AND STERILISATION OF BREAST PUMP AND STORAGE BOTTLES

CLEANING

1. Wash the breast pump, storage bottles and caps with dishwashing liquid and water. Use a bottle brush for scrubbing the inside of the milk bottle to remove all traces of milk.
2. Rinse all items thoroughly.

STERILISATION METHODS

Boiling

1. Submerge the breast pump, storage bottles and caps that have been washed in a pot of water and begin heating until the water boils.
2. Continue to boil for 10 minutes.
3. Pour the water away and keep the pot covered.
Sterilisation Tablets

Note: Follow the instructions given on the package.

1. Use a sterilisation unit.
2. Add in the sterilisation tablet.
3. Fill the container with the instructed amount of tap water.
4. When the tablet has dissolved completely, fully submerge the breast pump, storage bottles and caps in the solution.
5. Leave the items in the solution for the recommended soaking time.
6. Change the solution every 24 hours.

Steam Steriliser

(Follow the manufacturer’s instructions.)

Note: Always wash your hands before handling any sterilised items.
Mothers can continue with breastfeeding upon return to work.

- Introduce a bottle of expressed milk to your baby at about three to four weeks of age as some babies take time to get used to feeding from a bottle.
- Breastfeed your baby before going to work and when you return home.
- Express your milk regularly or at least once while at work. Store the expressed milk in a refrigerator or freezer.

You may consider the option of partial breastfeeding upon return to work instead of discontinuing breastfeeding.

If you wish to stop breastfeeding completely, please do not stop abruptly as this can lead to breast engorgement.

Reduce breastfeeding gradually by:

- slowly reducing the number of breastfeeds daily;
- replacing the feed with formula.

Wear a brassiere that provides good support.
NORMAL FULLNESS

Fullness of breasts is common between the third and fifth day. This condition usually lasts for a day or two.

*To manage fullness:*

- Try to relax before a feed to stimulate your ‘milk let-down’ reflex.
- Massage your breasts before a feed to stimulate milk flow.
- If your baby is unable to latch on because of the fullness, express a little milk first.
- Feed your baby frequently.
- Wear a brassiere that provides good support.

SORE NIPPLES

Sore nipples may occur during the initial days of breastfeeding. It is often due to incorrect positioning of your baby at the breast.

*To prevent and manage sore nipples:*

- Ensure correct positioning during feeding. Remember, your baby should be suckling on your areola, not your nipple.
- Apply a little milk on the nipples after a feed and air-dry the area.
- A nipple cream that does not require cleaning off before breastfeeding may be prescribed.
- If you are unable to breastfeed, hand express the breast milk for your baby.
• If soreness persists, consult a doctor or a trained healthcare professional. It could be due to cracked nipples or an infection of the nipples.

BREAST ENGORGEMENT

This condition may occur on the third or fourth day after delivery and usually affects both breasts.

Breast engorgement is due to the accumulation of milk in the breasts, which results in hardness, swelling, discomfort or pain. You may also experience fever. Seek medical attention if the fever persists as your engorgement subsides. Engorgement can be prevented by regular draining of the breasts through breastfeeding.

To manage engorgement:

• Apply warm compress on the affected breast before a feed, followed by breast massage.
• Breastfeed on demand within three hours.
• If your baby is unable to latch on, express a little milk before feeding.
• Place washed cold cabbage leaves on the breasts between feeds to help reduce the swelling.
• Review the condition of your breast after an application of cabbage leaves and discontinue the treatment once relief is attained.
• Wear a brassiere that provides good support. Avoid under-wire ones.

BLOCKED DUCTS

This is often due to inadequate emptying of breast milk. A tender or hard lump is often felt in the breast. The pain may worsen during a feed as more milk accumulates in the blocked duct. Therefore, it is important to unblock the ducts. Seek medical attention immediately if the above symptom is accompanied with fever, malaise or there is redness on the breast.
To manage blocked ducts:

- Apply a warm compress on the affected breast or have a warm shower.
- Massage the affected breast before feeding.
- Feed your baby from the affected breast first.
- Feed frequently.
- Use different breastfeeding positions to help clear the ducts.

**Mastitis (Breast Infection)**

The symptoms of mastitis are usually high fever and chills, malaise, pain, redness, tenderness and hardness in the breast.

Consult your doctor immediately if you have the above symptoms and inform him that you are breastfeeding. Antibiotics may be prescribed and it is usually alright to continue with breastfeeding.

It is important to continue breastfeeding or expressing your breast milk regularly.

**Breast Abscess**

If the infection is localised to one area of the breast, an abscess may form. This may resolve with conservative treatment or surgical drainage. It is important to continue to drain the affected breast well.

Consult your doctor immediately for advice. You may need to express and discard the breast milk until the abscess clears, depending on your doctor’s advice.
ACKNOWLEDGEMENT

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• all mothers who have contributed their photographs for use in this publication.

USEFUL TELEPHONE NUMBERS

Lactation Care Service
Clinical Nursing Unit
Tel: 6772 4721
Operating Hours:
Mon – Thu, 8.00 am – 5.30 pm
Fri, 8.00 am – 5.00 pm

Obstetric/Neonatal Wards

Ward 22 (Delivery Suite) 6772 5220
Ward 24 (Neonatal Unit) 6772 5240
Ward 42 (Post-natal Ward) 6772 5420
Ward 96 (Post-natal Ward) 6772 5960
Versatile storage for precious feeds

Your baby's needs change so quickly. With new AVENT VIA you can be sure that precious breast milk, or later those special home-cooked meals are securely stored in sterile, ready to use cups.

AVENT VIA Cups are ideal for travel and stack neatly into the fridge or freezer. They can be re-used several times and with the adaptor you can use the Cups with the AVENT ISIS Breast Pump and our anti-colic teat.

AVENT VIA – the new convenient way to give the best nutrition to your baby.