

Florida Nutrition Training Guide

Nutrition Education Series

Breastfeeding Module



**Florida Department of Health
Bureau of WIC and Nutrition Services**

Revised March 2001

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State of Florida
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Introduction to the Breastfeeding Module

for the Supervising Nutritionist and the Staff Member Studying the Module

The *Breastfeeding Module* is part of the *Nutrition Education Series* of the *Florida Nutrition Training Guide*. Other modules in the *Nutrition Education Series* are: *Basic Nutrition*, *Prenatal Nutrition*, *Infant Nutrition*, and *Preschool Child Nutrition*.

The *Breastfeeding Module* consists of the following 3 components:

- the module itself, to be studied by the staff member. The module is the “textbook” which contains information about breastfeeding.
- the workbook, to be completed by the staff member. The workbook contains: the self-checks, the answer key to the self-checks, and the practical activity.
- the evaluation materials for the supervising nutritionist. The evaluation materials contain: the answer key to the practical activity, the posttest, and the answer key to the posttest.

Instructions for using the module, the workbook, and the evaluation materials are contained within each of these documents. Staff members, while progressing through the module and workbook, should read all the instructions—in the order in which they are presented—to ensure proper completion of all requirements. The supervising nutritionist should also read the instructions in both the module and the workbook, as well as in the evaluation materials, in order to understand their basic format, his/her responsibilities as a supervising nutritionist, and the appropriate evaluation procedures to use.

The *Nutrition Education Series* of the *Florida Nutrition Training Guide* (formerly called *Florida’s Nutrition Paraprofessional Training Guide*) has been revised and updated to provide standardized nutrition and breastfeeding training to staff members such as dietetic technicians and clerical staff (who provide newsletter nutrition education contacts).¹ In addition, this newly revised *Nutrition Education Series* has been developed so that a more diverse audience might also benefit from its use; e.g., entry-level nutrition professional staff or other professional staff such as nurses. (over)

1. **Note to the Supervising Nutritionist:** The *Answer Key to the Practical Activity*, the *Posttest*, and the *Answer Key to the Posttest* can be found in the *Evaluation Materials for the Supervising Nutritionist*.

The learning materials in each module of the *Florida Nutrition Training Guide* are developed for individualized, self-paced instruction and are competency-based. In most cases, the staff member will be studying the modules independently, and not in a group setting. The supervising nutritionist should serve as a facilitator, assisting the staff member as needed and evaluating the staff member's performance of specified activities. The study of each module, its workbook activities, and its posttest should take no more than 12 to 14 hours to complete. Therefore, the entire *Nutrition Education Series* of the *Florida Nutrition Training Guide* is approximately a 50-hour training program (but, in many cases, can be successfully completed in less time).

If you have any questions about the *Florida Nutrition Training Guide*, please contact the Nutrition Unit, WIC and Nutrition Services, Florida Department of Health at (850) 245-4202.

Instructions on HOW TO DO this Module

1. Read the Knowledge Objectives and the Performance Objectives that follow these instructions. These objectives specify what you are expected to learn (Knowledge Objectives) and what you will be expected to do (Performance Objectives) as a result of studying this *Module*.
2. Begin reading and studying the *Module*. This *Module* is designed for individualized instruction. Read the information at your own pace, or according to the timelines established by your supervising nutritionist.
3. Stop when you come to a *Self-Check* section and complete the assigned *Self-Check* questions right away. The *Self-Check* questions can be found in the *Workbook for the Breastfeeding Module*. Request this *Workbook* from your supervising nutritionist; it is yours to work in and keep. The *Workbook* contains the: *Self-Check questions*, *Answer Key to the Self-Check questions*, and *Practical Activity*. **Use your Workbook to record your answers—please do not write in this book.**
4. After you complete a *Self-Check* section, immediately check your answers against the *Answer Key*, which follows the *Self-Check* questions in your *Workbook*. If you have incorrect answers, re-read the appropriate section of text to find, and then record, the correct answer(s). Then, move onto the next new section in the module.
5. Continue to read and study the *Module*—repeating steps 2, 3, and 4 of these instructions—until you reach the end of the *Module*. At the end of the *Module*, you are asked to do the *Practical Activity for the Performance Objective*.
6. Complete the *Practical Activity*, which also can be found in your *Workbook*. When you complete your *Practical Activity*, submit it to your supervising nutritionist, who will, in turn, grade and evaluate it.¹ If you answer at least 85% of the questions and assignments correctly and completely, this is considered acceptable completion.
7. Arrange for a convenient time to take the *Posttest*, and also for the follow-up conference between you and your supervising nutritionist.¹ The supervising nutritionist will give you a copy of the *Posttest* at the arranged time. The *Posttest* is **not** an open book test.

Note: The *Posttest* measures your mastery of the Knowledge Objectives. Thus, to prepare for the *Posttest*, **review the Knowledge Objectives**. Each *Posttest* question is directly related to one of the Knowledge Objectives.

1. **Note to the Supervising Nutritionist:** The *Answer Key to the Practical Activity*, the *Posttest*, and the *Answer Key to the Posttest* can be found in the *Evaluation Materials for the Supervising Nutritionist*.

Objectives of the Breastfeeding Module

Knowledge Objectives

The staff member will be able to:

1. State what the breastfeeding objective is for the *Healthy People 2010, National Health Promotion and Disease Prevention Objectives*.
2. Explain why it is important to discuss breastfeeding early and often throughout the client's pregnancy.
3. State the World Health Organization's (WHO) recommendation for breastfeeding.
4. Understand the unique health advantages that breastfeeding offers over artificial infant feeding.
5. Recognize how the nutrient composition of breastmilk is different from and superior to that of infant formulas (artificial baby milk).
6. Identify how breastfeeding is good for women.
7. List at least one of the WHO/UNICEF Ten Steps to Successful Breastfeeding.
8. Explain in simple terms how to get off to a good start with breastfeeding and how to ensure a good milk supply.
9. Recognize these facts about the breastfeeding woman and her dietary needs:
 - A well-balanced diet during breastfeeding is important primarily for the well-being and health of the mother.
 - Because breastfeeding women's body sizes and activity levels are different, there is not one ideal calorie intake level for all breastfeeding women.
 - The breastfeeding woman must be given dietary information in a simple and practical manner so that she will not feel discouraged or overwhelmed by too many complicated facts.
10. Understand that when a breastfeeding mother takes drugs (i.e., prescription, over-the-counter, or "street") or uses substances such as alcohol, nicotine, or caffeine, these substances may have an adverse effect on her breastfed baby.
11. Select true statements regarding:
 - when to start breastfeeding the full-term, healthy newborn.
 - how often a baby needs to be breastfed during a 24-hour period and what are optimal breastfeeding practices.

12. Recognize breast care practices that:
 - are always good practices to share with all mothers.
 - will help avoid nipple discomfort.
 - can help prevent and manage pathological engorgement.
13. Identify at least three “cues” that may signify readiness to feed on the baby’s part.
14. Understand the signs a mother can look for that will reassure her that her baby is breastfeeding adequately.
15. Identify at least four factors that could put the mother/infant breastfeeding pair at risk for low milk production.
16. List at least two signs that may indicate dehydration in a newborn baby.
17. Explain appropriate counseling steps to be taken if a WIC breastfeeding woman requests infant formula (artificial baby milk) for supplementation for a non-medical reason.
18. List the methods that can be used to express breastmilk.
19. Recognize true statements about expressing breastmilk and safe practices for storing breastmilk.
20. Explain the difference between "baby-led" and "mother-led" weaning.
21. Explain the difference between “token” and “unrestricted” breastfeeding practices.
22. List at least two benefits of breastfeeding the toddler.
23. State the five major barriers to breastfeeding.
24. Name the three steps in the “Three-Step Counseling Plan,” and explain why each step is useful and effective when counseling clients about breastfeeding.
25. List the factors that attract women to breastfeeding.
26. Identify at least one way to create a positive breastfeeding environment in the local WIC agency.
27. Give a simple explanation of the WHO Code of Marketing of Breastmilk Substitutes.

Performance Objectives

The staff member will be able to analyze the information from case studies and offer counseling suggestions and recommendations. Also, the staff member will be able to demonstrate a clear understanding of certain breastfeeding techniques.

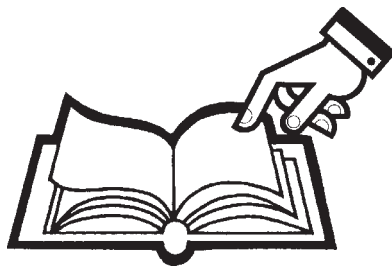
1. After reading five case studies about pregnant women who are interested in breastfeeding, the staff member will identify misconceptions, concerns, and misinformation about breastfeeding that these women have, and offer counseling suggestions and correct information that is appropriate to the situations presented in each case study. For two of the case studies, the staff member will demonstrate an ability to use the "Three-Step Counseling Plan," which helps women overcome barriers to breastfeeding.
2. The staff member will prepare an outline that could be used to facilitate and lead a prenatal support group meeting about how to get off to a good start with breastfeeding and to establish a good milk supply. The staff member will present the key points to the supervising nutritionist or breastfeeding educator.
3. The staff member will assess his/her work site for and identify those positive factors which help their local agency be "breastfeeding friendly" and for any negative factors which are not "breastfeeding friendly"; present such findings in writing to their supervising nutritionist or breastfeeding educator and present a short plan on how to improve any negative areas.

Note: Knowledge Objectives 1–27 directly relate to the *Posttest* that the staff member takes as the final requirement for successful completion of this *Module*.

Performance Objectives 1–3 directly relate to the *Practical Activity* that the staff member completes after his/her study of this module; the *Practical Activity* is located in the *Workbook for the Breastfeeding Module*.

The *Posttest* and the *Practical Activity* will be graded/evaluated by the supervising nutritionist.

Glossary for the Breastfeeding Module



Acute disease. A disease which has severe symptoms and a short course.

Adolescent. A boy or girl who is in the period of physical and psychological development from the onset of puberty to maturity. In this module, an adolescent is defined as a girl less than or equal to 17 years old (also referred to as a teen).

Allergen. Something that causes allergic symptoms. In the case of a true food allergy, the allergen is the specific substance (usually a protein) in the food causing the allergy.

Allergy. Hypersensitive reaction (e.g., itching, hives) to a substance, such as a food.

Alternative feeding method. Feeding the breastfeeding baby with a cup, spoon, eyedropper, syringe, or supplemental nursing system rather than using a bottle.

Alternate breast massage. A technique in which the breast is massaged when the baby pauses during a breastfeeding session. This technique can help the baby suckle more strongly and may help the baby take in more breastmilk. This technique can be used with a sleepy baby or a baby who does not nurse well. Alternate breast massage may also increase the fat content of the breastmilk per feeding.

Anti-allergic. Acting against allergy development.

Anti-infective. Acting against infection.

Antiseptic. Thoroughly clean and free of microorganisms that cause disease.

Areola. Dark, circular area around the nipple of a woman's breast.

Artificial baby milk. Manufactured breastmilk substitutes, such as infant formula.

Artificial infant feeding. When a human infant is not breastfed and receives some type of infant formula (artificial baby milk).

Asthma. A condition of difficult, labored, and/or wheezy breathing.

Breastfeeding educator. A person who is knowledgeable about breastfeeding and the normal situations that arise during the course of breastfeeding. They provide group and individualized breastfeeding education and are often available by telephone to answer routine breastfeeding questions. Most breastfeeding educators will have received *at least* 18 hours of training in the basics of breastfeeding management. (Breastfeeding educators are sometimes referred to as breastfeeding counselors.)

Breast shells. A two-piece glass or plastic device which applies constant, even pressure to the areola, forcing the nipple to protrude through the center opening in the shell. See the section in the module on “Flat or Inverted Nipples” for more information.

Candidiasis. Fungal infection; candida; yeast; thrush.

Certified Lactation Consultant. Throughout this module, the term “certified lactation consultant” refers to a person who is an International Board Certified Lactation Consultant (IBCLC). A person who has the IBCLC designation possesses the necessary skills, knowledge, and attitudes to facilitate breastfeeding. This person has received special training and certification in breastfeeding counseling. An IBCLC encourages self-care and parental decision-making prenatally and postnatally and uses a problem solving process to provide appropriate information, suggestions and referrals, in a variety of settings. They assess the mother and baby while breastfeeding, develop care plans, report to the mother’s and baby’s primary health care providers and arrange follow-up. Certification is through the International Board of Lactation Consultant Examiners, which is a non-profit corporation established in 1985 to develop and administer a voluntary certification program for lactation consultants. Candidates must meet eligibility criteria as well as pass a university-level certification examination.

Certified Lactation Counselor. A certified lactation counselor (CLC) has attended a 40-hour comprehensive breastfeeding management training course and received a certificate verifying successful completion of the course.

Cesarean section (C-section). Surgical delivery of a baby through the mother’s abdomen.

Chronic disease. A disease which persists for a long time.

Colic. Severe abdominal pain in infants, sometimes caused by gas. The colicky baby cannot be comforted and sometimes cries for many hours. The baby may draw up its legs and may seem to be in great distress.

Contraindicated. Not advisable to do or use.

Eczema. An inflammation of the skin causing reddening, itching, and swelling of the skin; characterized by lesions that may have a watery discharge; lesions may become crusty and scaly.

Edema. An abnormal collecting of fluid in intercellular spaces of the body.

Exclusively breastfed infant. The infant who is fed only human breastmilk (receives no infant formula, water, vitamins, or solid foods whatsoever).

Expressing breastmilk. Removing milk from the breasts either by hand or with a mechanical breast pump.

Flutter sucking. Nonnutritive suckles; very soft suckles; appears as a “quiver” action of the chin rather than deep rhythmic drawing action.

Fontanel. A soft spot; the open space in the top of a baby’s skull before the skull bones have grown together.

Gut flora. Bacteria normally found within the intestine.

Health care provider. For purposes of this module, “health care provider” refers to the person or facility providing the primary source of medical care for the mother and infant; such as, the family doctor, pediatrician, or health clinic.

Hind milk. The high-fat milk which is made available to the baby when the let-down reflex forces the milk from the alveoli and washes the fat from the walls of the milk ducts. The hind milk is usually obtained near the end of the feeding. The hind milk probably helps to regulate the baby's appetite.

Human milk/breastmilk. Milk produced by the human breast. For this module, human milk and breastmilk are used interchangeably.

Ice "flowers." Crushed ice in three small plastic bags jointed by a twist tie which are placed around the breasts to reduce engorgement.

Immune. To be protected against, as in an illness.

Immunological protection of breastmilk. The factors in breastmilk which protect against infection.

Keratin cell layer. The skin type found on the nipples, palms of hands, and soles of feet. It forms a tough, waterproof barrier.

Lactate, lactation, lactating mother. When the mother is producing milk and breastfeeding her infant.

Lactational Amenorrhea. A period of natural infertility and a method of "child spacing." Breastfeeding provides more than 98 percent protection from pregnancy during the first six months postpartum if the mother is exclusively breastfeeding **and** has not experienced vaginal bleeding after the 56th day postpartum. To be most effective, the baby must be breastfed around the clock without other foods in the diet, pacifiers should not be used, and night-time breastfeedings must be continued.

Lactation consultant. See definition of *certified lactation consultant*.

Latch-on. When the baby's mouth attaches to the mother's nipple/areola.

Macrobiotic diet. A form of vegetarianism which avoids flesh foods, milk products, and eggs. This diet involves a gradual progression to a diet of only cereals. The advanced stage of this diet may be nutritionally inadequate.

Malabsorption. Defective or inadequate absorption of nutrients from the intestinal tract.

Malnutrition. Any condition caused by deficient or excess food energy intake or by an imbalance of nutrients.

Meconium. Excrement in the fetal intestinal tract that is discharged at birth and for the first couple of days after birth. The baby's first stool.

Milk ejection reflex (MER). (Also called let-down reflex.) This reflex allows the milk-producing cells in the breast to release milk. This reflex is caused by the hormone, oxytocin. Oxytocin, in turn, is triggered when the baby sucks at the breast.

Milk sinuses. Milk storage sinuses that are located beneath the areola.

Mixed infant feeding. The breastfeeding of an infant under approximately 4 to 6 months of age plus the feeding of other types of milk and/or solid foods.

Necrotizing enterocolitis. Inflammation of the intestinal tract which may cause tissue to die. Premature infants are at a much higher risk for this very serious complication if they do not receive human milk.

Newborn. Infant up to six weeks of age.

Nursing. Feeding at the breast.

Nutritionist. For purposes of this module, “nutritionist” refers to a licensed nutritionist. In some cases, however, nutrition education and counseling services can be provided by other staff members, e.g., nutrition educators, nurses, and dietetic technicians. Refer to the *WIC Procedure Manual* (DHM 150-24), Chapter 6, Nutrition Education for policies regarding the staff members who are qualified to provide nutrition education and counseling services to medically high risk, high risk, and low risk clients.

Nipple shield. An artificial rubber latex or silicone nipple, which covers the mother’s areola and nipple area while she is nursing. See Appendix D for more detailed information regarding nipple shields.

Oxytocin. A hormone which is released in the mother’s brain and is triggered by a baby’s suckling at the mother’s breast. Oxytocin causes the milk-producing cells in the breast to release the milk they have made.

Physiologic jaundice of the infant. Physiologic jaundice occurs when a baby’s liver cannot break down the extra red blood cells that build up in the baby’s body during pregnancy. Physiologic jaundice usually gives the baby’s skin and eyes a yellowish color. This condition may appear between the second and fourth day of the infant’s life and then it gradually disappears.

Postpartum. That period of time occurring after childbirth, extending up to several months after delivery of the baby. May also refer to the mother after childbirth, extending up to several months after the delivery of her baby.

Prematurity. Birth occurring less than or equal to 37 completed weeks of pregnancy. (The usual length of pregnancy is 40 weeks.)

Pre-menopausal. Occurring before menopause or the “change of life.”

Prepregnancy. Before becoming pregnant.

Prolactin. A hormone produced in the brain which, during lactation, signals the milk glands in the breast to produce milk. Often referred to as the “mothering hormone.”

Species-specific milk. Each mammalian species produces unique milk that has developed to meet the distinctive nutritional and immunological needs of its young.

Suckling or suckle. To take milk at the breast.

Supplemental feedings. Any feeding given to the breastfed infant other than nursing at the mother’s breast.

Token breastfeeding. Breastfeeding with rules and regulations. The clock determines how often and how long feedings are. Unlimited suckling is not allowed. Supplementary bottles, early solids, and pacifier use are common. Complete weaning occurs by three months of age or earlier.

Thrush. A candidiasis fungal infection that the baby can get in its mouth (appears as white patches) and digestive system. Thrush can spread to the mother’s nipples and inside the breast.

Tropic factors. Nourishing or stimulating elements.

Unrestricted breastfeeding. Baby is put to the breast whenever he gives feeding cues, cries, or fusses. Nursing is spontaneous, not by “the clock.” No supplementary feedings or solid foods are given until about six months of age.

Vegan. A vegetarian who leaves out all animal products (including eggs, cheese, and milk) from his/her diet.

Wean (from breastfeeding). To withhold the mother’s breast from the child and to substitute other nourishment. Weaning the breastfed baby begins with the introduction of other foods and it ends with the last breastfeeding session.

World Health Organization (WHO). An agency of the United Nations which is responsible for planning and coordinating worldwide health care. WHO helps member nations fight disease and trains health workers.

Note: Throughout this module, there are many discussions about breastfeeding versus bottle feeding. For this module, “bottle feeding” always implies “bottle feeding with infant formula.” Thus, “bottle feeding” and “formula feeding” have the same meaning in this module. When a discussion is about “bottle feeding with expressed human milk,” this is specifically described as such.

Throughout this module, the infant or baby is referred to as “he or him” to distinguish the baby from the mother who is referred to as “she or her.”

Part 1: Breastfeeding—Normal Infant Feeding and How It Works

History and Current Trends

Breastfeeding is best! Through proclamations like this one, health care professionals are influencing more pregnant women and new mothers to breastfeed their babies, breastfeed them for a longer time and more exclusively. Breastfeeding has not always needed such enthusiastic promotion. Up until the early 1900s, breastfeeding was essential to ensuring the survival of humankind. Mothers needed to be successful at breastfeeding because any other method of infant feeding usually led to infant illness and death.

However, infant feeding practices in the United States have changed dramatically due to refrigeration; pasteurization; changing lifestyles; changing attitudes toward infant feeding; and the increased availability, promotion, and aggressive marketing of commercial infant formulas. By the 1950s and 1960s, the percentage of babies in the United States who were exclusively bottle fed with infant formula climbed to an estimated 82%. In the 1970s and the early 1980s, the United States experienced a renewed awareness of the importance of breastfeeding.

Breastfeeding is currently recognized by health care professionals as the superior feeding and nurturing choice for infants, with infant formula feeding being a distant second choice. The American Dietetic Association, American Medical Association, American Public Health Association, American Academy of Pediatrics, UNICEF, and the World Health Organization (WHO) have all developed statements supporting the promotion of breastfeeding. In fact, in December 1997, the American Academy of Pediatrics came out with a new, very strong policy statement. It says in part:

Human milk is uniquely superior for infant feeding and is species-specific; all substitute feeding options differ markedly from it. Extensive research, especially in recent years, documents diverse and compelling advantages to infants, mothers, families, and society from breastfeeding and the use of human milk for infant feeding. These include health, nutritional, immunological, developmental, psychological, social, economic, and environmental benefits. Human milk is the preferred feeding for all infants, including premature and sick newborns, with rare exceptions.



Since 1991, the national breastfeeding rates in the general population have been increasing. While the breastfeeding rates of the WIC population have also been increasing, WIC's breastfeeding rates are lower than those in the general population. In 1999, about 55.5 percent of Florida's WIC mothers breastfed in the hospital, but only 15.7 percent said they were still breastfeeding at six months postpartum. In comparison, nationally 67.2 percent of mothers in the general population were breastfeeding in the hospital and about 30 percent were breastfeeding at 6 months postpartum.

In the *Healthy People 2010, National Health Promotion and Disease Prevention Objectives*, the breastfeeding objective is to have at least 75% of mothers breastfeeding in the early postpartum period, at least 50% breastfeeding at 6 months postpartum, and 25% breastfeeding at 1 year postpartum. Health care providers and agencies that give care to pregnant and postpartum women are striving to reach these goals. International efforts to promote, support, and protect breastfeeding have included: WHO/UNICEF's Ten Steps to Successful Breastfeeding (shown in the box below); The Innocenti Declaration on the Protection, Promotion, and Support of Breastfeeding (Appendix A); and The World Health Organization (WHO) Code of Marketing of Breastmilk Substitutes (Appendix B). All health care workers should be familiar with these documents.

WHO/UNICEF's Ten Steps to Successful Breastfeeding

Each 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 should be separated from their infants.
6. Give newborn infants no food or drink other than breastmilk, 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 health clinic.

As a staff member, you have the opportunity to educate clients about infant feeding and nurturing. It is important that you educate your clients about breastfeeding while they are pregnant in order to give them ample time to seriously consider and learn about breastfeeding their babies.

Sometimes, health care providers have avoided the issue of informing parents about the differences between breastfeeding and infant formula feeding, and the problems that can be associated with infant formula feeding. The reason given for this is that this information might make the parent feel “guilty.” Dr. Ruth Lawrence, of the University of Rochester Medical Center, has stated that, “Parents have the right to hear the data. They can make their own choice. Fear of instilling guilt is a poor reason to deprive a mother of an informed choice.”

Furthermore, when the client decides to breastfeed her infant, she must be provided with information *before* she begins breastfeeding (anticipatory guidance), and with continued information and support *after* breastfeeding has been started. After working through this module, you will be able to provide encouragement, information, and support to help a new mother have a successful breastfeeding experience. Especially with the first baby, it is crucial that the mother feel that her breastfeeding experience was successful—whether it was short term or long term. If a mother feels negatively about her first breastfeeding experience, she is less likely to choose breastfeeding for a subsequent baby. She is also likely to discourage her friends from breastfeeding.

In instances where the mother chooses not to breastfeed or stops early, her reasons for doing so need to be explored. Her reasons for choosing not to breastfeed or for stopping early may stem from misunderstandings, lack of information, or lack of support. However, her decision to feed infant formula needs to be respected. She needs to continue to receive the encouragement and support of the health care team, regardless of her infant feeding choice.

The Advantages of Breastfeeding for Baby and Mother

The Uniqueness of Human Milk

Breastfeeding is how babies are meant to be fed. Human milk is uniquely suited to the human baby’s needs. Cow’s milk is uniquely suited to the needs of calves; rabbit’s milk is uniquely suited to the needs of rabbit pups, etc. This uniqueness of each mammal’s milk is called “species-specific.”

Human milk provides superior health and nourishment over infant formula (artificial baby milk). Human milk is designed to promote brain growth and protect against both **acute** and **chronic** diseases. Human milk is the “gold standard” against which all artificial infant formulas are measured. **The World Health Organization (WHO) recommends that infants be exclusively breastfed for about the first 6 months of life and continue breastfeeding, along with appropriate solid foods, well into the second year of life.**

Breastfeeding is Good for Babies

The Role of Human Milk in Preventing Disease

Breastfeeding plays a significant role in preventing illness in the infant and child. Human milk is a living, dynamic substance. Its components are constantly changing over 24-hour cycles, and over the weeks and months of breastfeeding, in order to meet the needs of the infant or toddler. Infant formula, on the other hand, is only a food. It *cannot* provide immunological protection against disease. Research has shown that artificially fed babies get sicker—and are sick more often—than exclusively breastfed babies.



In exclusively breastfed babies, bouts of diarrheal disease and vomiting are rare, are much milder if they do occur, and the babies recuperate much more quickly than artificially fed babies. In contrast, babies fed infant formula are at high risk for infections of the gastrointestinal (GI) tract. In the United States, diarrheal disease accounts for more than 3 million walk-in pediatric visits each year. About 200,000 children are hospitalized each year and 500 die annually from severe diarrheal illness.

Components in human milk produce an environment in the baby's gut which inhibits the growth of harmful bacteria. This is just *one* reason why it is *so* important to discourage mothers from unnecessarily supplementing a breastfeeding baby with infant formula. Giving just one ounce of infant formula changes the breastfed baby's **gut flora** and makes the baby more susceptible to illness. It takes between two to four weeks of exclusive breastfeeding for the gut flora to return to normal. Remember, giving the baby pumped breastmilk may be an alternative to giving infant formula.

Infants exclusively breastfed for four or more months have half the number of ear infections than those not breastfed at all, and 40% fewer ear infections than those babies who were supplemented with other foods before four months. On the other hand, babies who are formula fed are ten times as likely to be hospitalized for any type of bacterial infection, including respiratory tract and ear infections, when compared to those who are exclusively breastfed.

Human milk contains antibodies against certain viruses such as polio and the influenza virus, and against bacteria which cause tetanus, whooping cough, pneumonia, and diphtheria. **Colostrum**, the yellowish, transparent early "milk" that is produced in the first few days after giving birth is particularly rich in antibodies. The antibody level in colostrum is at its highest peak about two hours after delivery.

When a breastfeeding mother develops an infection such as a cold or fever, she produces antibodies in her breastmilk which help to protect her baby from her illness, so that either the baby doesn't get the illness at all or gets a much milder case and recuperates much faster. During her illness, the mother should continue to breastfeed, in addition to practicing good hygiene by washing her hands before touching her baby and limiting facial contact with her baby.

Food allergies. Up to 50 percent of children sensitive to cow's milk also show soy hypersensitivity. Exclusive breastfeeding plays a significant role in reducing the incidence of or delaying the onset and severity of allergic reactions in the baby, because it avoids exposing the baby to cow's milk or soy. In particular, *exclusive* breastfeeding during an infant's first 6 months of life is especially advantageous for those infants from families with a history of allergic disease.

It is uncommon for a baby who is exclusively breastfed to develop allergic symptoms (colic, diarrhea, vomiting, malabsorption, eczema, chronic ear infections, and asthma). If, however, this does happen, switching the baby to infant formula is *not* the solution; chances are that the baby's reaction would be even more severe! The reason for this is, the **most common food allergy in infancy is to cow's milk.**¹ Therefore, if a totally breastfed baby begins to develop allergic symptoms like those just listed, it could be related to the cow's milk products that the mother is drinking or eating.

Other foods in the mother's diet that are sometimes suspected of causing allergic symptoms in totally breastfed babies include eggs, wheat, citrus, or soy products. By the process of an "elimination diet," i.e., eliminating the suspected foods from the mother's diet one at a time for a period of 10 to 14 days each, the mother can often determine if the food(s) is (are) causing the problem.

Note: Do **not** advise breastfeeding mothers to try an "elimination" diet if their baby is exhibiting symptoms such as colic, diarrhea, vomiting, malabsorption, eczema, ear infection, or asthma. While these symptoms can be caused by a food allergy, an illness or infection in the infant can also cause them. Thus, if a baby in your agency develops these symptoms just mentioned (colic, diarrhea, etc.), refer him/her to the nutritionist or a health care provider for further consultation.

Nutrient Composition of Human Milk

The nutrient composition of human milk is perfect. While infant formula manufacturers are continually trying to make their formulas more like human milk, the manufacturing process is unable to duplicate the intricacies of human milk. Just a few of the nutrient differences between human milk and infant formulas are stated below:

- The main form of protein in human milk is α -lactalbumin (whey). Lactalbumin forms soft curds in the stomach that are quickly and easily digested, and they supply a continuous flow of nutrients to the baby. On the other hand, casein is the predominant form of protein in cow's milk and many cow's milk-based infant formulas. Casein forms large, hard curds that are difficult for the baby to digest. Human milk contains enzymes which help in the digestion and absorption of nutrients. Infant formulas do not contain enzymes.
- The fats in human milk are easily broken down by the infant, providing the baby with a ready source of energy. In addition, human milk contains more cholesterol than infant formulas. This is important because cholesterol is needed for the formation of myelin, which is the covering of nerve and brain cells. This covering is necessary for the development of muscular coordination of the infant during the first year of life.

1. Up to 7.5 percent of infants who are fed infant formula develop an allergy to cow's milk-based infant formulas.

- The type of iron contained in human milk is very well-absorbed by the infant. Approximately 50% of the iron from breastmilk is absorbed by the infant, as compared to a much smaller proportion that is absorbed from iron-fortified infant formula and other foods, such as infant cereals. Because of this efficient absorption of iron from human milk, iron-deficiency anemia is rare among full-term, exclusively breastfed babies. However, the addition of iron-rich foods to the baby's diet at about 6 months of age is desirable to assure an adequate intake of iron in the second half of the first year of life.

More Good News About Human Milk and Breastfeeding

- Human milk contains special substances, such as long-chain fatty acids and hormones which are necessary for proper brain growth and development. Infant formulas do not contain the same fatty acids. About thirty research studies show higher IQs in children who were breastfed when compared to children who were either exclusively formula-fed or received both breastmilk and infant formula.
- Not being breastfed increases the risk of an infant dying of Sudden Infant Death Syndrome (SIDS).
- Exclusive breastfeeding for several months reduces the risk of many chronic diseases such as: juvenile diabetes; certain childhood cancers such as lymphomas and leukemias; and adult-onset diseases such as Crohn's disease and multiple sclerosis. Infant formula feeding appears to increase the risk of many autoimmune diseases both in childhood and adulthood.
- The baby receives psychological and emotional benefits from breastfeeding. The cuddling and close physical contact with the mother is important for the baby in developing feelings of security and trust. A formula-fed baby can also develop a sense of security through abundant, warm physical contact with the parents, but the very nature of breastfeeding requires close physical contact between mother and baby and enhances mother and infant attachment.
- Suckling at the breast is good for the infant's jaw and facial development and encourages the correct oral and facial development. Bottle feeding is associated with an increased risk of malocclusion and "baby bottle tooth decay."
- Since breastfeeding requires no mixing or preparation, it is not subject to preparation error. It requires neither sterilization of bottles nor a sanitary water supply. Breastfeeding is a clean source of food. It is not easily contaminated. Even its "container" is relatively sanitary. Throughout lactation, glands in the areola (the darkly pigmented skin surrounding the nipple) produce an antiseptic secretion which destroys bacteria in the nipple area of the breastfeeding woman. In the event of a natural disaster, the baby will have a safe, sanitary, ready source of food.
- Breastfeeding reduces the risk of lead poisoning for the infant, since the infant will not be exposed to the water that is used to mix infant formula—and this water could possibly be contaminated.

Breastfeeding Is Good for Mothers

- Breastfeeding reduces a woman's risk of pre-menopausal breast cancer and ovarian cancer. The risk of pre-menopausal breast cancer appears to decrease with the increasing duration of breastfeeding experiences women have during their lifetime. Additionally, **breastfeeding at a younger age (20 years or less) for several months is associated with a significant reduction in risk.** This is another important reason to encourage younger mothers to breastfeed!



- Exclusive breastfeeding (which must include night feeds) usually delays the return of ovulation and menstruation for several months. This allows the new mother some time to replenish her iron stores that were depleted during pregnancy, reduces the risk of anemia, and reduces her fertility. If the client is interested in using exclusive breastfeeding as a method of child spacing or initial family planning, called the Lactational Amenorrhea Method, refer her to the breastfeeding coordinator in your local agency who can give her more information on this subject. Mothers who have religious or cultural taboos against artificial birth control methods may be particularly interested in learning more about the Lactational Amenorrhea Method of child spacing.



Note: Be sure to inform your clients that a **backup method** of family planning should be used during breastfeeding if they want to further reduce the risk of another pregnancy.

- A very close bond may be formed between a breastfeeding mother and her breastfeeding baby. This special bond not only promotes feelings of closeness and warmth, but also helps ease the transition into motherhood.
- Most breastfeeding mothers find “feeding time” to be physically and emotionally enjoyable. Many mothers become very relaxed when breastfeeding. One of the reasons for this is due to the hormone prolactin, which is present at elevated levels in breastfeeding women. Prolactin is often referred to as the “mothering” hormone. Prolactin can help a mother feel more loving and protective towards her baby.
- Breastfeeding may also help a mother regain her figure sooner. The process of lactation causes the uterus to shrink rapidly to its pre-pregnancy size due to the hormonal activity that occurs in a breastfeeding mother. Breastfeeding *may* also help a mother lose some fat that was stored during pregnancy, especially when she continues nursing for three to six months postpartum. Of course, a balance of healthy eating and being physically active are still the most important factors in weight loss! (See Part 2: Nutrition Needs of the Breastfeeding Woman, contained in this module, for more information about this issue.) It should be noted, however, that not all breastfeeding mothers will return to their pre-pregnancy shapes and weights while breastfeeding.

- Breastfeeding is convenient *once lactation is well established*. It requires no special trips to the supermarket, no preparation, and no washing bottles. Many breastfeeding women appreciate the ease with which they can feed at night. Traveling with the breastfeeding infant is easier, too. Breastfeeding enables women to be self-sufficient.
- Breastfed infants smell better! The bowel movements and the milk, that is sometimes spit up by the breastfed baby have a mild and/or inoffensive odor when compared to a bottle fed baby.
- Since breastfeeding plays a significant role in preventing illness in the infant, it is very likely that health care costs for the infant will be substantially less than if that infant was formula fed. Mothers will probably spend a lot less time walking the floors with a sick baby and waiting in clinics to see the health care provider!
- Breastfeeding may save a significant amount of money in the first year of life.



This begins a series of Self-Check Questions that occur throughout this module. The Self-Checks are contained in the “Workbook for the Breastfeeding Module.”

*Each time you come to a Self-Check assignment in this module (highlighted with the breastfeeding logo—see above), go to your Workbook and complete the assigned Breastfeeding Self-Check Questions right away. Record your answers directly in your Workbook. **Please do not write in this book!***

After completing each assigned set of Self-Check Questions in your Workbook, you should immediately correct your responses by using the “Answer Key to the Self-Check Questions” that is also contained in the Workbook for the Breastfeeding Module.

✍ GO TO the Workbook for the Breastfeeding Module and complete Self-Check Questions 1–13 right now.

After completing Questions 1–13 , immediately check your answers against the Answer Key to the Self-Check Questions (contained in your workbook) before proceeding to the next section of the module.

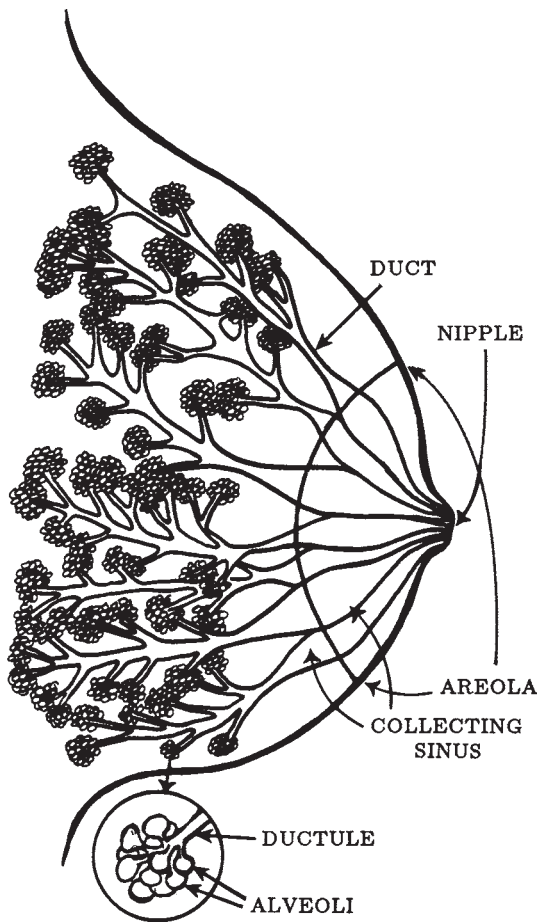
Follow this procedure for all the Self-Checks.

The Physiology of Lactation

This section presents information about how lactation (breastfeeding) actually works. The following topics will be discussed: the structure and function of the breasts; colostrum and milk production; suckling stimulation; and the milk ejection reflex (MER). It is very important for you, the staff member, to have a good understanding of this information so that you can provide nutrition education and counseling to your breastfeeding clients more effectively.

Structure and Function of the Breasts

The breast is a unique organ. It is an individual gland (also called the *mammary gland*) which extracts materials from the blood and converts them into milk. A brief definition of some of its important parts follows:



Nipple—This is the protruding part of the breast and is the part the baby can grasp easily. It is flexible and contains nerve endings which trigger both the production and the release of milk. Each nipple has 15 to 25 nipple pores, which enable the milk to flow to the baby.

Areola—This is the dark circular area around the nipple. It covers the milk collection tissues, so the baby should enclose a large portion of the areola when feeding. This way, the baby's gums will squeeze the milk out of these tissues.

Alveoli—These are the cells inside the breast which produce the milk. They are surrounded by lots of capillaries (very small blood vessels). The blood in the capillaries is rich in nutrients. Alveoli select the ingredients from this blood to make milk.

Milk-transporting tissue—This is a system of ductules, ducts, collecting sinuses, and nipple pores. There are 15 to 25 duct systems in the mature adult breast. They function by transporting the milk from the alveoli and ultimately emptying it into the corresponding nipple pores, which are the tiny openings in the nipple.

Colostrum Production

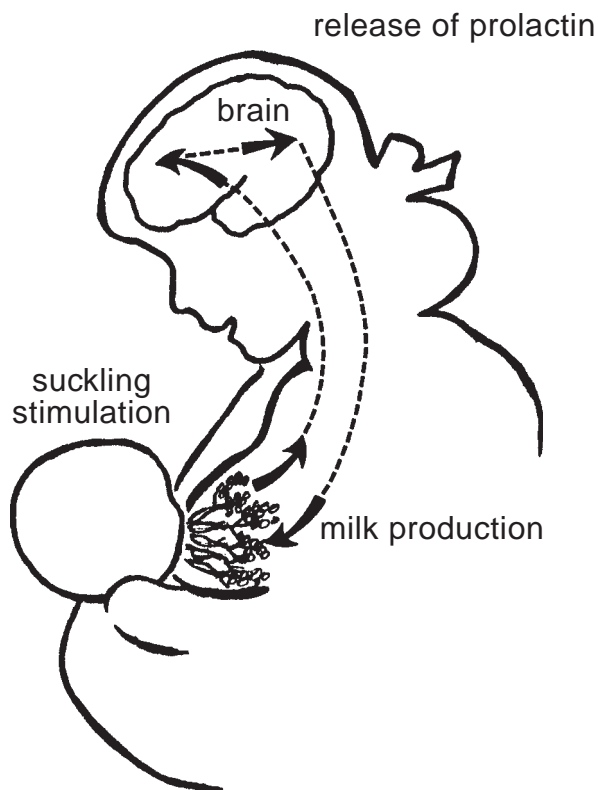
Colostrum is the first milk produced in the breast. It is a semi-transparent, thick, sticky liquid, pale to deep yellow in color. It is made up of a special combination of nutrients and immunological factors which perfectly meet the nutritional and immunological needs of the newborn infant. Antibodies in the colostrum are particularly high during the first two hours after birth. In fact, colostrum is often referred to as the baby's first immunization! Colostrum is all that the normal, full-term baby needs for nourishment in the first few days after birth. Colostrum also acts as a laxative and helps the baby to get rid of meconium faster.

Mechanisms for Successful Breastfeeding

Successful lactation involves two mechanisms: the suckling (sucking at the breast) stimulation and the milk ejection reflex.

Milk Production and Suckling Stimulation

The stimulus for the start of active milk production is the hormone *prolactin*. Although prolactin levels rise steadily throughout pregnancy, lactation before delivery is prevented by the high levels of the hormones estrogen and progesterone. Immediately after delivery, however, the estrogen and progesterone levels fall and prolactin levels rise, which results in the production and secretion of milk.



If breastfeeding does not take place, the prolactin level will decrease to non-breastfeeding levels within approximately two to three weeks after delivery. When breastfeeding is started, the baby's frequent suckling stimulation will cause prolactin levels to rise sharply, thus stimulating milk production. As suckling increases, more milk is produced. This is the concept of "supply and demand" with regard to milk production, i.e., the more often the baby breastfeeds, the more breastmilk is produced.

Women who breastfeed 8 or more times per 24 hours have much higher prolactin levels than those women who nurse less frequently. Also, maternal prolactin levels are highest at night. It is critical that mothers not skip night feeds in the early postpartum period.

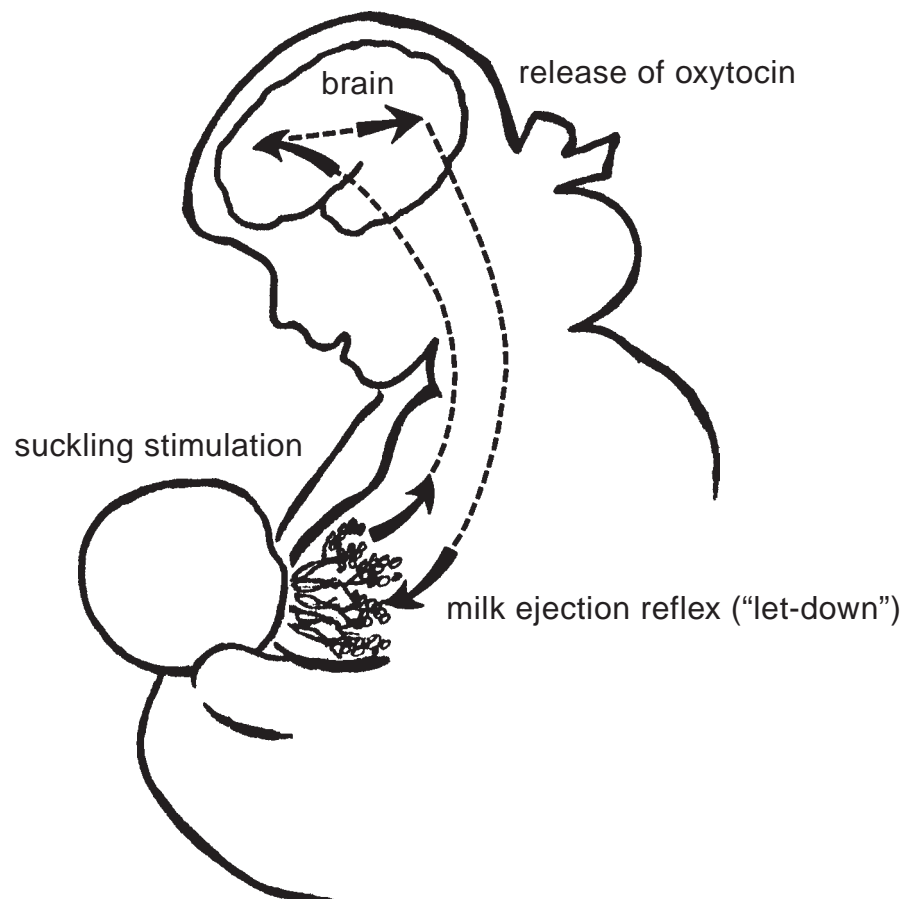
Milk Ejection Reflex (MER)

The milk ejection reflex (sometimes referred to as the let-down reflex) is a reflex that causes the milk-producing cells in the breast to release the milk they have made.

This milk ejection reflex is important because it is during this reflex that the baby receives the breastmilk that has been produced and stored in the alveoli between feedings. If this reflex is inhibited, the infant will receive only the small quantity of milk that was stored in the collecting sinuses. In fact, if the milk ejection reflex is inhibited for an extended period, then an infant will not be able to consume adequate amounts of milk to meet his caloric needs.

Here is what happens during the milk ejection reflex:

- The baby sucks and stimulates the nipple, which causes the hormone oxytocin to be released.
- The oxytocin causes the muscle layer around each milk-producing cell (alveolus) to contract.
- This contraction pushes the rich milk down the ducts, through the collecting sinuses, and out of the nipple pores, where it is readily withdrawn by the baby.



Shortly after the mother starts breastfeeding, she *may* actually feel this milk ejection reflex by experiencing a tingling sensation, a “pins and needles” sensation, or a tightening or slight pain which may last for a few seconds; or, she may have no sensation or feeling at all. (During one breastfeeding session, there are several “let-downs,” but it is the first one that is usually felt most strongly by the mother.) Another sign that the reflex has occurred is when the mother actually hears the gulping or swallowing sounds of her breastfeeding baby. Also, in the first few days after birth she should feel uterine cramping as the milk ejection reflex occurs.

Oxytocin release and the milk ejection reflex are sometimes sensitive to psychological factors. Milk ejection can be triggered, for example, by the sound of a baby’s hungry cry, or when the mother picks up her baby to nurse. During the early weeks of breastfeeding, some mothers may experience leaking of their breastmilk between feedings, which can be caused by the milk ejection reflex or going too long between feeds. To control leaking caused by this reflex, the mother can press the palm of her hand to her nipple or can cross her arms and press against the nipple.

Psychological Factors and the Milk Ejection Reflex

Since oxytocin release and the milk ejection reflex can sometimes be sensitive to psychological factors, it is important to give support and encouragement to the breastfeeding mother. Encourage her to breastfeed in a quiet, unstressed environment, if possible, especially in the first couple of weeks postpartum. Setting up a special “breastfeeding corner or station” and having a breastfeeding “routine” may help. A comfortable armchair, pillows, and a pitcher with water or juice to drink can help her establish her “let-down.”

Encourage her to seek help with the household chores; help her feel confident in her role as a breastfeeding mother; and provide her with the information she needs. However, also remember that women have successfully breastfed their babies under extremely stressful circumstances, e.g., wartime conditions, natural disasters, etc. So, beware of the myth that women must have an “easy” life to breastfeed successfully!

Getting Help and Encouragement

Your support, as well as support from the rest of the health care team, has become increasingly important for successful lactation over the past few generations. In the past, when many women lived in an extended family setting, there were numerous breastfeeding role models for the new mother to follow and to go to for support and advice. In these present times, however, women need considerable help and instruction from outside sources. Her health care providers are often the people she turns to for information and reassurance. You may be the only person reassuring her that breastfeeding is important and that she's doing a good job at it!



Artwork courtesy of Childbirth Graphics, A Division of WRS Group, Ltd. ©1991



**Self-
Check**



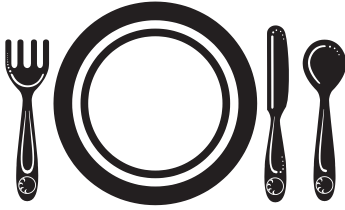
**Breastfeeding
Module**

✍ **GO TO** the Workbook for the Breastfeeding Module and complete Self-Check Questions 14–18 right now. Then, immediately check your answers against the Answer Key to the Self-Check Questions (contained in your workbook) before proceeding to the next section of the module.



Part 2: Nutrition Needs of the Breastfeeding Woman¹

Healthy Eating While Breastfeeding



Healthy eating habits while breastfeeding are important primarily for the well-being and health of the mother. During her pregnancy, some of her nutrient stores were depleted, so a well-balanced diet for *any* postpartum woman is needed to replenish those nutrient stores. For the postpartum woman who is breastfeeding, a healthy diet is important to ensure that she has the energy (calories) necessary for milk production.

The breastfeeding woman who does not have a well-balanced diet and does not take in enough calories may experience increased fatigue, have less energy, and be vulnerable to illness (especially mastitis). Thus, it is important for you, the staff member, to inform the breastfeeding mother about the positive relationship between a well-balanced diet—which contains sufficient calories—and her health status and sense of well-being.

However, mother nature appears to protect maternal milk supply and quality *even when* the mother has an inadequate diet. But, if a mother is *chronically*, extremely malnourished, the quantity of the breastmilk she produces may slightly decrease and some nutrient levels may be affected.

It is important to know that the breastfeeding woman needs energy, or calories, to make milk. Some of the additional calories needed for lactation are supplied by the mother's fat stores that were deposited during pregnancy. The other additional calories needed for lactation must come from her diet. Because breastfeeding women's body sizes and activity levels are different, there is not one ideal calorie intake level for all breastfeeding women.

According to the 1989 Recommended Dietary Allowance (RDA) for energy, an additional average allowance of 500 calories per day is recommended for the breastfeeding woman (i.e., 500 more calories per day than the woman's pre-pregnancy requirement). This recommended allowance is based on the assumption that the woman gained an adequate amount of weight during pregnancy. Women who did not gain the proper amount of weight during pregnancy, or who are underweight during lactation, are advised to consume 650 extra calories per day, above their pre-pregnancy caloric needs (per the 1989 RDAs). Women who are very active or are breastfeeding multiples (e.g., twins, triplets) also need additional calories.

1. The nutrition recommendations for the lactating woman given in this section are based on *Nutrition During Lactation*, the Subcommittee on Nutrition During Lactation, Committee on Nutritional Status During Pregnancy and Lactation, Food and Nutrition Board, Institute of Medicine, National Academy of Sciences, 1991.

Along with the possible need to increase caloric requirements, there are increases in other nutritional requirements for the mother. In particular, calcium, magnesium, zinc, folate, and vitamin B-6 needs increase during lactation. See Figure 1 for a comparison of the Dietary Reference Intakes for breastfeeding women and non-breastfeeding, postpartum women.

See the following section for detailed information about the Food Guide Pyramid, and how the Food Guide Pyramid can help a lactating woman meet her nutrient needs.

Refer the breastfeeding mother to a nutritionist for further evaluation and counseling in the following circumstances:

- If the client's diet is *very* poor or she appears malnourished (for example, if the woman is very underweight, or her skin is dry and scaly, or she seems listless and fatigued);
- If the client has an eating disorder such as anorexia or bulimia;
- If the client is a vegan (that is, a diet with no animal protein, no eggs, no dairy products); or if she is on a macrobiotic diet. The vegan or woman on a macrobiotic diet may need additional guidance on good sources of vitamin B-12, calcium, vitamin D, protein, and riboflavin.

In these circumstances, the staff member should not imply to the mother that she is not capable of producing a sufficient quantity or quality of breast milk. Breastfeeding women can adequately sustain their babies under many extreme circumstances.

Nutrient Needs of the Breastfeeding Adolescent

It is important to stress to the adolescent (who is still growing) that she *may* need additional calories over and above the 500 extra calories per day which are recommended for the adult breastfeeding woman. The reason for this is because some teens, especially the very young teens, may not yet have completed their own growth and development, so the increased requirements of breastfeeding may compromise their own nutritional status. So while it is very important to help the adolescent plan a nutritious diet, it is sometimes especially necessary to stress the importance of increasing her daily food and liquid intake. Always remember to present this nutritional information in a “user friendly” fashion and keep it simple!

New Research about Energy Needs for the Breastfeeding Woman

Recent research has indicated that the energy (caloric) needs of most lactating women may have been *overestimated* and that the current recommendations (of an additional 500 calories per day) for breastfeeding women may be too high. Research indicates that lactation is associated with an increase in a mother's ability to use energy more efficiently. Also, there is often decreased physical activity in the early postpartum period. This research points to a need for *lesser amounts of additional calories* than are currently being recommended.

The bottom line is, each woman's caloric needs should be evaluated individually by the nutritionist.

Figure 1. **Dietary Reference Intakes (DRIs) for Breastfeeding & Non-breastfeeding Women¹**

Note: Values for vitamins and minerals are for women 14 to 50 years of age. In some cases, the value for 14- to 18-year-olds differs from the value for older women. When this is the case, the value for 14- to 18-year-olds is provided in brackets.

	<i>Breastfeeding</i>	<i>Non-breastfeeding</i>	<i>Source of Data</i>
Protein	62 to 65 g	46 to 50 g	1989 RDA
Fat-Soluble Vitamins			
Vitamin A	1,300 µg [1,200 µg] ²	700 µg ²	2001 RDA
Vitamin D	5 µg ^{3,4}	5 µg ^{3,4}	1998 AI
Vitamin E	19 mg ⁵	15 mg ⁵	2000 RDA
Vitamin K	90 µg [75 µg]	90 µg	2001 AI
Water-Soluble Vitamins and Choline			
Vitamin C	120 mg [115 mg]	75 mg [65 mg]	2000 RDA
Thiamin	1.4 mg	1.1 mg [1.0 mg]	2000 RDA
Riboflavin	1.6 mg	1.1 mg [1.0 mg]	2000 RDA
Niacin	17 mg ⁶	14 mg ⁶	2000 RDA
Vitamin B ₆	2.0 mg	1.3 mg [1.2 mg]	1998 RDA
Folate	500 µg ⁷	400 µg ⁷	1998 RDA
Vitamin B ₁₂	2.8 µg	2.4 µg	1998 RDA
Pantothenic Acid	7 mg	5 mg	1998 AI
Biotin	35 µg	30 µg [25 µg]	1998 AI
Choline	550 mg	425 mg [400 mg]	1998 AI
Minerals			
Calcium	1,000 mg [1,300 mg]	1,000 mg [1,300 mg]	1998 AI
Phosphorus	700 mg [1,250 mg]	700 mg [1,250 mg]	1998 RDA
Magnesium	310-320 mg [360 mg]	310-320 mg [360 mg]	1998 RDA
Iron	9 mg [10 mg]	18 mg [15 mg]	2001 RDA
Zinc	12 mg [14 mg]	8 mg [9 mg]	2001 RDA
Iodine	290 µg	150 µg	2001 RDA
Selenium	70 µg	55 µg	2000 RDA
Fluoride	3 mg	3 mg	1998 AI
Molybdenum	50 µg	45 µg [43 µg]	2001 RDA
Manganese	2.6 mg	1.8 mg [1.6 mg]	2001 AI
Chromium	45 µg [44 µg]	25 µg [24 µg]	2001 AI
Copper	1,300 µg	900 µg [890 µg]	2001 RDA

1. Source of data: National Academy of Sciences, National Academy Press, Washington, DC.

2. Retinol activity equivalents (RAE). 1 RAE = 1 µg retinol, 12 µg β-carotene, 24 µg α-carotene, or 24 µg β-cryptoxanthin in foods. To calculate RAEs from REs of provitamin A carotenoids in foods, divide the REs by 2. For preformed vitamin A in foods and for provitamin A carotenoids in supplements, 1 RE = 1 RAE.

3. Cholecalciferol. 1 µg cholecalciferol = 40 International Units (IU) of vitamin D.

4. In the absence of adequate exposure to sunlight.

5. As α-tocopherol.

6. Niacin equivalents. 1 mg niacin = 60 mg tryptophan.

7. Dietary folate equivalents (DFE). 1 DFE = 1 µg food folate = 0.6 µg folic acid (from fortified food or supplement) consumed with food = 0.5 µg synthetic (supplemental) folic acid taken on an empty stomach. It is recommended that all women capable of becoming pregnant consume 400 µg folic acid from supplements or fortified foods in addition to intake of food folate from a varied diet.

The Food Guide Pyramid

One way to help breastfeeding women choose diets that are nutritionally adequate is to introduce them to the Food Guide Pyramid. The Food Guide Pyramid is an outline of what to eat each day. It includes recommendations about the number of servings and serving sizes for each of the major food groups that people should consume each day. Recommendations are based on a person's age, sex, size, and activity level and also address the needs of breastfeeding women. The Food Guide Pyramid was developed to help people improve their current eating practices and to encourage them to make the best food choices.

Take a few minutes to study the Food Guide Pyramid in Figure 2, along with the information on that page.

Note that there are five major food groups:

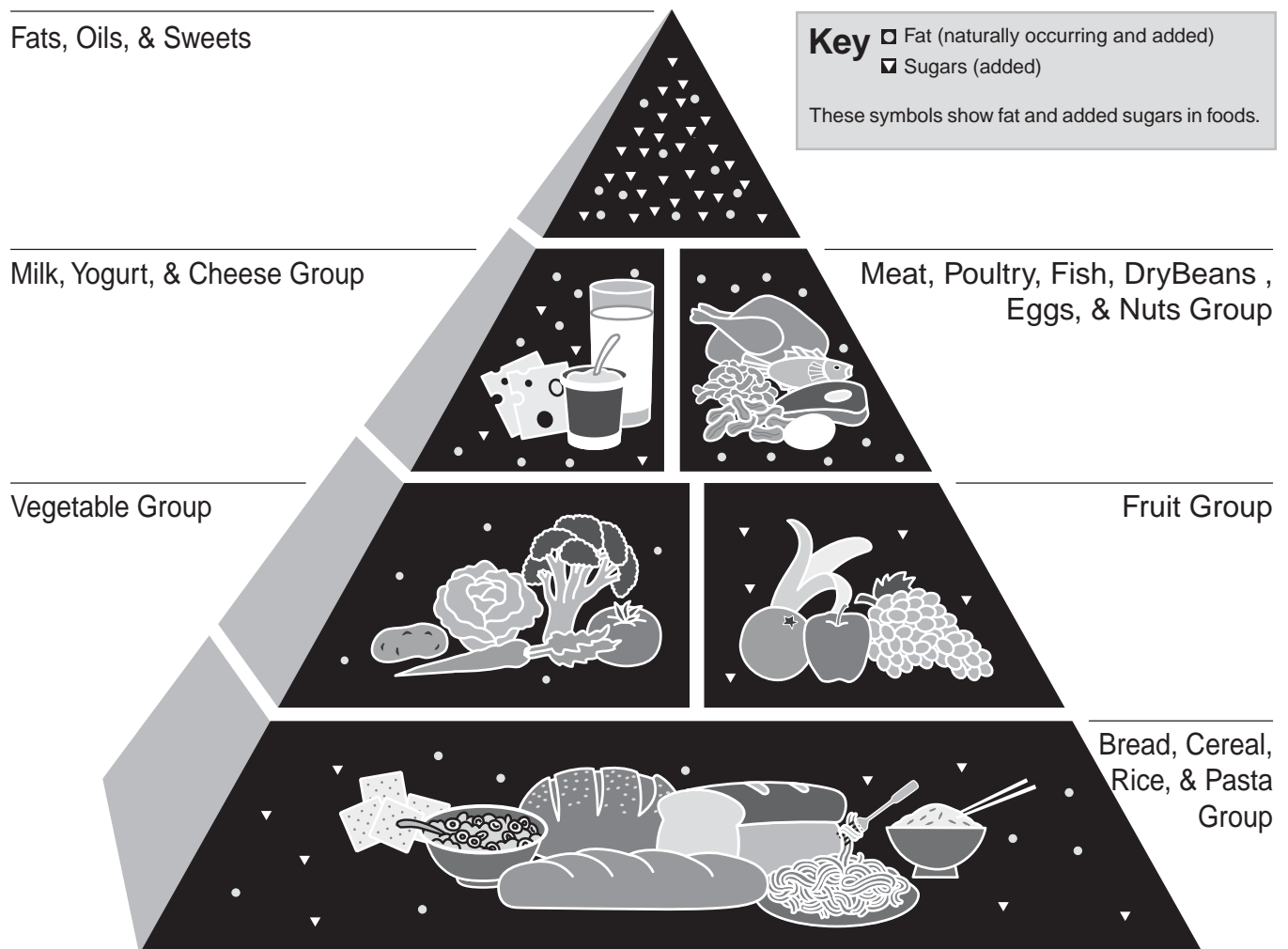
Milk, Yogurt, & Cheese Group	The foods in this group come from animals. These foods are important sources of protein, calcium, and some vitamins.
Meat, Poultry, Fish, Dry Beans, Eggs, & Nuts Group	The foods in this group come from animals and some plants. These foods are important sources of protein, iron, zinc, and some vitamins.
Vegetable Group Fruit Group	The foods in these two groups come from plants. Most people need to eat more of these foods for the vitamins, minerals, fiber, and other protective substances they supply.
Bread, Cereal, Rice, & Pasta Group	The foods in this group are from grains. Individuals need the most servings of these foods each day. These foods are important sources of B vitamins, iron, energy, and fiber.

- Each of the food groups provides some, but not all, of the nutrients a breastfeeding woman needs. Foods in one food group do not replace those in another. No one food group is more important than another—for good health, all are needed.
- The small tip of the Pyramid shows Fats, Oils, & Sweets. These foods provide calories and little else nutritionally. See the box on page 33, *A Closer Look at Fat and Added Sugars*, for more detailed information.
- The Food Guide Pyramid is a general outline of what a person should eat each day. It is not a rigid prescription, but provides general recommendations for choosing a healthy diet. Refer to Figure 3 for *A Guide to Daily Food Choices for Breastfeeding Women Based on the Food Guide Pyramid Recommendations*.

Figure 2.

Food Guide Pyramid

- The Food Guide Pyramid should be used to help a person eat better every day.
- Each of the food groups provides some, but not all, of the nutrients a person needs.
- Foods in one group can't replace those in another.
- No one food group is more important than another—for good health, all are needed.
- The Food Guide Pyramid is a general outline of what a person should eat each day. It is not a rigid prescription, but presents general recommendations for choosing a healthy diet.



Source: U.S. Department of Agriculture/U.S. Department of Health and Human Services

Figure 3. **A Guide To Daily Food Choices for Breastfeeding Women**
Based on the Food Guide Pyramid Recommendations¹

Food Groups & What Counts as One Serving	Number of Servings per Day						
<p>Meat, Poultry, Fish, Dry Beans, Eggs, & Nuts Group 2 to 3 oz of cooked lean meat, poultry, or fish (3 oz of cooked meat is about the size of a deck of cards.)</p> <div data-bbox="259 604 966 751"> <p>These foods count as 1 oz of cooked lean meat:</p> <table> <tr> <td>1 egg</td><td>1/4 cup tuna fish</td></tr> <tr> <td>2 tablespoons peanut butter</td><td>1/3 cup nuts</td></tr> <tr> <td>1/2 cup cooked dry beans or peas</td><td></td></tr> </table> </div>	1 egg	1/4 cup tuna fish	2 tablespoons peanut butter	1/3 cup nuts	1/2 cup cooked dry beans or peas		<p>2 to 3 (for a total of 6 to 7 oz daily)</p>
1 egg	1/4 cup tuna fish						
2 tablespoons peanut butter	1/3 cup nuts						
1/2 cup cooked dry beans or peas							
<p>Milk, Yogurt, & Cheese Group</p> <table> <tr> <td>1 cup milk (8 oz): <i>fat free, lowfat, reduced fat, or whole</i></td><td>1 1/2 oz natural cheese 2 oz processed cheese 1 1/2 cups ice cream, ice milk, or frozen yogurt</td></tr> <tr> <td>1 cup yogurt</td><td>2 cups cottage cheese</td></tr> <tr> <td>1 cup pudding</td><td></td></tr> </table>	1 cup milk (8 oz): <i>fat free, lowfat, reduced fat, or whole</i>	1 1/2 oz natural cheese 2 oz processed cheese 1 1/2 cups ice cream, ice milk, or frozen yogurt	1 cup yogurt	2 cups cottage cheese	1 cup pudding		<p>3 to 4 (Women ages 19 to 50 need about 3 servings daily. Teens and women over 50 need about 4 servings daily.)</p>
1 cup milk (8 oz): <i>fat free, lowfat, reduced fat, or whole</i>	1 1/2 oz natural cheese 2 oz processed cheese 1 1/2 cups ice cream, ice milk, or frozen yogurt						
1 cup yogurt	2 cups cottage cheese						
1 cup pudding							
<p>Fruit Group² 1 medium piece of fruit 1/2 cup cooked or canned fruit 3/4 cup (6 oz) fruit juice 1/4 cup dried fruit</p>	<p>3 to 4</p>						
<p>Vegetable Group² 1/2 cup cooked vegetables or chopped raw vegetables 1 cup raw leafy vegetables 3/4 cup (6 oz) vegetable juice 1/2 cup potatoes (scaloped, mashed, or potato salad)</p>	<p>4 to 5</p>						
<p>Bread, Cereal, Rice, & Pasta Group</p> <table> <tr> <td>1 slice bread 1/2 hamburger bun, bagel, or English muffin 1/2 cup cooked cereal, rice, pasta, or grits 3/4 cup (or 1 oz) ready-to-eat cereal</td><td>1 medium muffin (for example: bran or corn) 1 tortilla (6") 1 waffle or pancake (4") 3 to 4 small plain crackers 3 cups popcorn 3/4 oz pretzels</td></tr> </table>	1 slice bread 1/2 hamburger bun, bagel, or English muffin 1/2 cup cooked cereal, rice, pasta, or grits 3/4 cup (or 1 oz) ready-to-eat cereal	1 medium muffin (for example: bran or corn) 1 tortilla (6") 1 waffle or pancake (4") 3 to 4 small plain crackers 3 cups popcorn 3/4 oz pretzels	<p>9 to 11</p>				
1 slice bread 1/2 hamburger bun, bagel, or English muffin 1/2 cup cooked cereal, rice, pasta, or grits 3/4 cup (or 1 oz) ready-to-eat cereal	1 medium muffin (for example: bran or corn) 1 tortilla (6") 1 waffle or pancake (4") 3 to 4 small plain crackers 3 cups popcorn 3/4 oz pretzels						

Footnotes for this figure are located at the top of page 33.

Footnotes for Figure 3

1. This is a *general* guide—for breastfeeding women of all ages—to the number of servings needed per day and what counts as one serving. The number of servings needed by some breastfeeding women may be different from those indicated in Figure 3 due to individual nutrient and caloric needs. More specific and individualized counseling recommendations should be provided by the nutritionist.
2. See Figure 4 for fruits and vegetables that are excellent and/or good sources of vitamin A and vitamin C, as well as “other” fruits and vegetables.

Additional Points About the Food Guide Pyramid

- Remember to keep nutrition information simple. The one basic rule to emphasize with all your clients is: Eat a variety of foods from the Pyramid, because a variety of foods means a variety of nutrients. **Refer to Figure 5: Sample Meal Plans, which uses the recommendations from the Food Guide Pyramid and translates this information into useful and nutritious menus for the client. This figure is shown on pages 35 to 36.**
- Snacks, if chosen wisely, can play an important role in the diet of a breastfeeding woman. In fact, suggest to the woman that she should sometimes have a nutritious, low fat snack *while breastfeeding her baby*, because eating while breastfeeding has been shown to trigger hormones that can increase milk production. Some examples of nutritious snacks that can be added to a mother’s daily meal plan can be found in Figure 5.
- If a woman is eating the lowest number of recommended servings shown in Figure 3, she will consume about 2,200 calories. If she is eating the highest number of recommended servings shown in Figure 3, she will consume about 2,800 calories. Caloric intakes below 1,800 calories are *not* recommended at any time *during lactation*. Remember to stress to the client that if she simply follows her body’s lead by eating “to appetite” and drinking “to thirst,” and if she chooses her foods wisely, she will generally be getting enough calories and be consuming an adequate diet.

A Closer Look at Fat and Added Sugars

The small tip of the Pyramid shows Fats, Oils, & Sweets (see Figure 2). These foods provide calories but few vitamins and minerals. These foods include: salad dressings, oils, mayonnaise, cream cheese, cream, sour cream, butter, margarine, snack chips, sugars, jellies, syrups, sodas, fruit drinks, candies, and sweet desserts. It is best for most people to limit intake of these foods. However, since adequate caloric intake is so important while breastfeeding, advice regarding intake of fats and sweets must be individualized, according to the needs of the client; this advice should be provided only by the nutritionist or health care provider. Breastfeeding women who are underweight may need to eat some additional amounts of these foods.

Figure 4. **Fruits and Vegetables for Breastfeeding Women¹**

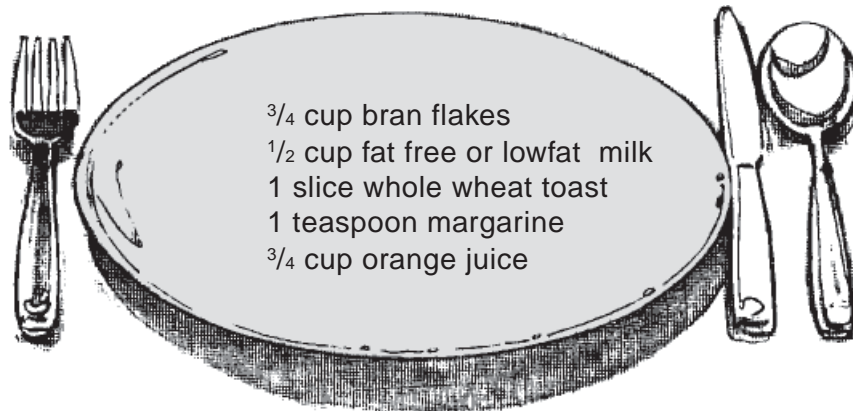
Fruits and Vegetables		Recommended # Servings
<div>Excellent Sources of Vitamin A</div> <div>One serving contains 80% to 100% of the 2001 RDA for vitamin A for breastfeeding women.</div> <div> <div>1 sweet potato with skin</div> <div>1 raw carrot</div> </div>	<div>2 or more per day</div> <div>Try to select excellent and good sources frequently.</div>	
<div>Good Sources of Vitamin A</div> <div>One serving contains 15% to 35% of the 2001 RDA for vitamin A for breastfeeding women.</div> <div> <div> <div>1/4 cup canned pumpkin</div> <div>1 raw mango</div> <div>1/2 cup cooked spinach</div> <div>1/2 cup cooked dandelion greens</div> <div>1 cup raw cantaloupe pieces</div> <div>1/2 cup cooked collards</div> </div> <div> <div>1/2 cup cooked kale</div> <div>1/2 cup cooked hubbard squash</div> <div>1/2 cup cooked butternut squash</div> <div>1/2 cup cooked turnip greens</div> <div>1/2 cup cooked beet greens</div> </div> </div>		
<div>Fair Sources of Vitamin A</div> <div>One serving contains 8% to under 15% of the 2001 RDA for vitamin A for breastfeeding women.</div> <div> <div> <div>1/2 cup cooked swiss chard</div> <div>1/2 cup shredded bok choy</div> <div>3/4 cup vegetable juice</div> <div>1/2 cup cooked mustard greens</div> </div> <div> <div>1 medium apricot</div> <div>1/2 cup cooked broccoli</div> <div>1/4 cup tomato paste</div> </div> </div>		
<div>Excellent Sources of Vitamin C</div> <div>One serving contains at least 50% to 100% of the 2000 RDA for vitamin C for breastfeeding women.</div> <div> <div> <div>broccoli</div> <div>brussels sprouts</div> <div>cantaloupe</div> <div>chili peppers</div> <div>grapefruit, pink & red</div> </div> <div> <div>guava</div> <div>kiwi</div> <div>mango</div> <div>orange</div> <div>papaya</div> </div> <div> <div>strawberries</div> <div>sweet peppers, green & yellow</div> <div>sweet potato (canned)</div> <div>vitamin C-enriched juices</div> <div>orange/grapefruit juice</div> </div> </div>		<div>1 to 2 or more per day</div>
<div>Other Fruits and Vegetables</div> <div> <div> <div>apple</div> <div>avocado</div> <div>banana</div> <div>bean sprouts</div> <div>beets</div> <div>cabbage</div> <div>cauliflower</div> <div>celery</div> <div>cherries</div> <div>corn</div> <div>cucumber</div> <div>eggplant</div> <div>grapes, raisins</div> </div> <div> <div>green beans</div> <div>juices (that are not on Vitamin C list)</div> <div>lettuce</div> <div>malanga (tanier)</div> <div>mushrooms</div> <div>nectarine</div> <div>okra</div> <div>onion</div> <div>peach</div> <div>pears</div> <div>peas</div> <div>pineapple</div> </div> <div> <div>plantain</div> <div>plums, prunes</div> <div>potato</div> <div>squash—summer varieties including</div> <div>zucchini</div> <div>tangerine</div> <div>tomatoes</div> <div>turnip</div> <div>water chestnuts</div> <div>watermelon</div> <div>yam (taro)</div> <div>yuca (cassava)</div> </div> </div>		<div>Eat each day for variety.</div>

1. Source of data: Pennington, JAT. *Bowes and Church's Food Values of Portions Commonly Used*. 17th ed. Philadelphia: Lippincott-Raven Publishers; 1998 and *Dietary Reference Intakes* for vitamin A and vitamin C.

Figure 5. Sample Meal Plans

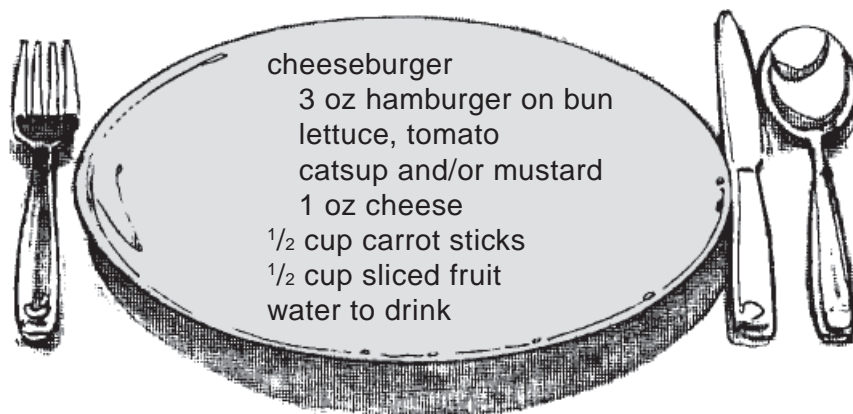
Note: The following meal plans, which include snacks, were developed using the information from Figure 3 of this module, "A Guide to Daily Food Choices for Breastfeeding Women," which is based on the Food Guide Pyramid recommendations. These menus contain approximately 2,200 calories per day.

Breakfast:



Snack:

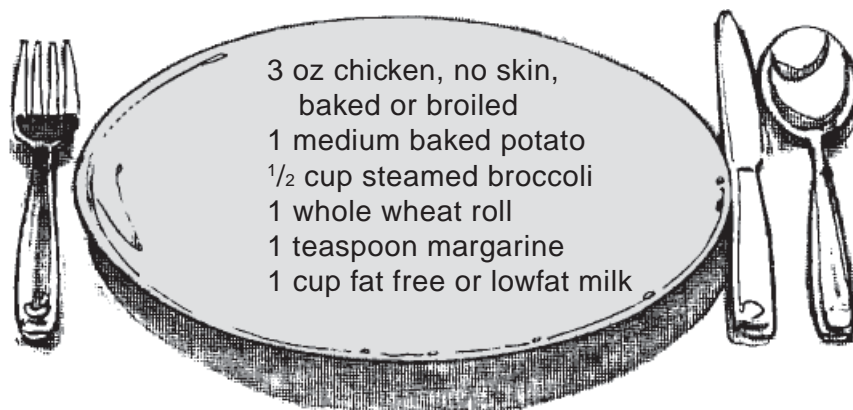
1 medium banana
2 graham crackers



Snack:

1 cup fat free or lowfat milk
1 oatmeal cookie

Dinner:



Snack:

1 English muffin with 2 teaspoons fruit jelly
water to drink

Note: Vegetarian and vegan meal plans are shown on the next page.

Figure 5. **Sample Meal Plans (continued)**

Lacto-Ovo-Vegetarian

Breakfast:

1 cup toasted oats cereal
1/2 cup fat free or 1% milk
1 slice whole wheat toast
1 teaspoon margarine
3/4 cup orange juice

Snack:

1 medium banana

Lunch:

veggie burger
on whole grain bun
1/2 cup carrot sticks
1 cup vegetable barley soup
1 cup fat free or 1% milk

Snack:

1 hard boiled egg
6 saltine crackers
3/4 cup vegetable juice

Dinner:

1 cup cooked black beans
1 cup cooked rice
1 cup romaine salad
tomato, cucumber
1 tablespoon low fat dressing
1 whole wheat roll
1 teaspoon margarine
1 cup fat free or 1% milk

Snack:

milkshake
1/2 cup fat free or 1% milk
1/2 cup berries
4 graham crackers

Vegan

Breakfast:

1/2 cup scrambled tofu
1/2 cup nonfat soymilk
2 slices whole wheat toast
2 teaspoons fruit jelly
3/4 cup orange juice

Snack:

1 apple
10 animal crackers

Lunch:

veggie burger
on whole grain bun
1/2 cup carrot sticks
1 cup vegetable barley soup
1 cup nonfat soymilk

Snack:

2 tablespoons peanut butter
6 saltine crackers
water to drink

Dinner:

bean burrito
1/2 cup refried pinto beans
1 flour tortilla
salsa, lettuce, tomato
1/2 cup Spanish rice
1 cup steamed collard
greens
1 cup nonfat soymilk

Snack:

soymilk shake
1/2 cup soymilk
1/2 cup berries
4 graham crackers

Other Nutritional Considerations

Breastfeeding and Weight Loss

Most women, and especially teens, want to get back to their pre-pregnancy weight as soon as possible. Some may even want to go on “crash” diets or will adopt unhealthy eating patterns in order to lose weight. Going on a strict weight loss diet should definitely be discouraged while breastfeeding. Instead, healthy eating should be emphasized. Significant, rapid weight loss or severe caloric restriction could interfere with a successful breastfeeding experience, and may prevent the mother from satisfying her own increased nutrient needs.

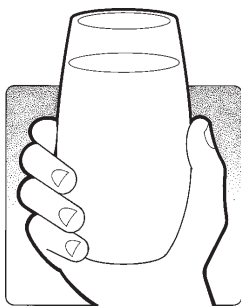
However, current research findings suggest that successful breastfeeding can be combined with a *gradual* weight reduction program. After lactation is well established (usually at least six weeks after delivery), gradual weight reduction—through modest caloric restriction—probably will not hamper milk production among well-nourished women. A caloric intake of *at least* 1800 calories per day is recommended.



You can reassure mothers, who are concerned about losing weight, that breastfeeding can actually contribute to the loss of some of the fat that was stored during pregnancy. Some studies have linked breastfeeding—when it is done very frequently and for several months—to increased maternal weight loss. The average rate of weight loss for breastfeeding women is about 1 to 2 pounds per month after the first month postpartum.

When counseling these women, remind them to eat a balanced, nutritious, lowfat diet that includes foods such as lowfat or fat free milk and yogurt. In addition, tell them that regular physical activity, such as walking, can facilitate weight loss (regular physical activity does not affect milk production). If an overweight woman desires to practice more severe caloric restrictions, she should be referred to her health care provider and the nutritionist for counseling. Rapid weight loss (greater than 4½ pounds per month) is not advised for any breastfeeding woman.

Fluid Intake



Most breastfeeding women have an increased thirst. They should listen to their bodies and drink enough to satisfy themselves (i.e., drink “to thirst”). Having a drink of water, milk, or fruit juice while the baby is breastfeeding is a good idea. Caffeine-containing beverages such as coffee, tea, and sodas are not recommended for meeting the mother’s fluid needs because these drinks can have a diuretic effect (causing a frequent need to urinate). This may result in the mother losing more fluid than she consumes. Inadequate fluid intake could lead to dry skin and lips; and to maternal constipation.

Increasing fluids beyond the point of drinking “to thirst” does *not* help a mother increase her milk supply. In fact, *excessive* fluid intake could actually lower a woman’s milk

supply by diluting the milk production hormones in her system. However, when a woman is exercising or is in hot temperatures (without air conditioning), drinking “to thirst” may not be an adequate method for determining her fluid needs. In these cases, the woman should drink extra fluids beyond “thirst.”

Vitamin and Mineral Supplements

Vitamin and mineral supplements do not take the place of eating healthy foods. Multivitamin/mineral preparations usually contain fewer than twenty nutrients, while the human body needs more than forty nutrients daily to stay healthy. The bottom line is, if a woman is consuming a wide variety and sufficient quantity of foods from the Food Guide Pyramid, she does not normally need a vitamin/mineral supplement.



However, because it is important to replenish the body stores of **iron** that were depleted during pregnancy, it is recommended that breastfeeding women increase their intake of high-iron foods. In some cases, a woman’s health care provider may also prescribe an iron supplement of 30 to 60 milligrams daily for 3 months after delivery if her iron levels are very low.

The Dietary Reference Intakes (DRIs) recommend that breastfeeding women take 500 micrograms (abbreviated mcg or μg) of **folic acid** per day and all other women capable of becoming pregnant consume 400 μg of synthetic folic acid from fortified foods and/or supplements *in addition to* intake of food folate from a varied diet in order to decrease the risk of a baby being born with a neural tube defect (NTD)—a birth defect of the spine and brain such as spina bifida or “open spine.” Folic acid, if it is consumed prenatally and during the early weeks of pregnancy, can help to protect a baby against a NTD. However, it is difficult to get enough folic acid through diet alone. So, a woman’s health care provider may advise her to take a daily multivitamin supplement which contains the necessary amount of folic acid. Refer to the “Folic Acid” section of the *Prenatal Nutrition Module* for more information on this topic.

If the mother does not drink milk or eat dairy products, culturally appropriate dietary **calcium** sources and/or a calcium supplement should be encouraged. A breastfeeding mother who is 19 years of age or older needs 1,000 milligrams of calcium each day, while a breastfeeding mother who is age 18 or under needs 1,300 milligrams of calcium each day. A **vitamin D** supplement should also be recommended for the woman who does not drink milk and has limited exposure to sunlight. An in-depth discussion about vitamin D follows.

Vitamin D Needs of Breastfeeding Women and their Infants

Vitamin D is a fat-soluble vitamin that helps maintain the proper levels of calcium and phosphorus in the blood, which results in a healthy bone structure. Vitamin D is an unusual vitamin in that it can be obtained through sufficient skin exposure to the sun. It can also be obtained by eating foods containing vitamin D. Since exposure to the sun

can vary with each individual (for example, time spent in the sun, the use of sunscreen, the darkness of a person's skin), it is important for many people to also consume food sources of vitamin D.

Vitamin D has been found to be present in human milk, in sufficient amounts, to meet the needs of most full-term infants. However, the mother's diet and the amount of her sun exposure do play a major role in regulating the vitamin D content of her breastmilk.



Insufficient maternal dietary intake of vitamin D-rich foods or lack of maternal exposure to enough sunlight can lead to insufficient vitamin D in a mother's milk. Along with this, if her breastfeeding infant is *exclusively* breastfed *and* the infant also has inadequate exposure to sunlight, this could lead to the baby developing rickets.

Rickets is a relatively rare disease that is caused by a lack of vitamin D in the body. When the body does not have enough vitamin D, then it cannot properly use its calcium supplies. Rickets can cause bone deformities and other serious health problems.

Women and children who are potentially most at-risk for lower vitamin D stores and the development of rickets are:

1. Exclusively breastfed, dark-skinned infants or dark-skinned children of Asian, Muslim, African-American, Native American, or Middle Eastern ethnicity, particularly those who are dressed in enveloping clothing such as long garments, long sleeves, hoods.
2. Women who are vegans or practice a very restricted diet, and the exclusively breastfed infants/children of vegans, particularly if they do not get adequate sun exposure.
3. Those women and children who live in areas with heavy air pollution or smog.
4. Exclusively breastfed infants who do not get enough sunlight exposure to their skin, who are kept mostly indoors, and whose mothers have inadequate vitamin D stores. (Some babies who go to daycare may arrive in the early, dark morning and go home in the dark evening time and may not be taken outdoors during the daytime.)
5. Women and children who consume little, if any, vitamin D-fortified milk products, and who don't get enough sunlight exposure.

Maternal exposure to sunlight affects the vitamin D content of breastmilk. Adequate exposure to sunlight for infants *with fair skin* has been determined to be at least 30 minutes per week, with the infant clothed only in a diaper; or two hours per week fully clothed, and with *no* hat. Darker skinned infants require longer exposure. Sunscreens interfere with vitamin D absorption through the skin, so sun exposure must be balanced between the need for some sun and possibly too much sun! Sunscreens are not recommended for use on infants under six months of age.

Children and adults can help meet their vitamin D requirements by eating or drinking enough foods and beverages that are fortified with vitamin D. Almost all fluid milk, evaporated milk, and dry milk that can be purchased in the retail market have been

fortified with 2.5 µg (100 IU) vitamin D per the equivalent of 8 fluid ounces of milk. Other products made from milk are generally *not* fortified with vitamin D, e.g., cheese and yogurt. Other vitamin D fortified foods include infant formulas (artificial baby milks), many breakfast cereals, some breakfast bars, and some brands of margarine. Foods that contain naturally occurring vitamin D are: butter; cream; egg yolks; fatty fish such as salmon; shrimp; and fish liver oils (e.g., cod liver oil).

Breastfeeding mothers—in particular, those who are exclusively breastfeeding their babies—should be counseled on how to “make” enough vitamin D for themselves and their infants, through both diet and sun exposure. In cases where the mother or infant may not be getting adequate vitamin D, their health care provider may prescribe a vitamin D supplement for the infant beginning by 2 months of age. Alternatively, the health care provider may prescribe an oral vitamin D supplement for the mother. The Dietary Reference Intakes for vitamin D for both infants and breastfeeding women is an Adequate Intake (AI) of 5.0 µg (200 IU) per day. According to Dr. Ruth Lawrence, “In women at risk, this supplementation should begin in pregnancy and continue through lactation to ensure adequate levels in their milk. Supplementing mothers is preferred to supplementing the breastfed infant because the mother is also in deficit.”¹ Care must be taken to avoid oversupplementation with vitamin D, as it can be harmful in high doses. The Tolerable Upper Intake Levels (UL) for infants is 25 µg (1,000 IU) per day and for breastfeeding women it is 50 µg (2,000 IU) per day.

Any Foods to Avoid?

Usually, breastfeeding women do not need to avoid eating the foods that they normally eat, as long as these foods are eaten in moderation. It usually takes four to six hours for the by-products of digested foods to appear in breastmilk. A common misconception is that breastfeeding women should only eat a “bland” diet. There are many mothers worldwide who are successfully breastfeeding and who eat many varieties of “hot” and “spicy” foods every day of their lives!

Some strongly flavored foods such as onions, cabbage, garlic, and spicy foods may alter the flavor of breastmilk. In one study, breastfeeding babies actually breastfed more eagerly when their mothers had eaten garlic! Actually, breastfed babies receive a variety of different flavors through mothers’ milk and this helps to prepare them for the introduction of solid foods. However, there are occasional infants who may be sensitive to or have an allergic response to a particular food in the mother’s diet, especially dairy products. **If an infant appears to have a sensitivity to a food that the mother is eating, refer the mother to the nutritionist for further evaluation and counseling.**

1. Lawrence RA, Lawrence RM. *Breastfeeding: A Guide for the Medical Profession*. 5th ed., page 311.

Food and Drug Administration (FDA) Consumer Advisory, January 2001

The FDA advises pregnant women, women of childbearing age who may become pregnant, **nursing mothers**, and young children not to eat the following fish: *shark, swordfish, king mackerel, and tilefish*. These fish contain high levels of methylmercury that can harm an unborn child's developing nervous system if eaten regularly. The FDA advisory acknowledges that seafood can be an important part of a balanced diet. FDA advises these women to select a variety of other kinds of fish—including shellfish, canned fish, smaller ocean fish, or farm-raised fish—and that these women can safely eat 12 ounces per week (or 48 ounces per month) of cooked fish. A typical serving size of fish is from 3 to 6 ounces.

Note: There is no cause for concern with the small monthly amount (approximately one 6-ounce can per week) of tuna fish provided by the WIC program to exclusively breastfeeding women. If the breastfeeding mother has questions, refer her to the nutritionist or her health care provider

Individual Dietary Preferences

One last important point to remember when using the Food Guide Pyramid is that it may need to be modified according to an individual's dietary practices. A person's income level, cultural background, religious beliefs about food, personal preferences, etc., influence her eating habits. It is important to find out what the client's eating preferences and favorite foods are, and then to show her ways to incorporate these foods into a balanced diet.



**Self-
Check**



**Breastfeeding
Module**

✍ **GO TO** the Workbook for the Breastfeeding Module and complete Self-Check Questions 19–27 right now. Then, immediately check your answers against the Answer Key to the Self-Check Questions (contained in your workbook) before proceeding to the next section of the module.

Drugs And Breastfeeding

Caffeine

Hyperactivity, fussiness, and colic have been reported in some babies whose mothers are regular, heavy drinkers of caffeine-containing beverages such as coffee, tea, and some soft drinks. When these reactions occur in her baby, the mother should cut back on the amount of caffeine she is consuming.

Alcohol

The effect of alcohol on the breastfeeding infant appears to be related to how often the mother drinks and the amount of alcohol she drinks. Alcohol enters breastmilk via the mother's bloodstream. The alcohol reaches concentrations in her breastmilk similar to those in her bloodstream within 30 to 60 minutes after maternal ingestion of the alcohol.

Alcohol changes the smell of breastmilk. Infants appear *not* to like the taste, and they appear to reduce their milk intake until the mother's milk returns to normal. Also, alcohol may have a sedative effect on the breastfeeding baby. When consumed in large quantities, alcohol can interfere with the milk ejection reflex.

On the other hand, when the mother has an *occasional* alcoholic beverage (no more than 1 drink per day), such as one beer or one glass of wine, this is not considered harmful. However, there is no "safe level" of alcohol consumption that has been established for the breastfeeding mother. Therefore, advice about the occasional usage of alcohol must be given very carefully so that the client does not misinterpret your information as permission to drink often or excessively.

Note: Some mother's have heard that drinking beer increases a mother's milk supply. This is not true. If a mother thinks this is true, she might consume an excessive amount of alcohol.

Healthy Babies...



Unhealthy Choices...



Artwork courtesy of Childbirth Graphics, A
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Tobacco

Although the effects of cigarette smoking during lactation do not appear to be as hazardous as smoking when pregnant, heavy smokers tend to have decreased milk production, an inhibited milk ejection reflex, lower prolactin levels, and lower levels of vitamin C in their milk. Breastfed infants of smoking mothers may experience nausea, vomiting, cramping, restlessness, colic, diarrhea, and rapid heart beat (tachycardia). Women who smoke are more likely to stop breastfeeding by three months postpartum. In addition, the mother who smokes *around* her infant is increasing the baby's risk for pneumonia, bronchitis, other upper respiratory problems, and Sudden Infant Death Syndrome (SIDS)—regardless of whether the baby is breastfed or fed infant formula. If there is another family member who smokes in the house, the baby is also at risk for these problems. Mothers should be advised to stop smoking. If a mother continues to smoke during lactation, she should be advised to:

- limit her smoking to 10 cigarettes or less per day;
- use low-nicotine cigarettes;
- not smoke just before or during breastfeeding;
- delay feedings as long as possible after smoking;
- increase her intake of vitamin C (double the daily recommended requirement);
- go outside of the home to smoke; and
- not smoke at all in her car.
- not hold her baby while smoking.

Prescription, Over-the-Counter, and “Street” Drugs

Prescription and over-the-counter drugs taken by the mother can be passed through breastmilk to the infant. Even if only a small amount of the drug reaches the infant, it could be too much for the baby. However, most prescription drugs are compatible with breastfeeding. In cases when a mother needs to take a specified drug, she should remember to tell her health care provider that she is breastfeeding so that the health care provider can suggest or prescribe the appropriate medication.

Even with over-the-counter drugs, mothers should be strongly advised to consult with their health care provider before self-medicating. As a general rule of thumb regarding over-the-counter drugs, it is advisable for breastfeeding mothers to avoid drugs which have long-acting or sustained action or are “extra strength.” Refer the client to the nutritionist who will, in turn, refer her to the appropriate health care provider for consultation and for evaluation of any drugs being taken. (Refer to the section in this module, “Situations In Which Breastfeeding Is Not Recommended,” for further information about this topic.)

Use of “street” drugs should be strongly discouraged. Many “street” drugs such as cocaine, crack, heroin, etc. have been shown to have serious and long-lasting adverse effects on the infant. In fact, with regard to cocaine usage by the breastfeeding mother,

there are documented cases of babies who have died of intoxication from the cocaine which was passed through the mother's milk. The American Academy of Pediatrics lists marijuana usage as contraindicated in nursing mothers. A suspected user of crack, cocaine, heroin, or other "street" drugs should be referred to the nutritionist who will then refer the client to the appropriate health care provider for further assessment, counseling, and treatment.

Also, when it is suspected that a client has been exposed to environmental chemicals, refer her to her health care provider and/or a nutritionist for further evaluation.

Contraceptives and Breastfeeding

Barrier methods of birth control, e.g., condom, diaphragm, cervical cap, spermicides, are considered to be the first choice for lactating women. However, many people wonder if using hormonal contraceptives can be compatible with breastfeeding.

Progestin-only methods, such as Norplant®, Depo-Provera®, and the Progestasert® intrauterine device are all considered compatible with breastfeeding. The "mini-pill" (progestin-only pill), if taken by the mother while breastfeeding, is considered to be extremely safe for the baby. It is recommended that breastfeeding mothers wait until about 6 weeks postpartum to begin progestin-only methods of birth control. According to Dr. Ruth Lawrence, "The practice of injecting Depo-Provera immediately after delivery can interfere with the establishment of lactation, which depends on the dramatic natural decline in progesterone postpartum."

Combination oral contraceptives, which contain both estrogen and progestin, are not recommended as the contraceptive of choice for breastfeeding women because even low-dose estrogen can have a negative impact on the amount of breastmilk produced.

A pregnant women should plan ahead and consult her health care provider for family planning advice for after the delivery.



**Self-
Check**



**Breastfeeding
Module**

GO TO the Workbook for the Breastfeeding Module and complete Self-Check Questions 28–33 right now. Then, immediately check your answers against the Answer Key to the Self-Check Questions (contained in your workbook) before proceeding to the next section of the module.

Part 3: Practical Aspects of Breastfeeding for the Postpartum Period

Breastfeeding Basics

When To Start

Breastfeeding should begin as soon as possible after the baby is born. **Recent research shows that it is very important for the baby to remain skin-to-skin with its mother and have uninterrupted physical contact with her until, at least, the first breastfeeding has occurred. Removing the baby from physical contact with its mother before this first breastfeeding has occurred, even for a very short time, may interfere with instinctual behaviors which enhance breastfeeding success.** Normally, a full-term, healthy baby who is allowed uninterrupted skin-to-skin contact with his or her mother will begin suckling between 20 and 50 minutes after birth. Instruct clients to ask their health care provider or labor room nurse for this uninterrupted physical contact ahead of time. Explain to clients why this is so important to getting off to a good start with breastfeeding. Normally, the first breastfeeding will occur within one hour of birth.

There are many reasons why early and frequent breastfeeding benefits the mother and the infant:

- The infant's suckling reflex is usually most intense during the first hour after birth. Delaying the first breastfeeding may cause a lack of interest on the infant's part for the first 24 to 48 hours.
- Early breastfeeding "imprints" the infant to the correct suckling technique.
- The infant begins to receive the immunological and nutritional benefits of colostrum.
- Early and frequent breastfeedings of colostrum encourage the passing of meconium and decrease the risk of the baby developing physiologic jaundice.
- Early and frequent breastfeeding decreases newborn weight loss.
- Early breastfeeding may also be psychologically important to the mother and infant, promoting a strong emotional bond.
- Early breastfeeding helps to stabilize the baby's blood sugar levels.

If the mother receives a general anesthetic because of a complicated delivery, such as a cesarean section, breastfeeding is delayed until the effects of anesthesia have worn off. If the mother receives a regional anesthetic, such as an epidural, often the infant can be nursed within the first hour after birth *if the mother requests it*.

Babies can be affected by the anesthesia or analgesics administered to the mother during labor and may not feed vigorously right away. Mothers should be informed of this possible side effect before labor and birth in order to make informed choices. If this happens, the mother should be reassured that the infant will eventually “wake up.” The mother should be encouraged to use gentle baby-rousing techniques and to keep trying to breastfeed frequently. If the baby continues to be unusually sleepy and is not breastfeeding adequately within 24 hours, the mother should request the use of an electric breast pump in order to stimulate her milk supply and avoid pathological engorgement. In addition, she should request that the lactation specialist or nursery nurse instruct her in how to use an alternative feeding method, such as cup feeding, to feed her baby her colostrum/milk until he is breastfeeding adequately.

Babies and mothers learn to breastfeed most easily when they have a large amount of uninterrupted time together. If mother and baby are physically separated from each other, they miss important “learnable moments.” Encourage mothers to ask for and practice “rooming-in” at the hospital, i.e., babies stay in the mother’s hospital room 24 hours per day. Also, mothers should keep their babies physically near them at home. Babies cannot breastfeed if they are not near the breast!

With early hospital discharge, mothers are often sent home without lactation being fully established and/or the baby breastfeeding well. *These mothers and babies need immediate and close follow up at home.* Find out about hospital discharge policies in your area and ascertain who will be following up on these mothers and babies.



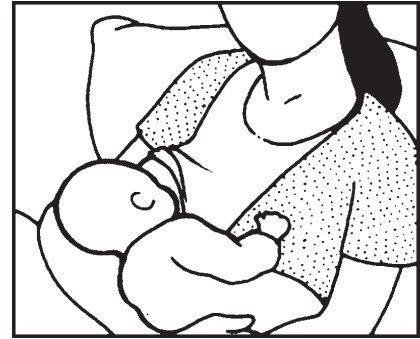
Watch the videotape, *Delivery: Self-Attachment*, by Geddes Productions.
(Note: The phone number to call to order this video is contained in the Breastfeeding References section of this module.)

Positioning of the Baby During Breastfeeding

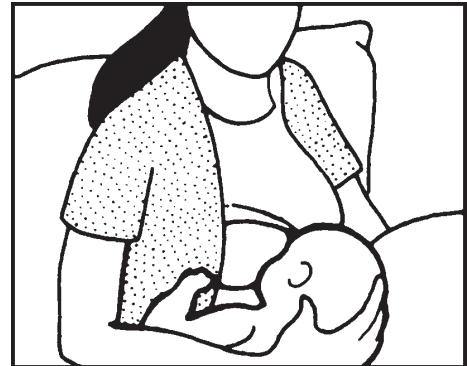
There are many ways that a woman can position herself and her baby for breastfeeding. Any position is appropriate as long as it ensures comfort for the mother throughout feeding, does not impair the baby’s correct “latch-on,” or does not impair his ability to effectively “milk” the breast. *Incorrect positioning of the baby at the breast is the primary cause of maternal sore nipples. It can also lead to an inadequate milk supply and poor infant weight gain.* A mother doesn’t necessarily have to learn all positions at once. However, it is important that she be able to accomplish at least one correctly!

Three positions are used most frequently. Pillows should be used by the mother or baby for support and comfort.

The first position is the traditional one referred to as the “madonna” or “cradle” hold. In the cradle hold, the mother is sitting up straight with her back well-supported. The infant is held level with the breast. A pillow or two may be placed in the mother’s lap to help keep the baby at the correct height. The baby’s head rests on the mother’s wrist or forearm. The mother brings the baby’s hips close and makes sure the baby’s bottom shoulder is turned in toward the mother’s body. The mother aligns the baby’s head so the nose and nipple lightly touch.



The second position is called the “clutch” or “football” hold. In this position, the mother holds the baby’s head in her right hand and supports his body with her right forearm, so that the baby’s body is positioned along her right side and his feet are turned toward her back. (This position is being described with a mother nursing her baby at her right breast so that the description will be easy to follow.) In other words, the mother is holding her baby similar to the way a football player holds the ball while he is running with it. This is a good position for a cesarean mother, and also for a large-breasted woman who can use her left hand to cup and support her right breast. It is also a good position for breastfeeding a premature baby, because in this position the baby will fit snugly in his mother’s arm. (A tip for working with Hispanic mothers—suggest she hold the baby like a “watermelon.” Some Hispanic mothers may only be familiar with the word “futbol” as a term for a soccer ball.)



The third position is the side-lying one. The mother lies on her side using pillows behind her back; under her head; and under her top leg, which is bent forward. The baby is on his side, parallel to the nipple, facing the breast. The baby may need to be placed on a flat pillow to raise him to the correct level.



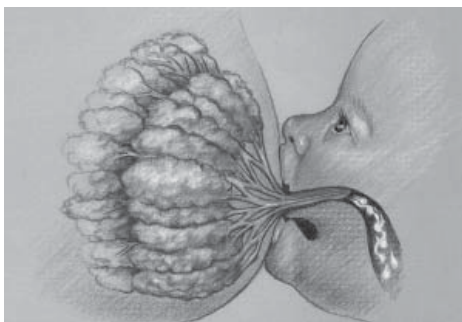
“Latch-On”

Breastfeeding is a learned behavior for both mother and baby. Thus, during the first few days of breastfeeding, the mother may have to help the baby learn how to “latch-on” correctly. Correct latch-on helps to prevent sore nipples and encourages efficient suckling on the baby’s part. Also, if the baby is latched onto the breast properly, there is no need to worry about the baby’s nostrils being blocked during a feeding.

The mother should be advised as follows:



The breast that is being offered to the baby should be supported between the mother's thumb and hand, with her four fingers underneath the breast. No part of the areola should be covered by her fingers. **This is called the “C-hold” or “Cup-hold.”** The mother should tickle the baby's upper lip lightly, causing the baby to “root up,” until he opens his mouth **wide**. As the baby opens his mouth **wide**, the nipple is aiming towards his palate and his lower lip is aiming well below the nipple. The mother then draws the baby in with pressure on his shoulders, nape of his neck, and along his torso. She should avoid pressing the baby's head forward.



The baby needs to take a large mouthful of breast, *not just the nipple*, into his mouth. His chin should be pressed into the breast and his nose should be close to the breast, but clear. Both cheeks are touching the breast. There should be more areola above than below the baby's mouth.



Ending the Feeding

The baby should be allowed to finish each breast in his own time. When the baby indicates he is full by ceasing suckling and loosening his clasp on the areola, the mother can insert her finger between his gums to prevent him from clamping down as the breast is removed from his mouth.



Watch the videotape, *Breastfeeding Your Baby - Positioning Solutions*, by Medela, Inc. in which three key elements: proper positioning; breast support; and latching on are clearly explained. (Note: The phone number to call to order this video is contained in the *Breastfeeding References* section of this module.)

The Appearance of Human Breastmilk

The mother may be concerned about the appearance of her breastmilk and think that it does not look rich enough to adequately nourish her baby. Reassure her that if she pays attention to the signs that indicate that her baby is breastfeeding well (i.e., monitoring the baby's wet diapers, stools, and weight gain), she will feel more confident. (Information about "How To Be Reassured That Baby Is Getting Enough Breastmilk" is contained later in this section.)

Foremilk and Hindmilk

In addition, explain to the mother about some of the properties of breastmilk to help her understand why it looks as it does. Mature breastmilk is produced in two forms: the foremilk and the hindmilk. The foremilk is produced between feedings and has a lower fat content. This lower fat content is what contributes to the thin, watery appearance of breastmilk, which is normal. Another normal feature of human breastmilk is that it often has a bluish cast which is due to the presence of a certain type of protein in the milk.

The hindmilk, which is produced during the feeding, has a much higher fat content and a rich, milky appearance. This rich hindmilk is very important to the baby for proper weight gain. Thus, in order for the baby to receive more hindmilk, it is very important that the baby be *actively* breastfeeding until the breast is well-softened and he comes off the breast on his own. The fat concentration of breastmilk also appears to be maximized by increasing nursing frequency. Evening breastfeedings are also particularly important as the fat concentration in breastmilk is higher from about four o'clock in the afternoon until midnight.

Ensuring a Good Milk Supply

Let's begin by discussing two different types of breastfeeding behaviors: ***unrestricted breastfeeding versus token breastfeeding.***

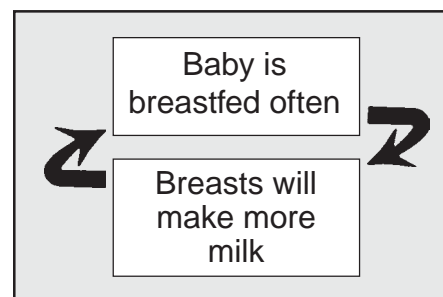
- ***Unrestricted breastfeeding*** is when baby is put to the breast whenever he gives feeding cues, cries, or fusses. Nursings are spontaneous and are not by "the clock" and usually result in ten or more feedings a day. No supplementary feedings are used and solid foods are not introduced until about six months of age. Breastfeeding continues to furnish a major part of the baby's diet well into the second year of life. Unrestricted breastfeeding was the norm in the United States in the beginning of this century and is still the norm in much of the rest of the world.

- ***Token breastfeeding*** means breastfeeding with rules and regulations. The clock determines both the frequency and length of the feedings. Unlimited suckling is not allowed. Supplementary bottles, early solids, and pacifier use are common. Complete weaning usually occurs by three months, or earlier. Unfortunately, many women in the United States practice token breastfeeding and so have a very short-term breastfeeding experience.

Encouraging unrestricted breastfeeding behaviors will help mothers have a greater milk supply, breastfeed more successfully, and better enable our society to attain the Healthy People 2010 breastfeeding goals and the World Health Organization breastfeeding goals covered in the introduction.

Supply and Demand Concept (with regard to milk production)

It is important that the new mother understand the concept of “supply and demand” with regard to milk production. That is, the more frequently the baby effectively suckles, the more milk the breast will produce. Thus, good milk production is established by early and frequent feedings. On the other hand, putting the baby on a feeding schedule, skipping night feeds, or limiting the baby’s time at the breast reduces the milk supply and can result in a permanent low milk supply and poor infant weight gain.



Feeding Cues

Encourage mothers to watch their infants for signs or cues indicating hunger and to put them to the breast when they see those signs.

Signs of hunger include:

- The baby starts to make rapid eye movements under the eyelids.
- The baby starts to lift his arms above his head while sleeping and squirm around.
- The baby sucks on his lips or tongue.
- The baby puts his hand up to, or in, his mouth.
- The baby starts to make little noises or grunts.
- The baby “roots” or turns his head toward his mother.

Crying Is a Late Cue

Crying may also be a sign of hunger, however, it may be that the mother has missed the earlier cues of hunger. Babies who are crying and upset may have a more difficult time latching on and nursing, since babies nurse best when they are calm. Since it is normal for infants to have fussy times, an infant who cries may not be hungry, but may need to be held and comforted at the breast.

Sleepy Infants

Some newborn infants are “sleepy,” that is, they sleep for long periods of time, or they are not easy to awaken every 2 to 3 hours for their feedings. Some sleepy newborns fall asleep before a feeding or after suckling for just a short while at the breast. Since a newborn should be fed every 1 to 3 hours during his first few weeks of life and should breastfeed vigorously for at least 10 to 15 minutes, it is important to teach the mother to recognize “cues” that signify readiness to feed, especially in a sleepy baby. It is also important to encourage the baby to thoroughly wake up so that he can be alert enough to breastfeed adequately. Newborn babies may not cry to show that they need to nurse.

A mother can try the following to stimulate her sleepy baby:

- un-swaddle the baby, stripping the baby down to diapers and a tee-shirt;
- give the baby a great deal of skin-to-skin contact with mother;
- play and talk to the baby;
- give the baby a gentle massage;
- undress and dress the baby; or
- change the baby’s diaper.

Note: The baby’s feet should never be “thumped” in order to awaken him! This could give the baby a negative connection to breastfeeding.

Frequency and Duration of Feedings

Frequency

The baby can be and should be nursed whenever he wants to nurse. The average breastfed infant will probably want to be put to the breast and will need to be nursed as often as every 1 to 3 hours during the first few weeks of life.¹ The infant’s requirements for frequent nursings are, many times, not understood by the new mother and she worries that she doesn’t have enough milk. This misconception of “not enough milk” is the most common reason women give for stopping breastfeeding.

Many new mothers *think* they don’t have enough milk when, in fact, they do! Human milk is very dilute, and it digests very rapidly. In addition, the newborn baby’s stomach is very small—about the size of the baby’s tiny fist!

Mothers also worry about insufficient milk because they often have a Western cultural expectation that the new baby will be fed, then put down in a separate “nest” away from mother, and be content and quiet for several hours. This is a very unrealistic expectation.

New babies, whether or not they are breastfed, often need to be “in arms” (seemingly) almost constantly. The normal needs and “inconveniences” of babies are often blamed on breastfeeding by other family members or friends who don’t understand the baby’s needs. In fact, the staff member needs to be very diligent when a baby is described as a “good” baby. Sometimes this describes the baby who is lethargic and who sleeps so much that he is under-breastfed and at risk for dehydration and malnutrition!

1. Humans beings are referred to as a “continuous contact species,” meaning that our young need to be fed very frequently.

Duration

The baby should be encouraged to breastfeed on the first breast until he comes off the breast on his own. Usually this will be for at least 10 to 15 minutes. Then, the mother should offer the second breast. It is important that the baby be allowed to finish the first breast before offering the second, so that he gets plenty of the hind milk. Some babies may nurse on each breast for 20 to 30 minutes. The mother should begin a new nursing session by giving the baby the breast that was used last in the previous nursing session. The mother should learn to watch her baby for satiety (fullness), rather than become a “clock” watcher. Sometimes babies just want a “snack” and sometimes they want a big meal!

Remember that there are individual variations among babies. **Mothers should meet their baby’s unique needs.** Babies breastfeed for more than hunger reasons. They also breastfeed for comfort and emotional needs, which are just as important as hunger.

How To Know If the Baby Is Getting Enough Breastmilk

Women in the United States often feel insecure about their milk supply. They receive media messages and family comments that cause them to doubt the adequacy of their milk. One way a mother can tell if her baby is getting enough breastmilk is if she hears the baby making frequent, audible swallowing and gulping sounds for at least ten minutes at the breast. Other ways a mother can tell if her baby is getting enough breastmilk is to look at the frequency and amount of wet diapers and stools, as well as looking at the amount of weight the infant has gained since his birth.

The Baby’s Weight Gain

Some general weight gain guidelines are as follows:

- **The baby should not lose more than about 7 percent of his birth weight after birth.** For example, a baby with a birth weight of 7 pounds should not lose more than about 8 ounces of weight. Breastfeeding management techniques need to be thoroughly looked into if baby loses more than 7 percent of his birth weight. If this occurs, the baby needs to be assessed by the health care provider for any health problems. Early intervention is crucial if there are problems!
- **The baby regains his birth weight by about two weeks of age and gains 4 to 7 ounces per week thereafter.**

Wet Diapers and Stools

The breastfeeding mother can be reassured that her baby is getting plenty of milk, as long as she can answer “yes” to the following:

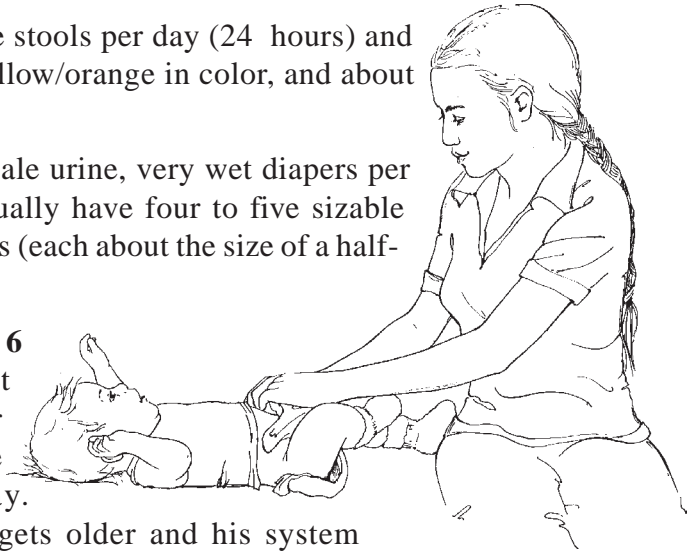
- **Day 1 to 2:** The baby has one or two very wet diapers, and passes at least one meconium stool the first day and two stools the second day.
- **Day 3 to 4:** The baby has at least six pale urine, very wet diapers per day (24 hours). The appearance of dark yellow, scant urine, or visible urate crystals after 3 to 4 days of life strongly suggests that the infant is not getting enough milk. By **day 3**, the

baby has at least two to three large stools per day (24 hours) and the stools are beginning to turn yellow/orange in color, and about four stools by **day 4**.

- **Day 5:** The baby has at least six pale urine, very wet diapers per day (24 hours). The baby will usually have four to five sizable yellow/orange breastfed baby stools (each about the size of a half-dollar coin).

- **Day 6 to approximately 4 to 6 weeks of life:** The baby has at least six pale urine, very wet diapers per day (24 hours). There usually are three to five stools every day.

However, as the breastfed baby gets older and his system becomes more efficient in absorbing breastmilk, he may have only one stool every several days. This does not mean he is constipated.



The guidelines for wet diapers and stools listed above are general guidelines. There will be babies who don't stool a lot who *are* gaining weight very nicely. Each baby is an individual and will have individual patterns. The mother should be advised to consult her baby's health care provider immediately to have the baby's weight checked if the newborn baby is not wetting at least six diapers per day and having at least two good-sized stools by the third or fourth day. Usually, if the baby is stooling a lot, he is also urinating a lot.

Inexperienced parents often overestimate how much urine is in a wet diaper, particularly when using disposable diapers. Suggest using cloth diapers for awhile, if possible. One way to show expectant or new parents how wet a diaper *really* should be is to demonstrate by pouring one-quarter of a cup of water into a cloth or disposable diaper and then letting them feel how wet and heavy it is. Their baby's diapers should feel approximately the same.

Warning Signs of Dehydration in the Baby

One indication of possible dehydration is a baby with only two wet diapers or less by the third day. Warning signs of dehydration, which indicate that the baby needs more fluid right away, are:

- listlessness
- weak cry
- dry mouth
- dry eyes
- the fontanel (soft spot) on the head is sunken
- fever
- baby's skin, when pinched, doesn't return to normal and remains looking pinched

The mother should consult the baby's health care provider immediately if any of the above signs are present.

Bottles and Pacifiers

It is extremely important to advise mothers—while they are still pregnant—to avoid bottle and pacifier use in the hospital after the baby’s birth and in (at least) the first few weeks of life, unless there is an absolute medical reason for their use. **Giving supplemental bottles of either glucose water or infant formula or using a pacifier in the early days and weeks has been shown to be strongly related to breastfeeding failure.**



Pacifiers and bottles use may teach the baby to suck incorrectly, and may lead to rejection of the breast, maternal sore nipples, and/or poor infant weight gain. Any type of sucking stimulates the release of gut hormones in anticipation of food. Pacifiers stimulate sucking, but there is no food reward and there are no calories supplied. When a baby uses a pacifier, he will be using up calories while sucking, but will not be taking in any calories. Rarely are pacifiers appropriate for use with a breastfeeding baby. If the baby is fussing, he may need to be put to the breast.

Unnecessary Supplementation

Misunderstandings and concerns about milk supply often result in new WIC breastfeeding mothers requesting infant formula as a supplement to breastfeeding. **Supplementation should be actively discouraged, unless it is medically necessary.** Mixed feeding does not offer the same quality and quantity of benefits to mother or baby as does exclusive breastfeeding. If this situation arises, the following steps should be followed:

1. The mother should be counseled by the nutritionist before any food package changes can be made.
2. The mother should be referred to the breastfeeding educator for counseling on breastfeeding. If the breastfeeding educator is not available, the nutritionist should counsel the mother on the following areas, as deemed appropriate:
 - a) Address the mother’s concerns which have led her to request infant formula. For example: Is the mother afraid she doesn’t have enough milk? Are her nipples sore, etc.? Is the baby gaining enough weight?
 - b) Educate the mother on the potential consequences of infant formula supplementation such as: decreased maternal milk supply, increased risk of nipple confusion on the baby’s part, increased risk of early termination of breastfeeding, increased risk of otitis media (ear infection), respiratory infections, diarrheal disease, allergies, etc .
 - c) Educate the mother on the financial implications of bottle feeding.
3. If the baby is given a formula food package, give as small a formula package as possible. Powdered formula is preferred because the mother is able to mix one bottle at a time. The more formula given, chances are the mother will supplement more.



Self-Check



Breastfeeding Module

✍ **GO TO** the Workbook for the Breastfeeding Module and complete Self-Check Questions 34–43 right now. Then, immediately check your answers against the Answer Key to the Self-Check Questions (contained in your workbook) before proceeding to the next section of the module.

New Mothers Need Help

While pregnant women should be counseled by their health care provider and educated in prenatal classes about what to expect during the first month at home with a newborn, there is nothing quite like the reality of actually being at home with a baby. As a staff member, you can help an expectant woman *plan ahead* for her own care and her newborn's care.



Often during pregnancy, a woman's entire focus is on "the birth." Preparation for the postpartum period is frequently overlooked. Many expectant mothers find it extremely helpful if they can locate and utilize the services of what is often referred to as a "doula." A "doula" is a woman who usually has specialized training in providing emotional assistance and support during childbirth, and who continues to provide emotional support and guidance—and perhaps household help—during the postpartum time.

The following are some suggestions that you can share with pregnant women and new breastfeeding mothers that may help them as they prepare for their new challenging role:

Suggestion 1: Have an experienced, caring person help the new mother.

In helping a pregnant woman to prepare for her baby's birth and the first month at home with her newborn, stress the importance of having someone available to assist around the house and to take care of the new mother, if at all possible. New mothers need a great deal of rest. **What can make the difference between success and failure at breastfeeding is the presence of an experienced, caring person who helps the mother to relax and feel self-confident.** This is the time to readily accept offers from friends and relatives to cook, clean, grocery shop, do laundry, or watch the baby and other children for the new mother while she naps or relaxes.

Help for the new mother is especially needed since early hospital discharges have become commonplace. During the first week postpartum, it would be best for the new breastfeeding mother to stay in bed as much as possible, ideally only having to get up to use the bathroom and to bathe.

In fact, the new mother should be encouraged to seek and accept help during the entire first month postpartum. Very often, around 2 weeks postpartum, many mothers start to feel better and increase their activity level. During this same time, most infants go through a rapid growth spurt and need even more frequent feedings and can be very fussy. The combination of these events can make the woman overly exhausted and perhaps resentful of her infant. You can prepare her for these events by helping her, ahead of time, think about who among her family and friends would be willing and able to offer their assistance to make this period less stressful.

Suggestion 2: Have the baby sleep in a basket or bassinet next to the mother's bed.

One way the new mother can get more rest is to have the baby sleep in a basket or bassinet next to her bed. This will enable her to pick up her infant during the night for a feeding without fully awakening herself. New mothers need to learn to sleep when the baby sleeps! Sleep is more important than getting household chores done in the early weeks.

Suggestion 3: Encourage the mother to “wear” her baby close to her.

A very useful device for a new mother is a cloth baby sling, carrier, or wrap. A baby sling allows the mother to “wear” her baby close to her, while it frees up her arms for other activities. This is especially helpful to the mother of a fussy, “high-need” infant or a mother who has other small children at home. Babies who are “worn” *at least* three hours per day tend to be less fussy and happier babies. Reassure the mother that babies cannot be “spoiled.” Babies need frequent feeding, holding, and carrying in order to develop properly and to become secure and trusting children. Fathers and grandparents can “wear” the baby too!



Image of NoJo's Original Baby Sling by Dr. William Sears used with permission from Crown Crafts Infant Products, Inc.

Suggestion 4: Encourage the mother to learn all she can about breastfeeding before the baby is born. Encourage the mother to learn all she can about breastfeeding ahead of time by attending support groups for pregnant and breastfeeding women, such as La Leche League; by making friends with breastfeeding mothers who are enjoying their breastfeeding experience; and by reading available literature. The health care provider and staff members should also be available to answer her questions and provide her with information about support groups and other issues. These friends, support groups, and staff members are especially needed after the baby is born. A friendly ear to listen to her feelings and concerns, and a voice to encourage her, are very important ingredients in a new mother's breastfeeding success.

The bottom line is—the care of the new breastfeeding mother is extremely important and she needs some “mothering” too! You can help by preparing her for the realities of caring for a newborn, helping her plan ahead for the postpartum period, and emphasizing that *breastfeeding is a learned behavior*, both for the mother and the newborn. The goal is to help her to get successfully through those first few weeks of learning to breastfeed and adjusting to her new role.



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Breastfeeding
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✍ **GO TO** the Workbook for the Breastfeeding Module and complete Self-Check Questions 44–46 right now. Then, immediately check your answers against the Answer Key to the Self-Check Questions (contained in your workbook) before proceeding to the next section of the module.

Common Postpartum Concerns for the Breastfeeding Mother

Breast Care

When counseling a breastfeeding mother about the appropriate care of her breasts, it is *always* good advice to tell her to:

- breastfeed frequently;
- let the baby finish breastfeeding on the first breast and then offer the second breast at each feeding;
- begin a new breastfeeding session by giving the baby the breast that was used last in the previous breastfeeding session; and
- vary the breastfeeding positions. (Refer to the “Breastfeeding Techniques” section in Part 3 of this module for a discussion about the various breastfeeding positions.)

However, there may be times when a breastfeeding mother needs specific advice regarding how to prevent or alleviate a problem that occurs during her breastfeeding experience. The following presents information about some of these common postpartum concerns and conditions, along with recommendations on how to manage them.

Care of the Nipples¹

After the baby is born, a mother should follow these guidelines for care of the nipples:

1. Don’t use soap or alcohol on nipples or on the areola area.
2. If using nursing pads, use 100% cotton pads and change the pads *immediately* when wet. Don’t allow wet pads to stay against the nipples. Avoid the use of plastic bra liners.
3. During the first 1 to 2 weeks postpartum, hand express a small amount of colostrum or breastmilk and rub it into nipple area after each feeding.
4. During the first 1 to 2 weeks postpartum, allow nipples to air-dry for approximately 10 minutes after each feeding.

1. There is no need for a woman to prepare her nipples during pregnancy in order to prevent nipple soreness after the baby is born. Practices such as nipple rolling or rubbing a washcloth over the nipples during a shower *should not be done*, as these practices can remove the protective **keratin** cell layer on the nipple, and they do not prevent sore nipples. *Correct positioning and latch-on of the baby at the breast is the most important factor in preventing sore nipples.*

5. Don't use creams or ointments such as regular lanolin, Bag Balm, Vitamin E oil, or A&D ointment on the nipples. These creams or ointments can prevent air circulation, can be dangerous for the baby to ingest, and/or can cause allergic reactions in either the mother or baby.
6. Be sure that the baby is positioned correctly and comfortably at the breast during breastfeeding.
7. Make sure the baby is "latched on" to the breast properly.
8. When removing the baby from the breast, the mother should gently break the suction by inserting her finger between the baby's gums.

If the nipples become sore, here are measures the mother can take to help relieve the problem:

Before Feedings

- Relax and make herself comfortable.
- Hand-express a small amount of breastmilk just before her baby begins to nurse. This will serve to soften the areola and trigger the milk ejection reflex.

During Feedings

- Nurse very frequently (every 1 to 2½ hours or more often) for 10 to 15 minutes on each side.
- Offer the breast that is least sore first.
- At each feeding, use a different position with the baby, e.g., cradle hold, football hold, or side-lying position.

After Feedings

Follow the first 5 steps listed on the previous page in the discussion under "Care of the Nipples." In addition, after the feeding the mother may wish to sparingly apply one of the *ultra-purified* medical grade forms of lanolin. This type of purified lanolin is specially made for breastfeeding mothers and is available from La Leche League, certified lactation consultants, some specialty stores, and some electric breast pump rental companies. Purified lanolin helps to retain the skin's natural moisture and protects the nipple skin from further breakdown.

If the mother continues to have problems with her nipples or they are blistered or cracked, *immediately* refer her to the breastfeeding educator in your agency. She may need more intensive interventions to heal her nipples. **Pain is not normal and breastfeeding shouldn't hurt!**

For example, continued soreness or late-onset soreness can be caused by the mother having a candidiasis fungal infection on her nipples. The baby could have thrush. If the mother has a candidiasis infection, both mother and baby must be treated simultaneously, whether or not the baby has obvious signs of thrush. Refer the mother to the breastfeeding educator in your agency, who will in turn refer her to her health care provider, if necessary.

Breast Fullness versus Engorgement

Between the second and sixth day after the baby is born, the mother's milk volume increases. With this increase in volume, there is a swelling of the breast tissue and increased blood supply to the breasts which commonly causes some breast fullness, heaviness, and tenderness. This is normal and this breast fullness doesn't interfere with breastfeeding. If breastfeeding is being managed correctly, this breast fullness usually subsides within about 24 to 48 hours.

On the other hand, if one or more of the following is/are present, the breasts may swell from *over-fullness*:

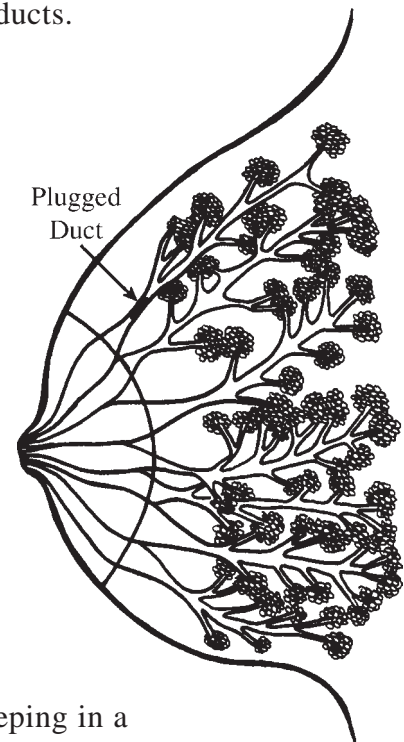
- breastfeedings are delayed or the baby is not breastfeed as often as needed
- the amount of time spent at each feeding is too short
- the baby is **not** positioned correctly at the breast
- the baby is **not** sucking strongly

In these cases, the breast may become extremely hard, painful, and warm to the touch. The nipples may flatten and the areola may become distended. This makes it difficult or sometimes impossible, for the infant to “latch-on” and nurse effectively. This extreme over-fullness of the breast is referred to as *pathological engorgement*. If this is not treated promptly and aggressively, it can potentially lead to permanent damage to the mother's milk supply for this particular baby. If promptly treated, most of the engorgement usually goes down within 12 to 48 hours. Proper treatment is described in the next section, following the discussion about plugged ducts.

Plugged or Blocked Ducts

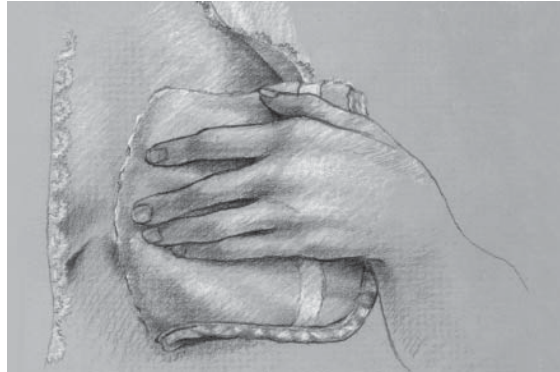
Plugged or blocked ducts result in a localized tender spot in the breast and/or a lump in the breast. Plugged ducts can occur for a variety of reasons, such as:

- inadequate milk removal from the breast, i.e., the breasts are not emptying
- feedings that are delayed
- skipped breastfeedings
- breastfeeding on the same side each time
- poor positioning of the baby on the breast
- weaning from the breast that is done too rapidly (Refer to the “Weaning” section that is included later in Part 3 of this module.)
- pressure on one area of the breast that comes from sleeping in a particular position and/or wearing clothing or a bra that is tight (The mother should make sure her bra does not bind anywhere. Underwire bras are more likely to cause plugged milk ducts.)



To Relieve Engorgement or Plugged Ducts

- Apply hot, wet compresses to the breasts, or totally immerse the breasts in warm water for about 5 minutes prior to each feeding. Or, the woman could stand in a shower and let warm water run over her breasts.



- Massage the breasts gently from the affected areas down toward the nipple while soaking the breasts in warm water or standing in a warm shower.



- If engorged, hand-express some milk to soften the areola area. (See the section, “Expressing Breastmilk,” that is contained on page 66 of this module.)



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- Breastfeed frequently, i.e., every 1 to 3 hours. Gently massage breast while nursing. Avoid routine use of supplemental water, infant formula, or a pacifier.
- Change breastfeeding positions frequently.
- Between feedings, apply ice packs or ice flowers¹ to breasts, for about 20 minutes to reduce swelling. Before applying ice packs or ice flowers, always place a handkerchief or thin towel on the breasts to protect the skin.

Note: Whenever a client is not getting relief after following the above measures, *immediately* refer her to the breastfeeding educator in your local agency for further counseling and advice. The client may need referral to a certified lactation consultant.

1. **Ice flowers:** Crushed ice in three small plastic bags jointed by a twist tie.

Mastitis

Mastitis is an infection of the soft tissue of the breast that surrounds the milk ducts. It is sometimes caused by a plugged milk duct that was left untreated. Mastitis is characterized by a reddened area and extreme tenderness of the breast; fever and chills; and a “flu-like” feeling.

When a mother is suspected of having mastitis, she must be referred to her health care provider for treatment and to the breastfeeding educator in the local agency for counseling. To treat mastitis, her health care provider may prescribe an antibiotic to fight the infection. It is extremely important that the mother let her health care provider know that she wishes to continue breastfeeding and that she needs an antibiotic that is compatible with breastfeeding.



In addition to seeing her health care provider, the woman with mastitis should take the following self-care measures. She should:

- Rest, drink plenty of fluids, and increase her intake of foods and juices high in vitamin C.
- Continue to nurse frequently on the affected side. She should use a breast pump if the baby is unwilling or unable to feed well on that side.
- Use breast massage on the affected side to help it drain better, i.e., she should massage her affected breast, and compress the breast and any hardened area with fingertips each time the baby pauses between sucks.
- Use different positions during nursings to help drain all parts of the breast.
- Ask the health care provider if she can use a medication such as ibuprofen to reduce the inflammation.

If she seems concerned about breastfeeding on the affected breast, she should be informed that mastitis is an infection of the surrounding breast tissue, not the milk. Therefore, it is very safe to continue to nurse her baby. In fact, sudden weaning or temporarily stopping breastfeeding, even for a short period of time, will slow the healing process and may lead to further problems.

Breast Care: To Summarize

Most problems commonly associated with breastfeeding can be avoided and/or solved by following the steps which have just been provided in this section on “Breast Care.” As you counsel mothers, it is very important that you work, at all times, in close coordination with the breastfeeding educator in your local agency. If the mother’s problem is beyond your level of expertise, refer her to the breastfeeding educator immediately. The mother may need to be referred to a certified lactation consultant.



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✍ **GO TO** the Workbook for the Breastfeeding Module and complete Self-Check Questions 47–51 right now. Then, immediately check your answers against the Answer Key to the Self-Check Questions (contained in your workbook) before proceeding to the next section of the module.

Low Milk Production

There are a few unusual situations when some mothers do not make enough milk to fully sustain their babies. These mothers can be divided into two distinct groups:

1. In one group, there is a failure to establish a full milk supply from the beginning despite *optimal* breastfeeding initiation and management. *These cases are extremely rare.* These mothers *sometimes* report that their breasts did not enlarge very much during pregnancy and that they experienced only minimal breast fullness after delivery. They may feel that their milk never really “came in” fully. Sometimes there is an obvious breast abnormality, such as the breasts are of markedly different sizes or the mother had previous breast surgery that impairs her body’s ability to produce milk (such as breast reduction). Other times, serious maternal illness such as postpartum hemorrhage, infection, or hypertension may interfere with milk production.
2. In the other group of mothers, the breasts enlarge during pregnancy, postpartum milk production begins, and the breasts fill with milk initially. The *potential* to make plenty of milk is present. However, problems in breastfeeding technique, breastfeeding management, or infant problems lead to infrequent or incomplete milk removal from the breast. *This infrequent or incomplete failure to adequately “milk” the breast is the major cause of low milk supply for this group of mothers.* Unrelieved pressure in the breast quickly leads to a break down of the milk-producing cells and diminished milk production.

This second type of low milk supply problem is preventable and able to be corrected when it is recognized early and when appropriate interventions are taken. In many of these cases, the “breastfed” infant is *not*, in fact, adequately breastfeeding! The baby may have the nipple in his mouth, but is not compressing and milking the milk sinuses strongly. He may be “chewing” or “flutter sucking”. Assessment of the baby at the breast by a knowledgeable breastfeeding educator is crucial in these cases.

Either cause of low milk supply could potentially lead to dehydration and inadequate caloric intake by the infant. Possible signs of dehydration in the infant include: scant or dark urine; dry mouth; lack of tears; poor skin tone; weak cry; lethargy; depressed fontanelles; or baby’s skin when pinched does not return to normal and remains looking pinched. **An infant exhibiting any of these signs should be immediately referred to and assessed by the health care provider.**

Other situations that could lead to a low maternal milk supply and/or inadequate milk intake by the infant:

- Delayed initiation of breastfeeding after delivery;
- Infrequent breastfeeding in the first few days after birth (less than 8 to 10 feedings per day);
- Excessively brief feedings;
- Infant “latch-on” problems;
- Reluctant nursers who have difficulty sustaining suckling;
- Small for gestational age, premature, ill, or jaundiced infants who do not suckle effectively;
- Use of pacifiers or supplemental bottles;
- Use of a nipple shield (see Appendix D for more information about nipple shields); and/or
- Maternal use of combination birth control pills (estrogen/progestin).

Preventing these type of problems is a major reason for educating *prenatal* clients about breastfeeding. Equally important is consistent, early follow-up of breastfeeding mothers. Many mothers are now being discharged from the hospital in 24 hours or less, before lactation has been fully established. These mothers and infants need close follow-up to ensure that breastfeeding is proceeding optimally. Any mother who appears to have a very low milk supply must be immediately referred to her health care provider and the breastfeeding educator in your local agency.



Watch the videotape, *A Healthier Baby by Breastfeeding*, by Childbirth Graphics. (Note: The phone number to call to order this video is contained in the *Breastfeeding References* section of this module.)



**Self-
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**Breastfeeding
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✍ **GO TO** the Workbook for the Breastfeeding Module and complete Self-Check Questions 52–55 right now. Then, immediately check your answers against the Answer Key to the Self-Check Questions (contained in your workbook) before proceeding to the next section of the module.

Breastfeeding Mothers Who Return to Work or School

More and more mothers who return to paid employment or school are choosing to continue breastfeeding. The longer the maternity leave that a mother has, the easier it will be to combine breastfeeding along with work and/or school. It is desirable for the new mother, if possible, to take *at least* 4 to 6 weeks of maternity leave, since it takes at least 4 to 6 weeks for lactation to become firmly established and for the mother to recuperate from childbirth. However, 6 weeks is not some magic number, and many mothers still do not feel like their “old selves” at 6 weeks postpartum. Encourage your clients to be familiar with the “The Family and Medical Leave Act” which became law in August 1993. Here is a synopsis of the law:

This act mandates employers of 50 or more persons to provide a minimum of 12 weeks of unpaid leave per year to attend to personal or family illness, newborn or adoptive child care, or family emergencies. Employees must have worked a minimum number of hours in the previous year and be working a minimum number of hours weekly to qualify. Employers may require use of other forms of accumulated leave before granting unpaid leave under this act. Employees are guaranteed the same or a similar job upon return. No special provisions for breastfeeding mothers are made in the act, and breastfeeding itself is usually not sufficient grounds to ask for leave. However, mothers are able to lengthen their maternity leave through this legislation.

The mother who can take a maternity leave of *6 months* will have the easiest time, because solid foods will be introduced at around 6 months, making the infant less dependent on breastmilk for his nutritional needs. An added bonus is that around 6 months of age, the baby can begin to learn how to drink from a cup, thus eliminating the need for bottles. Also, as the infant gets older, he needs fewer feedings, e.g., a 6-month-old might only need 5 to 6 feedings per 24 hours versus a 1-month-old who may need 10 to 12 feedings per 24 hours.

If the breastfeeding mother must return to work or school before her baby is 6 months old, she will need to do one of the following:

- The mother can learn how to hand-express or pump her breastmilk for later use by her baby.
- The mother can maintain her milk supply by nursing her baby as often as possible when she and her baby are together. This technique works well when the baby is able to breastfeed frequently throughout the night. This is often referred to as reverse cycle nursing.



Photo courtesy of Medela, Inc.

- The baby can be given both breastmilk and infant formula supplements or only infant formula supplements.

Note: While exclusive breastfeeding is optimal for babies, mixed feedings are much better for babies than stopping breastfeeding.

Preparing To Return To Work Or School

A successful breastfeeding experience combined with a mother's return to work or school is definitely achievable, but it will take some planning and preparation ahead of time.

The following are some things a breastfeeding mother can do about 2 weeks before returning to work or school. She should:

- Decide what and how the baby will be fed by the caregiver while the mother is away at work or school.
- If a bottle is chosen, the baby should be given one bottle per day. The bottle should be filled with either one ounce of sterile water or one ounce of breast milk. The bottle should have a nipple that is soft, flexible, and shaped to the baby's mouth. Someone other than the mother should offer the bottle. If another feeding method is chosen, introduce that method to the baby and practice it once a day.
- Learn to efficiently hand-express milk and/or use a hand pump or electric breast pump. The mother should practice this every day and save her milk for future use. (See the "Expressing Breastmilk" section, which follows this section.)
- Select clothes that are practical for pumping and/or nursing.
- Select a child care provider who is supportive of the mother's breastfeeding efforts. The mother should arrange to have the child care provider watch the baby for short periods of time *before* she returns to work or school, so the baby can adjust more easily and the caregiver can become familiar with the baby's needs.
- Inform her employer of her plan to continue breastfeeding in order that they can work out the details of how to fit it into her work schedule.

Once the mother begins work or school, she should:

- Try to start back to work on a Thursday (if she normally works Monday to Friday).
- Start back part-time, if possible.
- Go to the baby or have the baby brought to her at any of her lunch or dinner breaks, if possible.
- Breastfeed just before leaving for work or school and as soon as she returns from work or school.
- Ask the child care provider not to feed the baby within one hour of the mother's expected return.
- Express or pump breasts frequently if she is planning to save the milk for the baby. Otherwise, express just enough to relieve any fullness or discomfort. The breasts will adjust to the decreased demand.
- Breastfeed frequently at nights and on weekends to help maintain her supply.


Realistic Advice

Mothers who return to work or school and who continue breastfeeding an infant under 6 months old need to be given practical pointers on the management of breastfeeding. It is important to get the father's or grandmother's commitment to breastfeeding since they will probably be needed to help with an older child or to prepare meals while the mother focuses on the infant's needs. It is equally important for the mother and family to realize that no matter how the baby is fed, the baby will still need the mother's frequent attention!

Remember that you, the staff member, may be the mother's only source of encouragement and support. Be sure to emphasize that breastfeeding can be a special way for her and her baby to maintain and strengthen close emotional bonds, even though they are separated from each other during the day.

The most important thing you can do is to ease any fears a mother might have about combining breastfeeding with returning to work or school. Some common concerns that mothers have are that breastfeeding babies are hard to wean or that breastfeeding has to be done for a long period of time in order for it to have any benefit. Remind them that their young infants can be easily weaned, and that any breastfeeding is very valuable to both mother and infant, regardless of how long or short a time it is done.



 **GO TO** the Workbook for the Breastfeeding Module and complete Self-Check Questions 56–60 right now. Then, immediately check your answers against the Answer Key to the Self-Check Questions (contained in your workbook) before proceeding to the next section of the module.

Expressing Breastmilk¹

Milk expression is the procedure used to “milk” the breast by use of one's hands or by use of a breast pump. The milk obtained from milk expression is collected in a container for later use by the baby. Situations will probably arise for some mothers when they will want to express their milk (e.g., during regular or temporary separations from their infants, or if the breasts become engorged).

There are several methods that can be used to express breastmilk:

- **Hand (or manual) expression.** This involves expressing milk by use of one's hands only. (Techniques for doing this are presented in the following section.) It is a good idea for all breastfeeding mothers to learn how to manually express their milk.

1. This section is based on current research and applies to expressing and storing breastmilk for healthy, full-term babies for home use. It is not necessarily intended for premature babies. For specific guidance on expressing and storing breastmilk for premature babies, the client should consult her health care provider.

- **Use of a hand (or manual) breast pump or mid-size electric pump.** These can be purchased through mail-order companies, La Leche League, many maternity stores, drug stores, specialty stores, and even some grocery stores. Most local WIC agencies have hand pumps available for WIC clients who need them. The mother should be advised to read the instructions that are included with the pump to learn how to assemble it, sterilize it, and use it. The breastfeeding educator in your agency should teach you how to use a particular breast pump so that you, in turn, can demonstrate its proper use to your clients, if necessary. See Appendix C at the back of this module for a list of good, relatively inexpensive hand pumps or mid-size electric breast pumps, along with ordering or purchasing information to share with your clients.
- **Use of a “piston-drive” electric breast pump.** Generally, this is the best pump available because it is the most efficient method of expressing milk. It is ideal for mothers of premature infants or hospitalized infants. “Piston-drive” electric pumps are expensive to purchase, but often can be rented from a medical supply store, local hospital, or local company representative. Many local WIC agencies have electric breast pumps for loan to their clients, or the WIC agency may pay for the rental of such a pump in special circumstances. Ask the breastfeeding educator in your agency about your local agency’s policy regarding this issue. See Appendix C at the end of this module for a list of companies that can be contacted for information about their local rental sites for electric breast pumps. Share this information with your clients if they are interested.

Hand (Manual) Expression

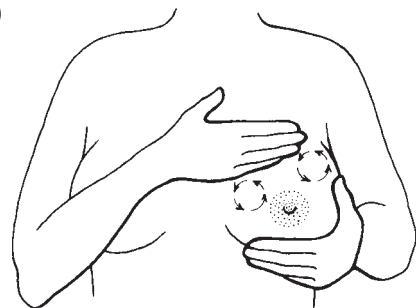
Preparation

In preparing for hand expression, the following steps should be followed:

1. A container for catching the milk should be selected. Good choices are a wide-mouth glass measuring cup or any wide-mouth cup.
2. These containers should be washed in hot soapy water with a bottle brush, thoroughly rinsed, and air-dried. The containers for catching the milk should be sterilized each day by boiling them for 5 minutes in a large pot of water. If the mother uses well water, the containers should be sterilized before each use.
3. The mother should wash her hands in hot, soapy water and rinse off her breasts and nipples in warm water. (Do not use soap on nipples.)

Breast Massage

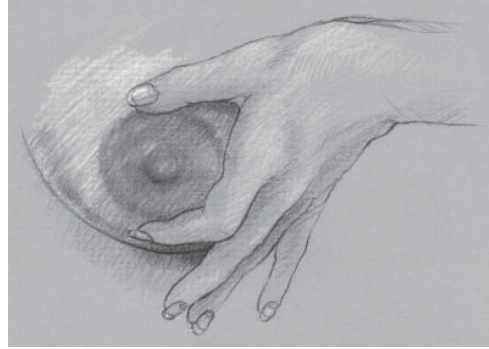
Massaging one’s breasts before manual milk expression helps move the milk down through the milk ducts and stimulates the milk ejection reflex. In fact, breast massage before any of the three methods of milk expression (hand expression, hand pump, or electric pump) is very helpful. To properly massage a breast, the mother should apply gentle pressure to it with her fingers, moving them in small circular motions to cover all parts of the breast. She should start at the outer edges of the breast and work inward toward the nipple, making three concentric spirals around the breast.



Actual Expression of Milk

After the breast massage, the mother is ready to express the milk from her breasts. She should follow these steps:

1. Position the thumb and first two fingers about 1 to 1½ inches behind the nipple. Place the thumb above the nipple and the first two fingers under the nipple, as shown.
2. Press back toward the ribcage. (For large breasts, lift the breast first, and then press in.)
3. Gently squeeze the thumb and fingers together, and then roll the thumb and fingers forward at the same time.
4. Repeat steps 1, 2, and 3 in a rhythmic motion.



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Rotate the thumb and finger positions around the areola in order to fully “milk” the breast. Alternate breasts every 5 minutes or when the flow of the milk slows down in one breast. Massage the breast and nipple during the process of milk expression.

About Milk Expression

The following are some helpful ideas to share with your clients about milk expression:

- Some mothers may find it difficult to express their milk. However, their breastfeeding babies never have any problem with getting enough milk. Thus, a mother should **never** judge her overall milk production by what she is able to express.
- It is a normal occurrence for the amount of milk obtained at each milk expression to vary. Sometimes a mother is able to express an ounce or two at a time; sometimes she is able to express more.
- The nipple stimulation that occurs while a mother is actually expressing her milk triggers milk production and ejection.
- Breast and nipple massage before and during all methods of milk expression will aid in milk production and ejection.
- The mother will probably notice that the appearance of her milk changes while she is expressing it. The first few teaspoons will appear thin and translucent, and then after the milk ejection reflex occurs, it will appear creamy and white. Remember that this appearance of breastmilk is perfectly normal.
- Becoming skilled at hand (manual) expression does take practice and time. Be sure to give the mother all the support she needs.

Storing Breastmilk

Appropriate Containers

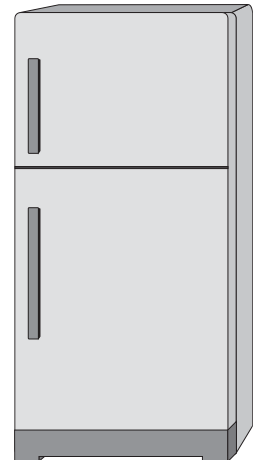
After expressing and collecting her milk, the mother should store it either in the refrigerator or in a cooler. First, though, she may need to transfer her expressed milk to an appropriate container. The following are examples of appropriate containers for storing breastmilk if the milk is to be frozen (and used later). **Note:** All bottles need to have tight-fitting lids.

- A sterilized glass baby bottle is the preferred choice. Glass is the least porous material and offers the best protection for frozen milk.
- Other options are sterilized, hard plastic bottles made of polyethylene (opaque plastic that is often colored) or polycarbonate (clear and shiny plastic).
- Soft, disposable polyethylene storage bags—which are made specifically for storing breastmilk—are another choice. However, when using polyethylene bags to store breastmilk, certain immune components of the breastmilk may be lost; that is, up to 60% of the antibodies specific for the *E. coli* bacteria may be lost. Therefore, rigid containers for storing breastmilk are the wiser choice. However, polyethylene storage bags may be convenient for occasional home use since they take up much less room in the freezer/refrigerator. If polyethylene bags are used, they *may* need to be reinforced by doubling them, i.e., using two of them at the same time. Note: Formula bags designed for specific bottle/nipple assemblies are not meant to be used for breastmilk.

Guidelines for Storing in Freezer/Refrigerator

Freshly expressed breastmilk can be stored for up to 5 days in the back of a regular, cold refrigerator (0° to 4°C or 32° to 39°F). Breastmilk can be safely frozen in the back of a self-contained freezer compartment of a refrigerator for 3 to 4 months. If the client has a deep freezer that maintains temperatures at -20°C (0°F), the breastmilk can be stored there for up to 12 months. Here are some other storage tips:

- Make sure the bag or bottle of frozen breastmilk is dated.
- When freezing breastmilk, any container/bottle being used to store the breastmilk **should not be filled to the top** because the milk will expand during the freezing process. This includes the disposable polyethylene storage bags.
- Only enough breastmilk for just one feeding should be put in each bottle or storage bag.
- For storing milk that has been expressed at work or school when no refrigerator is available, many mothers put their bottle of expressed milk in a wide-mouthed Thermos® bottle packed with ice, or in a small, portable cooler case that is kept cool with a frozen chemical ice pack. (Specially designed cases for storing and transporting breastmilk are available for purchase.)

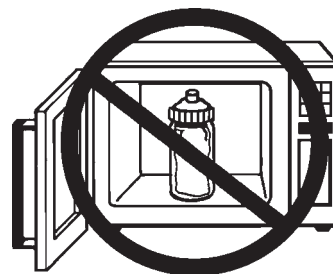


Thawing and Warming Breastmilk

To thaw frozen breastmilk, the container should be moved to the refrigerator compartment a few hours before it will be needed. Just before feeding, the bottle needs to be completely thawed and warmed. This can be done by putting the bottle under tap water that is approximately body temperature. Thawed milk should never be refrozen.

Also, since breastmilk does separate into the fatty hindmilk and the more watery foremilk when stored, it will have a layered look. It is important, therefore, to gently shake the bottle after it is fully defrosted in order to remix the contents.

Breastmilk should **never** be placed in a microwave oven or heated on a regular stove since this destroys both the vitamin C and some of the immune components in the breastmilk. Also, microwaving often causes “hot spots” in food which can cause severe scalding of the infant’s mouth and throat.



How Much Expressed Breastmilk to Leave for Baby?

Mothers often ask for guidelines about how much breastmilk to leave for their baby for each feeding. This depends on the particular needs of her infant. A baby will usually need approximately 2.5 ounces of milk per pound of body weight in a 24-hour period. Below are some general guidelines of average range of milk intake for the baby’s age in months.

<u>Age in Months</u>	<u>Average Intake of Breastmilk</u>
0 to 2 months.....	2 to 5 ounces per feeding
2 to 4 months.....	4 to 6 ounces per feeding
4 to 6 months.....	5 to 7 ounces per feeding

Weaning

Weaning has begun whenever any food or drink—other than the breast—is offered to the baby. Weaning can be either “baby-led” or “mother-led.”

Baby-Led Weaning

In baby-led weaning, the baby or toddler becomes disinterested in the breastfeedings and desires to breastfeed less often. Baby-led weaning is preferable in most instances because it enables the mother to meet the child’s needs at his own pace. Baby-led weaning sometimes begins to take place between 8 and 12 months of age when the baby begins to crawl and becomes more interested in exploring his surroundings. Usually, by this time, solid foods are being offered to complement breastfeeding, and the baby has started drinking water, juice, or breastmilk from a cup.



However, many babies or toddlers will continue to be interested in breastfeeding well into their second year of life or beyond. Older babies or toddlers continue to receive the benefits of a high quality food and immunological protection from continued breastfeeding. In fact, as the older baby or toddler gradually weans, the protein, fat, iron, and immunological components in the milk increase in concentration. *Equally as important*, babies and toddlers nurse for comfort as it makes them feel happy and fulfills many emotional needs.

The mother who is breastfeeding the older baby, toddler, or child should be given a great deal of positive feedback since she may be getting a lot of criticism from relatives, friends, and health care providers about breastfeeding. Extended breastfeeding is neither unnatural nor unusual. While it is sometimes judged as unacceptable in the United States, it is the norm among most cultures of the world. In the early part of this century in the United States, the average age of weaning was around two years of age. The average age of complete weaning worldwide is 4.2 years of age. The former U.S. Surgeon General Antonia Novello has said, “Lucky is the child who is nursed well into the second year of life!”

Mother-Led Weaning

In mother-led weaning, the mother makes the decision to reduce or discontinue breastfeeding and to initiate either partial or complete weaning. This is the usual pattern in weaning young infants. (It is necessary to mention here that since the mother’s needs in the breastfeeding relationship are also important, weaning may be appropriate for the mother if she feels resentful or uncomfortable with breastfeeding and cannot resolve those feelings.)

Ideally, mother-led weaning should be gradual and slow. The mother should begin weaning the baby from the breast by eliminating one feeding at a time every 3 to 5 days. A good way to start is to eliminate the baby’s least favorite feeding first. Gradually, other breastfeedings can be eliminated in the same manner, with the baby’s favorite feeding eliminated last. Slowly weaning the infant, over several weeks, will reduce the baby’s emotional distress and the mother will not experience excessive physical discomfort. It will also give the mother a chance to change her mind and resume full breastfeeding if she finds that the baby has problems with infant formula or that she misses breastfeeding more than she anticipated!

Older infants can be weaned to a cup, while younger infants must be weaned to a bottle. If the infant is under one year of age, iron-fortified infant formula should be used.



**Self-
Check**



**Breastfeeding
Module**

GO TO the Workbook for the Breastfeeding Module and complete Self-Check Questions 61–69 right now. Then, immediately check your answers against the Answer Key to the Self-Check Questions (contained in your workbook) before proceeding to the next section of the module.

Situations That Need Not Interfere With Successful Breastfeeding

Small Breast Size

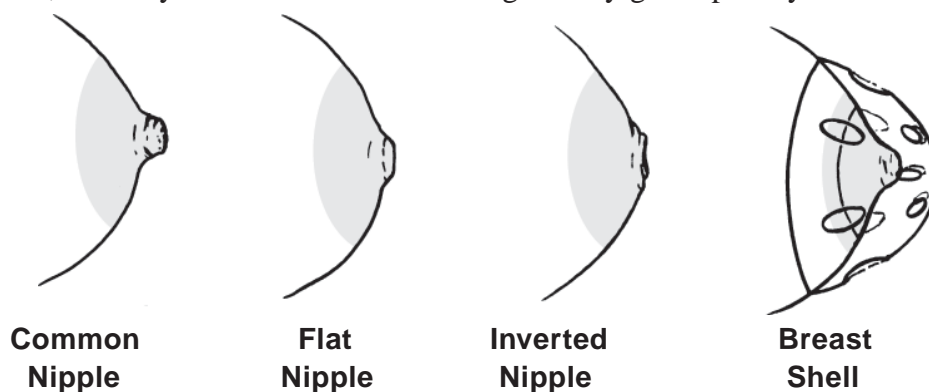
Breast size has no relation to a mother's ability to breastfeed. The size of the breast is determined by the amount of fatty tissue in the mammary gland, and this fatty tissue is not at all involved in the process of making or releasing milk. Thus, women with small breasts can breastfeed as successfully as women with large breasts.

Flat or Inverted Nipples

Flat or inverted nipples should not normally be an obstacle to successful initiation of breastfeeding *if things are handled optimally in the immediate postpartum period*. Remind the mother that her baby is supposed to be breastfeeding, and not nipple sucking. Offer the mother anticipatory guidance in order to enable her to get off to the best start. Suggest the following to her:

- She should request, ahead of time, to keep the baby skin-to-skin until the first breastfeeding is successfully accomplished.
- She should ensure that the baby doesn't get any bottles or pacifiers in the hospital. It is very important that the baby learn to suckle well during the first couple of days after birth, while the breast is soft and pliable. Once the milk supply greatly increases (milk surge), the nipples may become flatter.
- She should request help from a knowledgeable breastfeeding educator about how to optimally position the baby at the breast.

It is also crucial that you reassure the mother that she will be able to breastfeed successfully. Do not in any way infer that her flat or inverted nipples are a problem. Doing so could lead to a self-fulfilling prophecy, that is, if she thinks there's going to be a problem, she may not initiate breastfeeding or may give up early on.



The use of special **breast shells** in the prenatal period has sometimes been recommended to help treat and correct inverted nipples. Some breastfeeding counselors believe that the breast shells can draw out flat or inverted nipples. Other breastfeeding counselors feel that breast shells are ineffective. The effectiveness of the use of breast shells has never been scientifically validated. Breast shells can be obtained through the La Leche League, maternity shops, and may be available in some local WIC agencies.

If the mother inquires about breast shells and wishes to try them, the following steps are recommended:

- About 6 weeks before her due date, the mother should wear the breast shells under her bra for short periods of time, gradually working up to a total of 8 to 10 hours a day. She should not sleep in them.
- She should wear the shells between feedings after the baby is born, if necessary, to keep the nipples protruding.
- She should use shells that have multiple air holes to allow air circulation around the nipples.

If a woman has truly inverted nipples and is having latch-on difficulties, sometimes an electric breast pump can help pull the nipples out, depending on the severity of the inverted nipples. Please refer mothers with inverted nipples to your breastfeeding educator or a certified lactation consultant.

Cesarean (Abdominal) Delivery

The woman who delivers by cesarean section (C-section) will probably stay an extra couple of days in the hospital and may require more rest than other new mothers. However, she should begin to breastfeed after the effects of any general anesthesia (administered to her because of the C-section) have worn off, or in the recovery room if she has had a regional anesthetic.

Premature Delivery

Premature birth is a common reason for hospitalizing an infant beyond the normal hospital stay and often is responsible for a lengthy separation between the mother and her infant.

The breastmilk of a mother who delivers prematurely is different from the breastmilk of a mother who delivers a full-term infant. The milk of a mother who delivers prematurely contains higher concentrations of protein, sodium, and chloride. Providing the premature infant with human milk can help prevent necrotizing enterocolitis (NEC), a serious complication of prematurity which affects the intestines and can be fatal. Research indicates that premature babies who receive their mothers' milk have higher IQs later in childhood, when compared to other children (born prematurely) who did not receive their mothers' milk.

Since receiving breastmilk is crucial for premature infants, mothers may express their milk and take it to the nursery where it can be tube-fed to the infant who is too weak to suck. If the mother is going to be supplying breastmilk for her premature infant, she will need *detailed instructions* on hand expression and pumping. The use of a hospital grade electric breast pump with the capacity for simultaneous two-sided pumping is best for anyone with long-term, frequent pumping needs. The local WIC agency may choose to cover the cost of such a rental or have one available for loan. Refer this mother to the agency's breastfeeding educator for details about all the necessary procedures to follow. Also, have the mother consult with the neonatologist or the neonatal intensive care unit at her hospital about any special milk expression and milk storage requirements for her situation.

The support of family members and friends is essential since the mother is not only recovering from childbirth, but also is traveling to and from the hospital to visit the baby. Additionally, she will be anxious about her baby's condition.

Twins or Multiple Births

Breastfeeding twins is much more efficient than having to prepare and store many bottles of infant formula every day. Mothers of twins have no problem producing enough milk to satisfy the needs of two infants, as long as they consume enough calories and follow the same basic guidelines that are contained in this module for single births. There are mothers who have also successfully breastfed triplets and quadruplets! Refer the breastfeeding mother of twins or multiples to the nutritionist and breastfeeding educator for further support and counseling. Also, refer her to any local support groups for parents of twins or multiples.



Chronic Medical Conditions in the Mother

Heart disease, diabetes, and most other chronic medical conditions are not by themselves contraindications to breastfeeding. In fact, diabetic mothers who breastfeed often feel at their best and require less insulin than before, and mothers with different types of disabilities often choose to breastfeed. Mothers who are carriers of the hepatitis B virus may breastfeed if the baby has received the appropriate vaccine. In general, breastfeeding is more convenient for them than artificial infant feeding. Breastfeeding may be the one thing that they feel they can do for their babies. However, these mothers often need even more support than the average woman, and need help in planning for household assistance. Breastfeeding *may* be contraindicated in cases where the risks of any required maternal medications outweigh the risks connected with feeding formula to the baby. If the mother is on medication, her health care provider should be consulted about its possible effects on breastfeeding. Most medications are compatible with breastfeeding.

Breastfeeding During Pregnancy

Breastfeeding a child *while pregnant with another child* is not unusual. There is no documented danger to the pregnant woman or to the developing fetus (unborn baby) when she continues to breastfeed her baby/toddler. If a pregnant woman chooses to do this, it is very important that she practice good nutrition habits to support both the older breastfed child and the developing fetus. However, if the woman experiences frequent contractions while breastfeeding and has any risk factors which may predispose her to premature delivery, she should be advised to consult her health care provider about continuing to breastfeed.

Most pregnant women who are breastfeeding experience a drastic drop in their milk production by mid-pregnancy. This factor, combined with the changing make-up and taste of the milk, often causes the older child to become less interested in breastfeeding. At this point, the breastfeeding sessions may be more for the baby's comfort than for his hunger. This may result in baby-led weaning, or the mother may wish to initiate weaning. Refer to the Weaning section of this module for more information about this subject. The mother who continues breastfeeding while pregnant should be referred to the nutritionist.

Tandem Nursing

When a mother continues nursing an older baby or toddler and nurses a younger baby at the same time, this is referred to as “tandem” nursing. In such cases, the mother should take care to make sure that the younger baby always gets nursed first. Sometimes mothers will nurse the younger baby on one breast and the toddler on the other.

Situations In Which Breastfeeding Is Not Recommended

Note: The following situations are presented only for your information. If a client who is interested in breastfeeding has any of the following situations, immediately refer her to the breastfeeding educator in your local agency, who may then refer the client to a health care provider for further counseling and possible treatment.

Drugs in Breastmilk

Medications/Prescription Drugs. A few medications are passed into breastmilk in a sufficient quantity to be harmful to the infant. These include anticoagulants, unusual antibiotics, antimicrobials, radioactive substances, and certain other drugs. If such medications are *essential* for the mother’s well-being, and alternative methods of treatment cannot be found, then breastfeeding while taking the drug is not recommended. However, if the treatment is to be short-term, it may be possible for the mother to express *and discard her milk during this time* and return to full breastfeeding when the treatment has ended.

“Street” Drugs. A mother who is a suspected user of “street” drugs such as cocaine, crack/cocaine, marijuana, etc., should be referred to the nutritionist who will then refer the client to the health care provider for further assessment, counseling, and treatment. For more information on “street” drugs, see page 43 of this module.

Serious Infectious Disease in the Mother

The issue of serious infectious disease and breastfeeding is sometimes very complicated. If the client has a serious infectious disease, refer her to her health care provider.

HIV Infection and AIDS

The Centers for Disease Control and Prevention and the Public Health Service recommend that women in the United States who test positive for the HIV antibody avoid breastfeeding, in order to decrease the chances that the AIDS virus will be transmitted to the infant. **All HIV-infected women should be advised of the risk of transmitting the HIV to their infants through breastmilk.** Women who are at particularly high risk for acquiring HIV include the following: women who are intravenous drug users; women whose male partners are intravenous drug users; and women whose male partners are HIV positive. It is also important that all **HIV-negative women** who choose to breastfeed be advised of how to reduce their risk of becoming infected with HIV, since breastfeeding can transmit HIV. Since you would not usually know a client’s HIV status, all pregnant clients should be referred to their county health department for counseling and HIV testing.

Voluntary testing and counseling for HIV should be encouraged as early as possible **prior to pregnancy or during pregnancy**, since treatment is now available during

pregnancy which may significantly reduce the baby's risk of contracting HIV during pregnancy and birth.

The position adopted by the American Academy of Pediatrics (1995) regarding HIV-infected women is as follows:

Women who are known to be HIV-infected must be counseled not to breastfeed or provide their milk for the nutrition of their own or other infants. In general, women who are known to be HIV-seronegative but at particularly high risk for seroconversion (injecting drug users and sexual partners of known HIV-positive persons) should be provided education about HIV with an individualized recommendation concerning the appropriateness of breastfeeding. In addition, during the perinatal period, information should be provided on the potential risk of transmitting HIV through human milk and about methods to reduce the risk of acquiring HIV infection. Each woman whose HIV status is unknown should be informed of the potential for HIV-infected women to transmit HIV during the peripartum period and through human milk and the potential benefits to her and her infant of knowing her HIV status and how HIV is acquired and transmitted.

Certain Metabolic Disorders

An infant with inherited metabolic disorders such as galactosemia and tyrosinemia is unable to drink milk products of *any* kind. In these cases, a special formula is required for infant feeding. However, if an infant has phenylketonuria (PKU), he can be breastfed, but only in combination with a phenylalanine-free formula. Mothers who have started breastfeeding their infants who have PKU should be supported and encouraged to continue breastfeeding **in conjunction with an appropriate PKU formula**. Refer the mother to the nutritionist for the appropriate counseling.



Watch the videotape, *The Clinical Management of Breastfeeding for Health Professionals*, by Vida Health Communications. (Note: The phone number to call to order this video is contained in the *Breastfeeding References* section of this module.)

Deep-seated Aversions

If a woman has a deep-seated aversion to breastfeeding, and even after receiving breastfeeding facts she still has a negative attitude, then she may not be suited to breastfeed. If a woman prefers to bottle feed, she should be supported in her decision.



Self-
Check



Breastfeeding
Module

✍ **GO TO** the Workbook for the Breastfeeding Module and complete Self-Check Questions 70–75 right now. Then, immediately check your answers against the Answer Key to the Self-Check Questions (contained in your workbook) before proceeding to the next section of the module.

Part 4: Counseling—Motivating Women To Breastfeed

Although breastfeeding is superior, many women choose to formula feed their infants. In particular, many clients in the WIC population choose formula feeding over breastfeeding.

As a staff member, it is important to understand not only the factors that attract women to breastfeeding, but also to understand those reasons why women choose not to breastfeed. First, we will focus on the reasons why women do not breastfeed and the counseling techniques that can be used to motivate women to breastfeed their babies. Later, we will discuss those factors that attract women to breastfeeding.

Major Barriers to Breastfeeding

Research conducted among economically disadvantaged women in the southeast region of the United States revealed five common factors that negatively affect decisions to breastfeed. These factors are referred to as the **five major barriers to breastfeeding**. They are:

- lack of confidence
- embarrassment
- fear of loss of freedom
- concerns about “too strict” health and dietary requirements
- influence of family and friends

This research was conducted by Best Start¹. Over forty focus groups, comprised of health department clients from the southeastern states, were interviewed about their perceptions of breastfeeding. The group interviews were taped and transcribed in order to identify breastfeeding barriers and to develop counseling and other promotional strategies.

Barrier 1 and the Three-Step Plan

Lack of Confidence

Women’s lack of confidence is the biggest obstacle to overcome. It is the underlying theme that runs through all the other barriers to breastfeeding. Your clients’ lack of confidence can translate into fears about childbirth and doubts about whether or not

1. Part 4 of this Breastfeeding Module was adapted from the *Best Start Training Manual* by Best Start, 1990.

they will be good mothers. Their lack of confidence may also cause them to believe that they will not be able to produce an adequate supply of milk. These women believe that many of the problems associated with breastfeeding will prove to be insurmountable. Consequently, their insecurities have a pervasive impact on their infant feeding decisions.

Many women do not understand the mechanics of human milk production. Thus, they are easily influenced by stories from other mothers whose milk “dried up” or who supposedly couldn’t satisfy their baby’s nutritional needs because they thought that their milk was weak, “blue,” or too thin. When these reports come from the woman’s mother or aunt, they take on special significance because of the possibility that these problems could be passed on genetically. In many instances, these fears discourage women from initiating breastfeeding or result in the early termination of breastfeeding.

In some cases, a woman may use infant formula supplements in addition to breastfeeding to ensure that her baby is getting enough milk and adequate nutrition. This is unfortunate because use of a supplement decreases human milk production and, thus, the woman’s fears about not producing enough milk become a reality! Many women place a greater degree of trust in infant formula since the ingredients are listed on each can, rather than trusting their own abilities to produce a reliable product.

Some of the educational materials which address the problems of breastfeeding (e.g., the treatment of sore, cracked, or bleeding nipples) reinforce the opinion of some women that breastfeeding is difficult and can be hard to master. Such information can be especially overwhelming and alarming when it is given before a commitment to breastfeeding has been established.

Finally, when asked to describe the “type” of woman who breastfeeds and of one who bottle feeds, many respondents in the research study depicted the breastfeeder as a more confident, secure, and outgoing person. One reason for this image is that promotional materials often feature very attractive and well-dressed women breastfeeding their babies, thus sending the faulty message that the ability to successfully breastfeed is limited to affluent women who have the emotional, social, and financial resources needed to master this task.

Overcoming Barriers to Breastfeeding with the Three-Step Plan

As you can see, a woman’s lack of confidence is perhaps the greatest obstacle to overcome. Our greatest challenge is to make these women feel better about themselves; to help them believe that they are capable of breastfeeding.

One proven way to help them overcome their lack of confidence (and also overcome the other four major barriers mentioned earlier) is by using carefully structured counseling techniques. In particular, there is a three-step counseling plan which has proven to be successful in changing clients’ attitudes and in motivating them to breastfeed.

Although each client and each problem requires a unique response, these three initial steps work with all clients because they are designed to counteract the lack of confidence that is the basis of these women’s fears and doubts.

This three-step counseling plan is also referred to as a three-step educational strategy because when you use these three steps with your clients, you will be ultimately educating them with correct information about breastfeeding.

The Three-Step Counseling Plan

Step One: Elicit the client's concerns.

Step Two: Acknowledge her feelings, reassure her.

Step Three: Educate her, using carefully targeted messages.

A discussion of these three steps and how to effectively use each step in your counseling is now presented:

Step One: Elicit the client's concerns.

In other words, smooth the way and make it easy for the client to respond and confide in you. Ask open-ended questions which will inspire the client to share with you her perceptions of breastfeeding. For example, ask her, "What do you already know about breastfeeding?"

This approach encourages you to listen which, in turn, serves two important functions. First, you are provided with useful information about the client's values and beliefs. These insights can help you target educational messages relevant to a client's special situation. Second, listening demonstrates respect and interest in the client, which is essential in establishing rapport and building trust.

Step Two: Acknowledge the client's feelings and concerns and reassure her that these feelings are normal.

By letting a woman know that her feelings and concerns are real and normal, this makes her feel accepted, opens the lines of communications, and enhances effective education.

Step Three: Educate the client with carefully targeted messages that address her specific concerns.

This becomes relatively simple when it immediately follows the preceding steps. Having listened attentively to the woman's attitudes about breastfeeding, you'll know which topics are of particular significance to her.

Whenever possible, it is helpful to begin "step three" with positive feedback—by reinforcing correct information that she may have shared, or by praising her aspirations to be a good parent. This develops a good rapport and establishes a common ground between you and the client. It also increases the client's confidence in her own ability to follow your advice.

When attempting to correct inaccurate or negative information that the client believes, do not criticize her incorrect information and do not argue with her. Allow the client to “save face” by explaining to her that many people have shared her particular belief, but recent research has shown that it simply isn’t true. Use this approach especially when correcting negative information passed down by close relatives whom you do not wish to offend. Being gentle and diplomatic opens the doors to communication and education, giving you the opportunity to offer accurate information.

Because women are continuously exposed to sources of new information from family and friends, this three-step educational strategy can and should be used repeatedly during the entire term of pregnancy. It is crucial to equip the client with accurate information as early as possible so that she is better prepared to determine the validity of other people’s advice. Each time a new opportunity comes up where the client reveals additional concerns that may have arisen since the last session, be sure to use this *three-step counseling plan of listening, reassuring, and educating*.

Now we’ll take a close look at each of the remaining four barriers to breastfeeding—embarrassment, fear of loss of freedom, concerns about health and dietary restrictions, influence from family and friends—and show how the three-step counseling plan can be used to overcome each barrier, with the ultimate goal of motivating the client to breastfeed. But first, complete the following self-check section to test your understanding of the information.



✍ **GO TO** the Workbook for the Breastfeeding Module and complete Self-Check Questions 76–80 right now. Then, immediately check your answers against the Answer Key to the Self-Check Questions (contained in your workbook) before proceeding to the next section of the module.

Barrier 2 and the Three-Step Plan

Embarrassment

Almost all the respondents in the focus groups of the research study conducted by the Best Start program viewed their breasts as sexual organs and associated them with their ability to attract and please men. As a result, these women were apprehensive about breastfeeding in front of others. Some women admitted that they would even feel uncomfortable breastfeeding in front of family and friends, unless they were sure that their breasts were not exposed.

A common theme among these women was their anxiety about breastfeeding in a shopping mall, on a bus, or in other public settings. They worried that breastfeeding

their baby in public would arouse men; make their husbands, boyfriends, and other women jealous; or look “gross” and “disgusting.”

Some women said they would be willing to breastfeed in public places if they could learn simple cover-up techniques. For others, even discreet breastfeeding would cause them embarrassment. However, almost all these women resented having to “hide” in private places, such as restrooms or cars, in order to feel comfortable when breastfeeding their babies.

Teens are extremely sensitive to what others might think. In fact, some teens wouldn’t even want other people to know about their decision to breastfeed their babies.

There is also a small proportion of women who reject breastfeeding due to deep-seated emotional or religious reasons. They believe that breasts are strictly for sex. The idea of putting a baby’s mouth to their breasts is disgusting to them.

Overcoming Embarrassment Using the Three-Step Plan

The three-step plan is extremely important when discussing embarrassment and other related feelings women have about their breasts. Since it often takes a significant amount of time before some clients will share their innermost feelings about this sensitive issue, you should begin early with “step one” of the three-step plan by using every possible opportunity during pregnancy to *listen* and *learn about* your clients’ feelings. Ask open-ended questions like: “Many women are embarrassed to breastfeed in front of anyone because their breasts might be seen. Do you think it would be difficult to breastfeed in front of other people?”

The second step, reassurance, is also crucial in helping these women overcome their initial apprehension. They need to know that they are not alone in their feelings. Let them know that most women view their breasts as sexual organs. For this reason, many women can expect to feel embarrassed at first when breastfeeding in front of others. It’s only natural, considering the prevalence of advertising messages that use women’s breasts as selling tools.

These perceptions do change, however, after a woman starts breastfeeding. Her breasts become de-sexualized, and she begins to associate her breasts with nourishment for her baby. Like anything new, it takes time to get used to breastfeeding; and, as the mother adjusts, so will the people around her.

For those few who find that they cannot deal with the embarrassment, expressed breastmilk can be substituted when the baby must be fed in public places, or the baby can be weaned completely to a bottle. What counts is that they at least give breastfeeding a try, if only for a limited time, because even the short-term benefits are worthwhile.

The third step, education, should include information on discreet breastfeeding techniques. Many women are not aware that there are a variety of possible positions in which to nurse the baby that do not expose the breasts. You can help clients practice discreet ways to breastfeed by having them use a doll and stand in front of a mirror as they try the different breastfeeding positions.

Barrier 3 and the Three-Step Plan

Fear of Loss of Freedom

Another stumbling block for many women is the loss of freedom they associate with motherhood. They worry that the requirements placed on them by breastfeeding will only make the problem worse. Younger mothers are especially concerned breastfeeding will prevent them from having time for themselves or their friends; or that breastfeeding will tie them to the house and restrict their social activities.

Some women are also fearful that the bonding which accompanies breastfeeding will “spoil” their baby. They think that this, in turn, will make it harder to leave the infant with a sitter, thus taking away even more of their freedom.

Many women do not think they can cope with managing breastfeeding while working or attending school. They do not know how to combine breastfeeding, expressing their own milk, or using infant formula supplements (when necessary).

Some women also fear that it would be difficult to wean the baby from breast to bottle, so even short-term breastfeeding is not considered as an option. All in all, breastfeeding is perceived by these women as being incompatible with an active lifestyle.

Overcoming Fear Of Loss Of Freedom Using The Three-Step Plan

Most women will not directly admit that breastfeeding seems to be too much of a sacrifice to them. Instead, they will explain their preference for bottle feeding in terms of the commitments they have: work; school; or other outside activities. These kinds of comments should alert you to explore in greater depth the concerns your clients really have about the loss of freedom they associate with breastfeeding.

Ask lots of questions and try to determine what their plans are after the baby is born. What will their schedule be like? Will they return to work or school, and if so, when and for how long? How do they feel about leaving the child with a sitter? Answers to these and other related questions elicit the information required to demonstrate how breastfeeding can be tailored to their individual lifestyles. It also uncovers erroneous beliefs about breastfeeding that can be corrected with education.

It is important to acknowledge your client’s feelings and reassure her that many new mothers have mixed feelings about the sacrifices and responsibilities of motherhood. This kind of support can go a long way in making your client feel accepted by you, and it makes it easier for her to confide in you.

There is a widespread misconception that breastfeeding spoils a baby and will make the infant cling to the mother and cry for her when she tries to leave the child with a sitter. Many women share this belief, so you need to let your clients know that child development studies prove otherwise. The truth is, babies are not spoiled by any type of love or caring. In fact, breastfeeding—like holding or cuddling—only makes a baby feel more secure.

A crying baby is not a spoiled baby. Crying is the only way a baby has to express a need for love and care.

So when a baby cries and the mother responds by offering the breast or by holding and cuddling him, the infant gets the message that somebody cares. It establishes a solid foundation of trust and security that, in turn, instills more confidence and independence as the child grows older. If, on the other hand, the baby's cries are not answered or the baby is fed by a propped bottle in the crib, the baby could grow up feeling less confident and more clingy—exactly what your clients want to avoid.

You need to reassure these women that there are no rules when it comes to breastfeeding, and that it can be adapted to any lifestyle. Successful breastfeeding does not have to conflict with busy schedules or interfere with social commitments. Some women who return to work or school continue to breastfeed their babies in the mornings, in the evenings, and on weekends. During the times they are away from their babies, they have the daycare providers feed their babies with supplemental bottles of either expressed human milk or infant formula, if necessary.

Thus, when you reinforce the fact that successful breastfeeders can and do lead active lives, this will open the doors for you to educate the woman on matters such as: how to express and store her breastmilk and, if necessary, how she can supplement her breastfeeding with infant formula feeding (although this is not quite as good as exclusive breastmilk feeding).

Refer your client to the agency's breastfeeding educator for suggestions on how to breastfeed, and how to express breastmilk to leave for the baby.

Let them know that combining breastfeeding with bottle feeding is not hard to do. It is recommended that specific information on how to express and store human milk, the use of infant formula supplements, and weaning from breastfeeding be discussed during the later postpartum period. Giving this specific information to a woman during her pregnancy, while she is still trying to decide on a feeding method, could be overwhelming to her.

Barrier 4 and the Three-Step Plan

Concerns about “Too Strict” Health and Dietary Requirements

Many women report that they plan to bottle feed because they feel that they are unable to meet the strict requirements for a successful breastfeeding experience. They are under the mistaken impression that they must maintain very high standards of health and must follow a strict dietary regimen. For example, some assume that if they do not eat vegetables, even for one day, this could jeopardize the nutrient content of their breastmilk. Many women also believe that “fast foods,” spicy foods, chocolate, and colas cause gas or colic in the baby.

Some women worry that they will not be relaxed enough and fear that this will affect both the quality and quantity of their milk. These women feel that breastfeeding imposes just too many dietary and health restrictions, and it seems to be too much like pregnancy!

Addressing Concerns about “Too Strict” Health and Dietary Requirements Using the Three-Step Plan

Once you have elicited the client’s perceptions about the restrictions that are placed upon a woman during breastfeeding, reassure her that it doesn’t require “above average” will power at mealtime or an athlete’s health status to breastfeed.

When you correct this type of misinformation and provide her with new recommendations, remember to keep the dietary and health guidelines simple and easy to follow. You don’t want to overwhelm her with too many facts and figures about meal planning.

Explain to your client that she doesn’t have to constantly “watch” each and every bite of food she eats. The hormonal changes in her body that make lactation possible will also make her hungrier and thirstier. So, if she is eating and drinking enough to feel satisfied, her milk will probably contain all the necessary nutrients to promote the normal development and growth of her baby.

Fast foods and occasional junk foods won’t “ruin” human milk; spicy foods rarely cause problems. If the baby does react to certain foods, minor changes can be made in her diet. Remind her that babies fed infant formula also have reactions, and switching infant formulas can be frustrating, too.

Of course, it’s still important to discuss a well-balanced diet, whether or not your client chooses to breastfeed, for her own health. Eating a variety of foods is essential to maintaining her health. But if there are those occasional days when your client just doesn’t “eat right,” reassure her that she’ll still make healthy milk, and her baby will still get superior nourishment.

When it comes to alcohol, smoking, and caffeine, always stress moderation. Refer to Part 2 of this module under the section “Drugs and Breastfeeding” for information about the effects of drugs on human milk, and when it is necessary to refer the client to the nutritionist or a health care provider.

If your client smokes, she was probably advised to quit, or at least limit the number of cigarettes, during her pregnancy. This same advice applies to the breastfeeding mother. Now is a good time to encourage her to try to stop her smoking habit. (But if she doesn’t stop altogether, she can still breastfeed.) Remind her that all babies, whether breastfed or bottle fed, suffer from the ill effects of “second-hand” smoke.

Some women believe that they will “spoil” their milk if they become upset or angry. Reassure your clients that even if they do feel “hyper” or experience anxiety from time to time, it will not change the composition of their milk or prevent them from breastfeeding. In fact, the hormonal process involved in lactation may actually help them feel more relaxed while breastfeeding.

Note: Most teens (just like older mothers) are good candidates for breastfeeding. Those who choose breastfeeding will want to do what is right for their babies. They will quite likely eat an adequate diet, which can safely include meals at fast food restaurants with their friends.

Barrier 5 and the Three-Step Plan

Influence of Family and Friends

Relatives and friends of your client can play a key role in her infant feeding decisions. Many women, especially the younger ones who are pregnant for the first time, rely on their own mothers for support and for advice about child care, including advice about feeding choices for the baby. In some cases, the woman's husband or boyfriend exerts a strong influence on her decision about whether or not to breastfeed, especially when he lives in the same household or has regular contact with her.



Other family members and friends are also important sources of information, but typically they have less influence than the baby's father, the woman's mother, or the woman's maternal grandmother.

One way family and friends discourage a woman from breastfeeding is to tell the mother-to-be that they really want to help her feed the baby. Another way is to relate stories about other women's inability to breastfeed, which undermine the pregnant woman's confidence in her own ability to successfully breastfeed. There are some cases when a woman initiates breastfeeding, but gets discouraged and stops it because her family and friends express jealousy over the attention she is giving to her baby.

Overcoming the Influence of Family and Friends Using the Three-Step Plan

When dealing with the influence of family and friends, ask your client open-ended questions to elicit her concerns. As she answers your questions, be sure to carefully consider the attitudes of her mother, husband or boyfriend, and other relatives and friends before volunteering your educational information. In other words, determine the degree of opposition that your client is up against.

Find out if she has anyone in her own social network who she can turn to for advice and encouragement if she decides to breastfeed. Women who have no support for breastfeeding or who receive negative input from family and friends for their breastfeeding efforts will generally have a much harder time being successful or continuing for very long.

To avoid setting a woman up for failure, you and other counselors should explain to her the vital importance of support during the first few weeks after delivery. If there is no one available within her own social network, it is up to you to help her find someone who will give her the support for breastfeeding that she needs. It is important that this person (who will be counseling your client) be someone who will make her feel comfortable about asking for advice, especially during the immediate postpartum period.

Many communities have established hotlines and "buddy systems" to make it easier for these women to obtain the information and encouragement that is so essential for

successful breastfeeding. Some county health departments, in fact, are forming breastfeeding support groups and are using peer counselors to interact with their breastfeeding clients. Inquire if such services exist in your health department and/or community and find out all about them so you can refer clients to them.

La Leche League International (LLLI) provides a valuable service for you and your clients. It has a toll-free outreach line that can be called by dialing 1-800-LA LECHE. A La Leche League leader will answer breastfeeding questions and give mothers information on how to contact a LLLI leader in their local area. Please call this number to learn about your local LLLI group and also share this toll-free number with your clients.

Some of the disturbing questions that relatives and friends often ask include: How can you be sure your baby is getting enough to eat? Are you sure your milk isn't too thin? You need to prepare your clients for these questions. **The following information can help “arm” your clients and counteract the doubts planted in their minds by well-meaning relatives and friends:**

- Tell your clients about the ways a mother can make sure that her baby is getting enough milk; i.e., by monitoring her baby's growth, by counting wet diapers on a daily basis, by monitoring the baby's bowel movements. See the section in Part 3 of this module entitled “Frequency and Duration of Feedings” for a detailed discussion of these points.
- Tell your clients the facts about milk production (discussed earlier in this module): that milk is produced on a “supply and demand basis”; that is, the more frequently the baby breastfeeds, the more breastmilk is produced. Encourage the mother to breastfeed frequently to stimulate the milk supply. Thus, if she succumbs to the advice of others and introduces infant formula, milk production will slow down in response to the supplemental feeding.

Other information that helps to educate and take away fears includes:

- It is normal for breastfed babies to need to breastfeed 10 to 12 times in 24 hours.
- Counting wet diapers on a daily basis helps the mother make sure that her baby is getting enough milk.

When talking with a woman about what she has learned from family and friends, be very careful not to sound as if you are offending her family and friends. You can preface your answers with phrases such as: “Back then, they thought that was true, but it is now a proven fact that...” or “We have recently learned that...”

In Conclusion

The five major barriers to breastfeeding and the three-step counseling plan just presented provide you with the information and the tools to effectively promote breastfeeding in your local agency. By helping your clients overcome these barriers, the majority of them can be motivated to breastfeed. You can make a difference!



Self-Check



Breastfeeding Module

✍ **GO TO** the Workbook for the Breastfeeding Module and complete Self-Check Questions 81–93 right now. Then, immediately check your answers against the Answer Key to the Self-Check Questions (contained in your workbook) before proceeding to the next section of the module.

Factors That Attract Women to Breastfeeding

Now for the surprising news: most of these same women from the research study who expressed their doubts and fears about breastfeeding are, nevertheless, interested in breastfeeding. As a matter of fact, there are probably many women in your local agency who have not actually made a firm commitment to bottle feed and are open to new information about breastfeeding.

Why the interest? Because the women who participated in the Best Start study—as well as the clients in your local agency—have the same hopes and dreams as mothers everywhere: to give their babies the healthiest and best start they can. And most of them know that breastfeeding will help them fulfill these aspirations.

It is important for you, the staff member, to understand and focus on these aspirations when you try to promote breastfeeding practices in your local agency.

The Bonding Experience

An almost universal theme among mothers is the desire to form an exclusive, lasting relationship with their babies that endures beyond childhood. Women are especially interested in the bonding that occurs between them and their babies during breastfeeding.

For women who have experienced breastfeeding or have close ties to someone who has, one of the benefits they find most appealing is the “special time” that lactation offers. Those quiet, relaxing moments they spend cuddling their babies become the enjoyable memories that last a lifetime and make motherhood so worthwhile. This special close and loving relationship, then, is the ultimate attraction to breastfeeding.



Teens express many of the same aspirations as older women, but they also see motherhood as the chance to “come of age” and prove that they are mature, responsible adults. Perhaps most striking is their intense desire to have someone to love, and to have that love returned. Thus, an appealing feature of breastfeeding to a teen mother is that it enables her to have a unique relationship with her baby that no other family member can replace. The teen mother may feel that breastfeeding can prevent her baby from becoming too attached to others who care for the child while she is at work, school, or with friends.

How to Promote the Bonding Experience

It is important to note that promotional efforts which focus on the bonding experience can backfire if bonding is explained in such a way that it becomes associated with attachment and dependency, thus reinforcing some women’s fears over the loss of freedom associated with motherhood and breastfeeding.

It is also counterproductive to claim to women that breastfeeding will make them better mothers, or mothers who will love their children more than those mothers who bottle feed their babies. Many women are offended by the notion that breastfeeders love their children more than those who bottle feed.

A more constructive compromise is to concentrate, instead, on the warmth and unique closeness that women experience as a result of their commitment to breastfeeding. Emphasize what a special joy it is to give their babies something that no one else can provide in the same way.

Other Benefits That Attract Women To Breastfeeding

Consistent with their aspirations to give their babies the best start in life, many women are attracted to breastfeeding because of the superior nutrition and the immunological protection that it offers their infants. Breastfeeders discuss these benefits with pride and conviction that they are giving their children the very best!

These are excellent points to emphasize as you encourage women to try breastfeeding, if only for a few weeks. Even short-term breastfeeding offers significant emotional and health benefits to the child. And it gives the mother the satisfaction of knowing she made a successful commitment to giving her baby the very best. Other breastfeeding benefits that attract a smaller proportion of the women interviewed are: a quicker recovery from childbirth and the gradual weight loss that can be experienced. (The benefits of convenience and economic savings were rarely mentioned by the women in the study as the major reasons for breastfeeding.)

***Babies
Vote
MOM'S
MILK***



Your Important Role

You have just learned that many pregnant women in your local agency have not yet made a firm decision about how they will feed their babies. Although they have their doubts, they are interested in breastfeeding because they want to give their babies the best start in life. Understanding this and the other factors that attract women to breastfeeding can help you effectively promote it in your agency.

Women interviewed in the research study were very attracted to the bonding that occurred with breastfeeding. So, with that in mind, place emphasis on the bonding between the mother and her breastfeeding infant; that is, the touching memories that make breastfeeding a worthwhile and exclusive bond, and the unconditional love that is experienced.

Focus your promotional efforts on the factors that attract women to breastfeeding and on the opportunities that breastfeeding offers. At the same time, emphasize that breastfeeding helps women realize their dreams for motherhood and can help them gain confidence as individuals.



Watch the videotape, *Best Start's Three-Step Counseling Strategy*. (Note: The phone number to call to order this video is contained in the *Breastfeeding References* section of this module.)



**Self-
Check**



**Breastfeeding
Module**

GO TO the Workbook for the Breastfeeding Module and complete Self-Check Questions 94–96 right now. Then, immediately check your answers against the Answer Key to the Self-Check Questions (contained in your workbook) before proceeding to the next section of the module.

Part 5: Creating A Breastfeeding-Friendly Agency¹

WIC agencies strive to be client friendly, but we need to go a step further to make our agencies “breastfeeding-friendly” as well. Most agencies have already done many things to promote and support breastfeeding in their offices and communities. However, breastfeeding is *so* important that we always need to look for new ways to educate and motivate our clients to initiate breastfeeding, breastfeed for a longer period of time (duration), and to breastfeed exclusively.

Breastfeeding Policy in the Local Agency

A policy is like a road map. It helps you get to where you want to go; it keeps you from getting lost. Every county health department or WIC local agency in Florida should have a written breastfeeding promotion and support policy. If you are not familiar with your agency’s policy, ask the nutritionist or breastfeeding coordinator where it can be found.

It is important that policies be written down and all staff members be familiar with them. This prevents misunderstanding and is a constant reminder to do the things that need to be done to reach the goal. The policies should be available where everyone can read them. Achievements need to be evaluated and noted. It is important that people agree on the goals of breastfeeding promotion and support. It gives everyone a common goal to aim for.

Examples of some components of local agency breastfeeding promotion and support policies might be:

- All staff who come into direct contact with clients will receive training on effective breastfeeding counseling techniques.
- No infant formula or materials that will promote infant formula will be displayed in the local agency.
- Breastfeeding will be promoted at the check issuance desk in a “breastfeeding friendly” manner.
- The nutritionist or breastfeeding educator will counsel the breastfeeding woman before any supplemental infant formula is issued.

Inquire about the breastfeeding policy for your local agency. If, for some reason, your local agency doesn’t already have a breastfeeding policy, bring up the subject to your supervisor. It could be an important step in helping your local agency to become “breastfeeding friendly.”

1. Source: Adapted, with permission, from the California WIC Program Training Manual, 1998.

Local Agency Office Environment

First impressions are important and we have a wonderful opportunity to promote breastfeeding when we greet a new client for the first time. However, breastfeeding promotion is much more than a one time encounter. Breastfeeding promotion needs to happen each time the client is in the agency. If the message is given often, enthusiastically, and in good taste, the client will know that you promote and support breastfeeding.



The Waiting Area

Recommendations for the waiting area include:

- attractive and culturally appropriate breastfeeding posters and pictures;
- breastfeeding pamphlets;
- magazines that promote breastfeeding such as La Leche League's *New Beginnings*;
- **no** infant formula samples or promotional materials provided by infant formula companies;
- an area where women can discreetly and comfortably breastfeed; and
- a bulletin board with pictures of WIC breastfeeding mothers and their babies.

The Counseling and/or Education Areas

Recommendations for these important areas are:

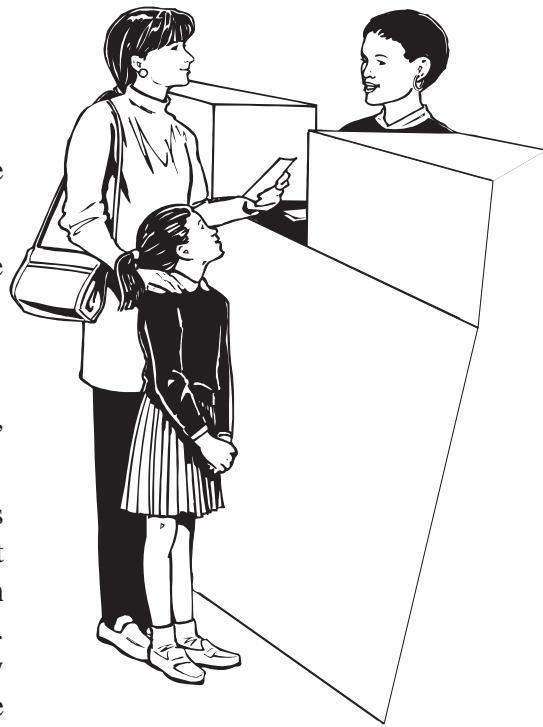
- attractive and culturally appropriate breastfeeding posters and pictures;
- breastfeeding pamphlets;
- a doll to demonstrate positioning;
- breast pumps, breastfeeding accessories, etc., available if necessary;
- an area where a woman can breastfeed discreetly;
- comfortable chairs and footstools for breastfeeding;
- pillows to assist with positioning the breastfeeding baby correctly;
- a lending library of breastfeeding videos and books;
- lists of breastfeeding support groups and resources; and
- a bulletin board with snapshots of breastfeeding moms and babies.

The WIC Check Distribution Area

Recommendations include:

- attractive and culturally appropriate breastfeeding posters and pictures;
- poster and information about the exclusive breastfeeding food package;
- **no** cans of infant formula displayed; and
- **no** cups, pens, pencils, notepads, calendars, etc., with formula company logos.

Survey your WIC agency to look for practices and procedures that promote and support breastfeeding. Compare the things you find in your survey with the recommendations just listed. It might give you ideas of things that could easily be done in your agency to better promote breastfeeding. It probably will make you proud of the good things that are already happening in your agency or provide some areas to improve to become more “breastfeeding friendly!”



Everyone Needs to Be On the Breastfeeding Team



Just as every area of the agency needs to promote and support breastfeeding, every staff member who works in the agency needs to be on the team and working to increase the rate, duration, and exclusivity of breastfeeding in your local agency. Each staff member has a role to play to make the promotion and support program work. This includes the receptionist, clerks, cashiers, diet technicians, nutrition educators, nutritionists, nurses, health educators, supervisors, and program managers.

Can you be an effective supporter and promoter if you have never breastfed? Of course you can! Everyone—male or female, young or old, single or married, experienced breaster or not—can enthusiastically promote and encourage breastfeeding.

What if breastfeeding really turns you off? If you cannot enthusiastically promote breastfeeding, be cautious not to be negative to women who are pregnant or breastfeeding. With a smile, a nod, a simple “That’s great,” you can be supportive when a woman says she’s breastfeeding or planning to breastfeed her baby.

Try to learn as much about breastfeeding as you can. Listen to other agency staff members to learn how they encourage and support breastfeeding. Read magazine articles, attend training sessions, and listen to mothers as they talk about infant feeding and breastfeeding. Remember too that you are never alone. The breastfeeding coordinator at your local agency will be happy to answer any questions you might have about breastfeeding or they can direct you to resources that can give you the information you need.

Creating Positive Breastfeeding Messages

In this section you will learn how to use your breastfeeding knowledge while you do various tasks in the work setting.

As mentioned earlier, studies show that breastfeeding promotion and support is most effective when it begins early during pregnancy. The *number of times* breastfeeding is discussed has been found to be just as important as the *amount of time* spent discussing breastfeeding. In fact, it may have the most influence on the woman's decision to breastfeed. Therefore, it is very important to give frequent and short breastfeeding promotion and support messages. You have a unique opportunity to do this in your agency.

Studies show that women highly value information and help given to them by their doctors, nurses, nutritionists, and other health professionals, and this includes you and your help.

Prenatal WIC Enrollment

During the enrollment process it is only natural to ask your client, "Have you thought about how you're going to feed your baby?" or "What have you heard about breastfeeding?" No matter what her answer, you can encourage breastfeeding.

To the answer: "I'm going to breastfeed my baby."

You can enthusiastically respond: "What a good choice! We'll be giving you a lot of information to help you learn about breastfeeding in the prenatal classes. Let's review this pamphlet that tells about the advantages of breastfeeding." You might also invite her to a breastfeeding support group if you have one at your agency.

If the client says: "I'm not sure how I'm going to feed my baby."

You might answer with the response: "We'd like you to consider breastfeeding your baby. Breastfeeding is the very best for your baby and you. WIC has a lot of information and can help with any questions you might have."

To the answer: "I'm going to bottle feed the baby."

You might say: "We hope that before the baby arrives, you'll have time to think about the advantages of breastfeeding your baby. We'll have lots of information for you in the prenatal classes on infant feeding. In most circumstances, breastfeeding is best for both mom and baby." In this case, it's important to give your client information about breastfeeding and to include her in breastfeeding classes, because many women change their decision when they have more information.

Your infant feeding questions will have many different answers from your clients. For example, some women might say, "I am going to use formula. I have to go back to work in six weeks." Or, "I tried breastfeeding last time, but I didn't have enough milk." Each response will need to be acknowledged in a different manner, using information you



have learned about the benefits of breastfeeding for mothers, babies, and families. With practice, you'll be able to meet the challenge.

The pregnant woman's decision to breastfeed can be reinforced often during pregnancy. Each time she comes to the local WIC office, you can encourage her to talk about her concerns about breastfeeding, give her encouragement, and inform her about breastfeeding. You can also give her some of the pamphlets listed in the "Breastfeeding References" section at the end of this module.

The prenatal client, if applying for WIC, will be answering questions about drug and alcohol use, medications taken, and physical conditions or illnesses. Some of her answers may indicate that breastfeeding may not be the best choice for her or her baby. Refer these clients to the health care provider, nutritionist, or breastfeeding educator before encouraging or discouraging breastfeeding.

Learning Sessions

Breastfeeding can be promoted and supported in infant feeding classes, parenting classes, and mother-to-mother breastfeeding groups. The group setting allows you to reach a larger number of women at one time and the women can learn from each other.

Encourage women to share their knowledge of breastfeeding with women who aren't sure they really want to breastfeed. A woman who has successfully breastfed can be very convincing to other women.

It is important to find out what information the women in each group need to know, or what misinformation needs to be corrected. By encouraging them to participate in the discussions and to ask questions, you guide the course of the learning so the women will have their questions answered and their fears dispelled. The Best Start Three-Step Counseling Plan can be used effectively with groups. See Part 4 of this module for information about this counseling plan.

It is wise to encourage partners, mothers, and grandmothers to participate in the sessions. It's best to have the support of family members when encouraging a woman to breastfeed. These people often are the source of her misinformation. Giving them accurate information can turn them from negative to positive breastfeeding supporters. Family and friends should be invited to participate in group sessions or classes, whenever possible.

Some pregnant women may never have seen a baby being breastfed. Breastfeeding groups provide an opportunity to have a breastfeeding client answer questions and actually show women in the group how to breastfeed discreetly. A woman breastfeeding a baby is very convincing and an effective promoter of breastfeeding.

You may have a mother in the group who raises her hand and says, "I tried breastfeeding and it was the most horrible experience that I ever had. My breasts hurt and my milk wasn't rich enough." While it is difficult to deal with such a situation, don't argue or criticize. Point out that this is an unusual incident and that most women can breastfeed successfully. Ask clients to give reasons why the breasts might have been painful and

what can be done to prevent problems. Discuss the differences between the appearance of breastmilk and infant formulas.

Be prepared for some negative comments and difficult questions about breastfeeding. Sometimes another person in the group might be able to “rescue” you. But sometimes you may have to say, “I don’t know the answer. I’ll ask the breastfeeding educator.” No matter what, always keep your sense of humor and be enthusiastic about breastfeeding.

Prenatal nutrition education classes may cover various topics related to pregnancy, children, and nutrition. Even when the subject of the class covers other subjects, many local agencies include a two- or three-minute “advertisement” about breastfeeding. Short, snappy, clever, and to-the-point messages will keep the pregnant women aware of the importance of breastfeeding.

Breastfeeding Counseling

Many local agencies schedule their breastfeeding women to come to the WIC office as soon as possible following delivery. Many try to call these women at home or at the hospital shortly after the baby is born. When doing this, questions can be answered or problems dealt with to support successful breastfeeding.

Example: Breastfeeding Counseling Over the Telephone

The telephone rings at the Blue Bird WIC office. A staff member, Ann, picks up the phone and hears, “This is Sally Jones. I just had my baby!” Ann responds, “How wonderful! Did you have a girl or a boy?” “We have a beautiful baby girl. She weighs 7 pounds and is 20 inches long.” “Great!” responds Ann, wondering if Sally is breastfeeding or using infant formula. After a few moments of silence Ann asks, “And how is the breastfeeding going?”

Sally answers with “Just fine. Please tell the nutritionist how much her information helped me.” Ann then asks Sally if she has any questions about breastfeeding or if she’d like to speak with the nutritionist.

Even over the telephone it is important to promote and support breastfeeding. By asking about breastfeeding as she did, Ann reinforced all of the positive breastfeeding messages that Sally had been getting while she was pregnant. Staff expected her to breastfeed and were pleased to hear that breastfeeding was going so well for her and the baby.



Other positive ways that Ann could have received the information might include:

- How are you feeding your baby?
- What food are you giving your baby?
- Are you breastfeeding the baby?

Staff should avoid asking this question to determine the method of infant feeding:
“Are you bottle feeding or breastfeeding the baby?”

Mixed Messages About Breastfeeding at the Check Issuance Desk and Appointment Desk

All staff working at the WIC check issuance desk need to know how the baby is being fed so the right checks can be issued. This information needs to be determined each time the client comes in, in case anything has changed. However, simple questions that you may ask regarding your client’s WIC checks may mean something entirely different to the client. She may hear a different message than you intended.

The following are three examples of clients who misinterpreted the questions being asked by the staff member:

Example 1

Mary Jones comes to the WIC office to pick up her checks for herself and her three-month-old baby. Mary has been exclusively breastfeeding. Sonia, the clerk, greets Mary, gets her chart, and says to her, “Are you still breastfeeding?” Mary says, “Oh, yes” but wonders to herself if the staff member thought that she should stop breastfeeding.

Example 2

At the Green Willow WIC office, Nyla Romo is exclusively breastfeeding her three-month-old baby. Nyla is asked, “Will you need any formula this month?” Nyla responded, “No, not at all.” The clerk then said, “Okay, then, but let me know when you do.” Nyla wondered who to believe. The nutritionist and the breastfeeding educator both told her that breastmilk was all the baby needed for six months, yet the clerk was asking if she needed formula. Nyla thought, “Grandma keeps telling me the baby needs a bottle. Maybe she’s right.”

Example 3

Tamara Jones is breastfeeding a four-month-old baby, but has recently returned to school. Tamara’s mother feeds the baby a bottle of infant formula while Tamara is at school. Tamara receives a small amount of powdered infant formula. When she picks up her checks this month, the staff member asks, “Did you have enough formula? Do you need any more?” Tamara wonders if maybe she should have some extra formula on hand in case she does not have enough breastmilk. She has been feeling less confident about her ability to provide enough breastmilk as her baby grows.

These breastfeeding women received mixed messages that left them wondering if it would be better for them to supplement with infant formula. The messages they received did not support their breastfeeding decision and caused them to question their ability to successfully breastfeed. Some better ways to ask about breastfeeding might be:

- How is breastfeeding going?
- You're breastfeeding, right? I thought so; your baby looks so good!
- Do you have any questions about breastfeeding?
- We're so proud that you're breastfeeding!
- Congratulations! You're giving your baby a wonderful start.
- You're so special. Doesn't it feel great to know you are providing your baby everything he needs?
- You are doing a great job! Your baby is so healthy!

Sometimes breastfeeding women come to the check issuance desk or to the "check-in" desk and ask if they can have infant formula. They may say, "I have started giving my baby some formula. I need a couple cans of formula." Infant formula should not be issued to a breastfeeding mother until after she has seen the nutritionist. The nutritionist should counsel the mother on her infant feeding issues. In many cases, the nutritionist may need to give the mother encouragement to continue breastfeeding by reminding her of ways to increase her milk supply and the advantages of exclusive breastfeeding. All staff members should be familiar with the section of Chapter 6 of the *WIC Procedure Manual* (DHM 150-24) that discusses "Breastfeeding Promotion and Support" and also the attachment to Chapter 6, "Integration of Breastfeeding Promotion, Protection and Support in County Health Departments and WIC Agencies."

There are other ways that staff can support and promote breastfeeding. Some useful suggestions would be:

- Give praise to breastfeeding women as you screen them and distribute their checks.
- Do not stare at clients who are breastfeeding. Instead, smile!
- Do not make negative comments about breastfeeding.
- Make sure cans of infant formula are out of sight.
- Understand that counseling breastfeeding women often takes more time than counseling bottle feeding women.

Be Sensitive to Cultural Practices

Remember always to be sensitive to the cultural practices of your clients. Many cultures have taboos about breastfeeding. For example, some groups believe that colostrum is "bad" and it must not be given to the baby. Others believe that a frightening event or a fight with a family member will make the milk "spoil" or "go bad."

It is important to acknowledge these cultural practices because they have been around for many years. Some beliefs cannot be changed or are difficult to change even in light of scientific knowledge. The staff member must then decide whether or not these beliefs are harmful, and if not, will need to find ways to work around them.

To the woman who believes colostrum is “bad,” you might suggest expressing it, throwing it away, and then nursing the baby with the “real” milk. Or you might say that the “real” milk will come in faster if the baby breastfeeds more often. The suggestion to express the “bad” milk, throw it away and then continue to nurse might also be given to the woman who thinks her milk has “spoiled.”

Again, what may seem silly or ridiculous to you may be a very ingrained practice for others. It is part of your job to understand, make culturally sensitive suggestions and respect the WIC client’s cultural beliefs. The nutritionist will give suggestions if you need help in responding to cultural practices.

Where to Find Breastfeeding Information in Your Agency

Breastfeeding Staff

Every local WIC agency has a breastfeeding coordinator, and many agencies have trained nutritionists, dietetic technicians, nurses, or health educators who also serve as breastfeeding educators. These breastfeeding educators can provide information about promotion and support, as well as help with some of the more difficult problems some women encounter when breastfeeding their babies.

Some local agencies employ or contract with certified lactation consultants who are breastfeeding specialists. Certified lactation consultants have specialized training to deal with the more complicated breastfeeding problems. They often work in hospital settings, as well as in WIC agencies. In addition to counseling clients on breastfeeding issues, they train nurses, doctors, nutritionists, and other health care professionals about breastfeeding.

Breastfeeding Resources

Local agencies have resources for all staff to use. Some of the most useful breastfeeding materials are:

Best Start’s Three-Step Counseling Strategy. This training manual includes a video and several overhead transparencies which give breastfeeding counseling tips and strategies.

The Breastfeeding Answer Book, La Leche League International. This book has the answer to many questions you might encounter in your work in a WIC agency. It covers the basic things you need to know. It’s easy to find information in the book and is written in an easy to understand manner.

Counseling The Nursing Mother, A Reference Handbook for Health Care Providers and Lay Counselors, by Judith Lauwers and Candace Woessner. This loose-leaf handbook is well organized and has information you can use to successfully counsel and help breastfeeding women with and without problems. It has an excellent section on overcoming breastfeeding obstacles.

Breastfeeding: A Guide for the Medical Profession, by Ruth Lawrence. A book more suitable for professional staff, but is useful if you want to learn technical terms or are interested in the physiological aspects of breastfeeding.

Drugs in Pregnancy and Lactation, by Briggs, Freeman, and Yaffe. An excellent resource book for health professionals regarding drug usage during pregnancy and lactation.

Identifying Positive and Negative Breastfeeding Messages

After learning about the advantages and benefits of breastfeeding, it is easy to think that everyone is as enthusiastic as you are about promoting breastfeeding. Unfortunately, this is not always the case. In this section, we will look at the community around us to help identify some of the positive and negative messages that clients encounter every day. You will also learn how to respond to the messages in a manner that encourages others to support breastfeeding.

About 50 to 60 years ago, breastfeeding was the only safe way to feed babies, and this is still the case in many third world countries today. A mother kept her baby close to her so she could readily feed the baby while doing other tasks. Today, society has different ideas about infant feeding and about women. First of all, breastfeeding is not the only way that an infant can be nourished. There are many brands and kinds of infant formulas available in the grocery stores, drug stores, discount stores, and convenience stores. While breastfeeding is the very best, it certainly is not the only option for feeding a baby today.

The role of women in society has also changed. Women are often juggling many different roles and have many expectations placed on them. Many times, a mother is the only provider of income for a family or she must supplement the family income. Many women have little, or no, paid maternity leave in the United States, in comparison to other industrialized countries. Many of the industrialized nations have generous maternity benefits. Often, a mother in the United States is expected to return to full-time employment within six weeks or less after having her baby. This is often not enough time to fully establish breastfeeding or adjust to the new lifestyle and responsibilities of parenthood. On returning to paid employment, in most cases, the baby and mother are separated because there is no daycare at the work site. The mother must either feed the baby on her lunch break, or pump her milk during the work day to provide a supply of milk for the following day. The only place for her to express milk is often in the bathroom, or a corner of the employee break room. These circumstances do not encourage a woman to continue breastfeeding once she returns to paid employment.

On the bright side, more companies are providing an extended leave of absence for women who choose to breastfeed and many provide on-site daycare for employees' children. Some businesses and agencies have private areas for expressing milk and have refrigerators for breastmilk storage.

Television, Magazines, and Advertising

Breastfeeding is generally not featured in advertising, magazines, movies, or on television when showing a family scene. What you usually see is a baby being bottle fed by a smiling, perfectly groomed mother or other family member. If not shown with a bottle in hand, the bottle is often found in the background, suggesting that bottle feeding is the norm.

Infant formula companies market their products expertly. There are prominent displays in the grocery stores. There are labels and displays that show beautiful smiling children happily holding bottles. These advertisements are in violation of the WHO Code of Marketing of Breastmilk Substitutes. (See Appendix B of this module.)

Infant formula companies prepare educational materials to give to pregnant women and new mothers. Even though these companies produce materials on breastfeeding and claim that they support breastfeeding, they give a mixed message by also showing infant formula cans and logos throughout their printed materials. These educational materials are given free to many groups in the community.

The bottom line, of course, is that the infant formula manufacturers are in business to sell infant formula and to make a profit. This kind of marketing has provided them with enormous profits. It is difficult to market breastfeeding in a similar manner. No one makes money when a woman breastfeeds; however, the mother, the baby, and the community all benefit from it!

Hospitals and Health Care Providers

Hospitals and health care providers display a wide variety of educational materials in their waiting rooms and in their examining rooms. Many of these materials are supplied to them, at no cost, by the infant formula companies. These printed materials are colorful and attractive, give very useful information, and promote their product—infant formula. Parents believe what their health care providers tell them, and also believe what they read in the their health care providers' offices.

Videos produced by the infant formula companies are also widely used in hospitals and health care providers' offices. Many hospitals give "Going Home Packets" to every new baby born at their facility. Most of these discharge packets are prepared by the infant formula companies and include samples of infant formula and coupons for future purchases of infant formula. Some hospitals begin the campaign even earlier. They give infant formula coupons and toys with infant formula company logos when the mother goes to the hospital to register before delivery.



Health professionals who work in hospitals or health care providers' offices vary in their support and knowledge of breastfeeding. Some are very supportive and promote breastfeeding, while others offer no support and encourage women to use the bottle. A critical time for most women who want to breastfeed is immediately following the birth of the baby. A hospital that supports breastfeeding, and employs health care professionals who have accurate breastfeeding knowledge, will do much to help the new mother succeed. A hospital's breastfeeding policy determines the individual level of support that the new mother will receive. It also reflects the philosophy of the health care providers who deliver infants at the hospital.

The positive side of this picture is that more hospitals and health care professionals are realizing that breastfeeding is best. Some staff employed by hospitals and health care providers receive breastfeeding training and have started to employ breastfeeding specialists such as lactation consultants or breastfeeding educators. More and more hospitals are working to become a WHO/UNICEF Baby Friendly Hospital. The Baby Friendly Hospital initiative provides specifications to ensure the best environment for women to breastfeed successfully. Additional information about the Baby Friendly Hospital initiative can be found in your local agency.

Encourage pregnant women who want to breastfeed their infants to let their doctors or midwives know of their plans to breastfeed. You can encourage them to tell the hospital staff not to give their newborn a bottle. Encourage women to be positively assertive and supply these women with cards or notes to give to the nurses as a reminder. Empower them to insist on having the best start in life for their baby.

Work with community organizations to make changes in hospital practices. Breastfeeding specialists, public health nurses, La Leche League members, WIC staff, breastfeeding committees, and perinatal councils can work together to recommend and encourage changes in hospital policies. They can encourage changes in handouts, going home packets, and gifts from formula companies. Encourage your local hospital to work towards becoming a WHO/UNICEF Baby Friendly Hospital.

Friends and Family

I'm sure you have heard a grandmother saying, "This baby is so little. He needs formula. Sally's milk isn't rich enough. Mine wasn't either." This might be heard by the new mother day after day, and after a time she believes it and decides to stop breastfeeding.

The attitudes of a woman's family members and friends about infant feeding can influence the choice the woman makes about the initiation of breastfeeding, and can have a great influence on her success and the length of time she breastfeeds. Since breastfeeding is not yet the norm, you will probably hear more negative comments about it than positive ones.

Working To Change Attitudes of Family and Friends

Attitudes and behavior change slowly, so you may not have “instant success” in changing ideas about breastfeeding. Be sure that you have accurate information to respond to the myths and misinformation that you will encounter. The information in this module and in the suggested resources given throughout this module should be helpful, and you will learn more as you listen to other staff members discuss breastfeeding.

For example, many people believe that it is impossible to have a job and breastfeed. Try to be tactful as you give your information, but be diligent in correcting misinformation. A tactful opening statement might be, “That’s what people have believed for many years, but recent studies show...”

Encourage your own family to be more supportive of breastfeeding. Share the message with your church group, at a baby shower, and at the play ground. Compliment the breastfeeding mother that you see in a restaurant. Take every opportunity to promote and support breastfeeding. Participate at a health fair to promote the advantages of breastfeeding. Be an active worker at World Breastfeeding Week activities.

Praise the breastfeeding women who come to your WIC office. Encourage them to tell their friends and families about the benefits of breastfeeding. Ask them to come to prenatal classes to share their enthusiasm. Recruit them to be peer counselors.

And last, but not least, let your coworkers know when they are doing a good job of promoting and supporting breastfeeding. It may be an attractive bulletin board or a creative class that you noticed. Praise is as important for your coworkers as it is for the breastfeeding mother. Look for opportunities to compliment each other.



Responding and Taking Action to Promote Breastfeeding

It’s one thing to recognize negative and positive breastfeeding messages and it’s another thing to do something about them. When you know a lot about breastfeeding, you might read a magazine and say, “That was not a good article about infant feeding. It barely mentioned breastfeeding.” Then you might just lay the magazine aside. On the other hand, you can respond to these negative and positive breastfeeding messages. While it is essential that negative messages or misinformation be countered or corrected, sources of positive breastfeeding messages need to be acknowledged as well.

Write a Letter

A letter or a postcard is an easy way to tell people how you feel about their breastfeeding message, whether it is negative or positive. A letter is often more effective than a telephone call because it is tangible and can be shared with others who might be interested. As a private citizen, you might choose to write a letter or send a postcard from your home.

A short letter or postcard can be written in these four easy steps:

1. State what you are writing about.
2. Tell why you are writing.
3. Give a reason why it is important.
4. Include your name and address.

Breastfeeding “Champions” in Your Community

There are breastfeeding resources in your community as well as in your local agency. Most of the people or organizations listed below will be happy to provide information about breastfeeding, to help with breastfeeding classes, or to accept referrals and provide direct services to clients. Check with the nutritionist or breastfeeding coordinator to see if your local agency has a list of breastfeeding resources for both staff and clients.

Lactation Educators and Consultants

Nurses, nutritionists, home economists, health educators, and other health professionals can attend special classes and complete related field experiences to become certified lactation consultants or lactation educators. These courses are offered through universities and lactation organizations. Hospitals, health departments, and maternal and child health programs often employ or contract with these specialists to provide services. Many lactation consultants have their own private practices.

La Leche League International (LLLI)

La Leche League is an international, non-profit, non-sectarian organization dedicated to providing education, information, support, and encouragement to women who want to breastfeed their babies. This is done mainly through personal contacts with other breastfeeding mothers. La Leche League groups meet monthly and women share their questions and concerns as well as the benefits of nursing. Trained volunteer leaders facilitate the groups and provide tips and techniques for successful breastfeeding. Leaders often work with doctors, nurses, and other health professionals to solve breastfeeding problems. La Leche League offers two services to mothers:

- During business hours (8:00 a.m. to 5:00 p.m. Central Standard Time, Monday through Friday) mothers can call the toll free number **1-800-LA-LECHE** to reach a Leader at LLLI Headquarters who answers their questions, and sends them a catalogue and other information along with the name and telephone number of a local leader.

- LLLI also has a **Breastfeeding Helpline** at 1-900-448-7475, extension 65. **This is not a toll-free service—the mother’s telephone bill is charged for the time spent on the call. The average length of the call is 5 minutes and costs approximately \$10.** This service provides mothers with immediate breastfeeding information 24 hours a day, 7 days a week. When a mother calls the 900 Breastfeeding Helpline, she is offered her choice of recorded topics. She may change topics or end the call at any time. The 900 Breastfeeding Helpline will offer the following topics:

1. Positioning your baby properly at the breast;
2. Continuing to breastfeed while working;
3. How to know if your baby is getting enough;
4. Increasing your milk supply;
5. Overcoming sore nipples;
6. Treating plugged ducts and breast infections; and
7. Overcoming nipple confusion.

The recording strongly encourages mothers to contact their local leader for ongoing support and personalized information.

WIC Breastfeeding Peer Counselors

Breastfeeding peer counselors are women who help other mothers have a successful breastfeeding experience. These mothers model good parenting skills as well as breastfeeding skills. They often fulfill the role of the traditional family support system which is frequently missing in our current society. The role of the breastfeeding peer counselor is to guide, inform, and support the mother in her decision to breastfeed. They are able to provide guidance and information on starting breastfeeding, preventing and overcoming common problems, building a good milk supply, etc. Breastfeeding peer counselors may work for a local WIC agency in either a volunteer or paid capacity.

Summary

Breastfeeding is the best way to nourish and nurture a baby. We’re sure that you can become a good supporter and promoter of breastfeeding. Breastfeeding benefits everyone. The baby gets the best nourishment and health protection possible while the new mother has the joy of great intimacy with the baby. The father is proud that his baby is being fed and nurtured in the best way possible. The world is a better place to live because the baby is being breastfed and is healthier.

Your enthusiasm in promoting and supporting breastfeeding can make the difference whether a woman chooses to breastfeed. As you share your knowledge about breastfeeding, you give mothers the confidence that they will be able to breastfeed their babies. Knowledge is power. You are helping your clients not only to make an informed health decision but also to successfully experience the pride and joy that comes from giving their children the very best start in life.

Congratulations! You have just finished your study of the Breastfeeding Module.

Once you have reviewed Appendices A through D on the following pages, go to the final Self-Check located below.



**Self-
Check**



**Breastfeeding
Module**

✍ **GO TO** the Workbook for the Breastfeeding Module and complete Self-Check Questions 97–103 right now. Then, immediately check your answers against the Answer Key to the Self-Check Questions (contained in your workbook) before proceeding to the next section of the module.

After completing Self-Check Questions 97–103,

✍ **GO TO** the “Practical Activity for the Performance Objectives,” which is in your Workbook for the Breastfeeding Module—it follows the Answer Key to the Self-Check Questions. Do this Practical Activity according to the instructions provided.



Appendix A

The Innocenti Declaration on the Protection, Promotion and Support of Breastfeeding, 1990

The Innocenti Declaration was produced and adopted by participants at the WHO/UNICEF policymakers' meeting on "Breastfeeding in the 1990s: A Global Initiative," co-sponsored by the United States Agency for International Development (A.I.D.) and the Swedish International Development Authority (SIDA), held at Spedale degli Innocenti, Florence, Italy, on 30 July - 1 August 1990. The Declaration reflects the content of the original background document for the meeting and the views expressed in group and plenary sessions.

Recognizing that

Breastfeeding is a unique process that:

- provides ideal nutrition for infants and contributes to their healthy growth and development;
- reduces incidence and severity of infectious diseases, thereby lowering infant morbidity and mortality;
- contributes to women's health by reducing the risks of breast and ovarian cancer, and by increasing the spacing between pregnancies;
- provides social and economic benefits to the family and the nation;
- provides most women with a sense of satisfaction when successfully carried out; and that

Recent research has found that:

- these benefits increase with increased exclusiveness¹ of breastfeeding during the first six months of life and thereafter with increased duration of breastfeeding with complementary foods, and
- program interventions can result in positive changes in breastfeeding behavior;

We Therefore Declare that

As a global goal for optimal maternal and child health and nutrition, all women should be enabled to practice exclusive breastfeeding and all infants should be fed exclusively on breastmilk from birth to 4–6 months of age. Thereafter, children should continue to be breastfed, while receiving appropriate and adequate complementary foods, for up to two years of age or beyond. This child-feeding ideal is to be achieved by creating an appropriate environment of awareness and support so that women can breastfeed in this manner.

1. Exclusive breastfeeding means that no other drink or food is given to the infant; the infant should feed frequently and for unrestricted periods.

Attainment of a goal requires, in many countries, the reinforcement of a 'breastfeeding culture' and its vigorous defense against incursions of a 'bottle-feeding culture'. This requires commitment and advocacy for social mobilization, utilizing to the full the prestige and authority of acknowledged leaders of society in all walks of life.

Efforts should be made to increase women's confidence in their ability to breastfeed. Such empowerment involves the removal of constraints and influences that manipulate perceptions and behavior towards breastfeeding, often by subtle and indirect means. This requires sensitivity, continued vigilance, and a responsive and comprehensive communications strategy involving all media and addressed to all levels of society. Furthermore, obstacles to breastfeeding within the health system, the workplace and the community must be eliminated.

Measures should be taken to ensure that women are adequately nourished for their optimal health and that of their families. Furthermore, ensuring that all women also have access to family planning information and services allows them to sustain breastfeeding and avoid shortened birth intervals that may compromise their health and nutrition status, and that of their children.

All governments should develop national breastfeeding policies and set appropriate national targets for the 1990s. They should establish a national system for monitoring the attainment of their targets, and they should develop indicators such as the prevalence of exclusively breastfed infants at discharge from maternity services, and the prevalence of exclusively breastfed infants at four months of age.

National authorities are further urged to integrate their breastfeeding policies into their overall health and development policies. In so doing they should reinforce all actions that protect, promote and support breastfeeding within complementary programs such as prenatal and perinatal care, nutrition, family planning services, and prevention and treatment of common maternal and childhood diseases. All healthcare staff should be trained in the skills necessary to implement these breastfeeding policies.

Operational Targets:

All governments by the year 1995 should have:

- appointed a national breastfeeding coordinator of appropriate authority, and established a multisectoral national breastfeeding committee composed of representatives from relevant government departments, non-governmental organizations, and health professional associations;
- ensured that every facility providing maternity services fully practises all ten of the *Ten Steps to Successful Breastfeeding* set out in the joint WHO/UNICEF statement² *Protecting, promoting and supporting breastfeeding: the special role of maternity services*;
- taken action to give effect to the principles and aim of all Articles of the International Code of Marketing of Breastmilk Substitutes and subsequent relevant World Health Assembly resolutions in their entirety; and

2. World Health Organization, Geneva, 1989.

- enabled imaginative legislation protecting the breastfeeding rights of working women and established means for its enforcement.

We also call upon international organizations to:

- draw up action strategies for protecting, promoting and supporting breastfeeding, including global monitoring and evaluation of their strategies;
- support national situation analyses and surveys and the development of national goals and targets for action; and
- encourage and support national authorities in planning, implementing, monitoring and evaluating their breastfeeding policies.

Appendix B

The World Health Organization Code of Marketing of Breastmilk Substitutes

The World Health Organization Code of Marketing of Breastmilk Substitutes (the WHO Code) was approved at the World Health Assembly in May 1981.

Currently, the WHO Code is the only tool for establishing a basis for consistent international practice to protect infants, parents, and health workers from commercial pressures. The aim of the code is “to contribute to the provision of safe and adequate nutrition for infants, by the protection and promotion of breastfeeding and by the proper use of breastmilk substitutes, when these are necessary, on the basis of adequate information and through appropriate marketing and distribution.” The main points of the code are as follows:

1. No advertising of breastmilk substitutes.
2. No free samples of breastmilk substitutes to mothers.
3. No promotion of products through health care facilities.
4. No company personnel to advise mothers.
5. No gifts or personal samples to health workers.
6. No words or pictures idealizing artificial feeding, including pictures of infants, on the labels of the product.
7. Information to health workers should be scientific and factual.
8. All information on artificial feeding, including the labels, should explain the benefits of breastfeeding and the costs and hazards associated with artificial feeding.
9. Unsuitable products, such as sweetened condensed milk, should not be promoted for babies.
10. All products should be of a high quality and take into account the climatic and storage conditions of the country where they are used.

Appendix C

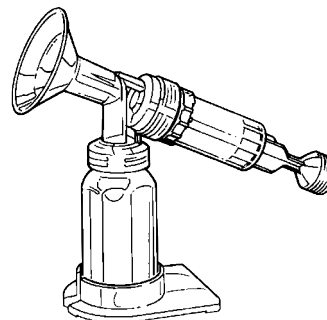
Breast Pumps

Not everyone needs a breast pump. Some mothers do very well expressing milk by hand, and other mothers find that frequent feedings keep their breasts comfortable and their milk supply adequate. However, many mothers do use breast pumps and have discovered that breast pumps fit well into their busy lifestyles. There is no one pump that is ideal for every mother. The “piston-drive” electric pumps are the most consistently efficient, but certain features of the different breast pumps will appeal to or work better for different mothers. The more popular breast pumps are listed in this appendix.

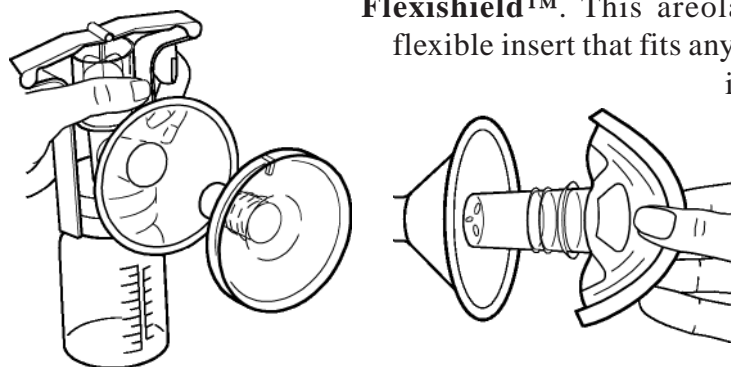
Hand Pumps To Purchase

These pumps generally cost between \$30 to \$60.

- The **Avent Isis** breast pump provides efficiency without the use of batteries or electricity. Its soft “Let Down” Cushion™ features “petals” which flex in and out on the breast while pumping to stimulate “let down.” It is available at Target department stores or directly from the company.
- The **Medela® ManualEase™** breast pump can be used by itself as a hand pump and can also be used as the collection container attachment if you rent the Medela Electric Pump. The ManualEase™ is available from any Medela rental depot.



- The **Ameda™ One-Hand** breast pump is a one-handed breast pump which enables the mother to nurse her baby at one breast and to pump the other at the same time. The pump is small, lightweight, and portable. The pump also has an optional **Flexishield™**. This areola stimulator is a comfortable, flexible insert that fits any Ameda breast pump. It provides increased stimulation to the areola area. It mimics the feeling of a baby’s mouth and helps stimulate the milk ejection (let-down) reflex.



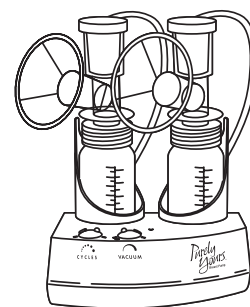
Note: Hand operated pumps that create suction with rubber bulbs are not recommended.



Mid-size Electric Breast Pumps To Purchase

These pumps generally cost between \$200 to \$300.

- **Ameda™ Purely Yours™** breast pump is a small, lightweight pump which offers eight suction settings and four cycle settings. This pump operates on three power sources, including AC adapter, AA batteries, or optional car adapter.
- **Medela® Pump In Style®** breast pump provides double pumping, fully automatic suck-release-relax cycling.

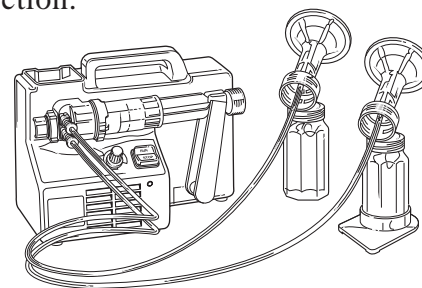


Note: All of the pumps listed in the “To Purchase” sections are also available for purchase through La Leche League. Call (847) 519-9585 or (847) 519-7730 between 8:00 a.m. and 5:00 p.m. Central Standard Time, Monday through Friday.

“Piston-Drive” Electric Breast Pumps To Rent

- The most popular electric breast pumps to rent—and the most effective for most women—are by **Medela®** and **Ameda™**. Both are fully automatic and work on the concept of “piston-drive” intermittent adjustable suction.

The **Medela® Lactina® Select** breast pump weighs half as much as the big electric pump and features adjustable pumping speed and adjustable vacuum. The portability of this pump is a plus for a mother who wants to carry her pump to and from work. To find a rental site in your area, call toll-free (800) 435-8316.



The **Ameda™ Egnell® Elite™ Electric** breast pump provides hospital-grade, computer-driven technology; is compact; is lightweight; has variable suction strength; and has cycling speed options. To find a rental site in your area, call toll-free (800) 323-4060.

- The **White River® Electric** breast pump has a patented soft-cup funnel (rather than hard plastic). This pump stimulates milk supply and extracts the milk from the breast very well. It is fully automatic and features variable suction control. To find a rental site in your area, call toll-free (800) 342-3906.
- The **Whittlestone** breast pump provides a three-piece breast cup and thin-walled liner. The space between the cup and the liner is injected alternately with positive and negative pressure to gently and rhythmically stimulate the nipple area to stimulate milk flow. To find a rental site in your area, call toll-free (877) 608-6455.

Note: For all of the above “piston-drive” electric pumps that are available to rent, it is necessary to purchase an accessory kit for either single-sided pumping or simultaneous pumping. Simultaneous pumping, which is pumping both breasts at the same time, helps increase milk supply and is more effective than single-sided pumping. Simultaneous pumping helps to maintain a good milk supply for premature or sick babies who cannot breastfeed because they are too weak to suck. It also is a time-saver, especially for working mothers, since both breasts can be pumped in the time it normally takes to pump one breast.

Appendix D

Nipple Shields¹

A nipple shield is an artificial rubber latex or silicone nipple, which covers the mother's areola and nipple area while she is nursing. Some women have used nipple shields with the belief that they relieve sore nipples. However, shields do not prevent sore nipples, nor do they correct the underlying cause of sore nipples. **These devices are generally not recommended for the following reasons:**

- They interfere with the milk supply by reducing nipple stimulation and preventing adequate compression of the milk sinuses;
- Infants may refuse to nurse without the shields if they become accustomed to nursing with them;
- Since the nipples on these shields are different than a human nipple, they may lead to nipple confusion; and
- Infants may obtain less milk when suckling on the breast through nipple shields, which may lead to inadequate hydration or inadequate weight gain.

In some cases, nipple shields have been used to achieve “latch-on” at the breast with babies who have repeatedly refused to nurse. These infants may suffer from “nipple confusion” from having been given bottles before learning how to breastfeed well. Rubber latex nipple shields should never be used. Silicone nipple shields are currently available for use. They are more pliable than the rubber latex shields. Silicone nipple shields should only be used under the careful supervision of an experienced certified lactation consultant. The mother must be given explicit instructions regarding their use and also be given written information regarding the potential problems with nipple shields before she begins using them.

If a woman is already using the shields and having trouble weaning her infant off them, she should immediately be referred to a person trained in lactation management (e.g., a certified lactation consultant or a physician, nurse, or nutritionist trained in this area) who can provide assistance to re-establish correct latch-on and nursing on the breast.

Example of a Silicone Nipple Shield

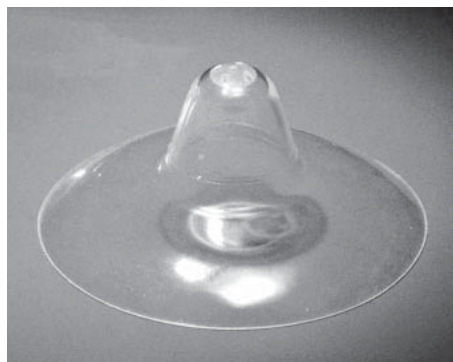


Photo courtesy of Medela, Inc.

1. Parts of this section were adapted from *Infant Nutrition and Feeding: A Reference Handbook for Nutrition and Health Counselors in the WIC and CSF Programs*. USDA/FNS, page 51.

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Pamphlets that can be used for nutrition education:

Best Start, *Loving Support* pamphlets:

Busy Moms: Loving Support Makes Breastfeeding Work. DH 150-403 (English), DH 150-419 (Spanish).

Embarrassment: Loving Support Makes Breastfeeding Work. DH 150-404 (English), DH 150-420 (Spanish).

Encouragement: Loving Support Makes Breastfeeding Work. DH 150-405 (English), DH 150-406 (Spanish).

Florida Department of Health, *Breastfeeding Basics* pamphlets:

Breastfeeding Basics: Why Breastfeeding is Best for You and Your Baby. DH 150-337 (English) and 150-338 (Spanish).

Breastfeeding Basics: Getting Started. DH 150-272 (English) and 150-276 (Spanish).

Breastfeeding Basics: The First Six Weeks. DH 150-273 (English) and 150-277 (Spanish).

Breastfeeding Basics: Common Concerns. DH 150-274 (English) and 150-278 (Spanish).

Breastfeeding Basics: Collecting and Storing Your Milk. DH 150-275 (English) and 150-279 (Spanish).

Breastfeeding Basics: Breastfeeding and Work. DH 150-339 (English) and 150-340 (Spanish).

Florida Department of Health. *Food for a Healthy Mother and Baby.* DH 150-15 (English) and DH 150-97 (Spanish). **Note:** This pamphlet is designed for pregnant and breastfeeding women.

Florida Department of Health. *Iron for Healthy Blood.* DH 150-94 (English), DH150-30 (Spanish), and DH 150-375 (Creole).

University of Florida Cooperative Extension Service and Florida Department of Health. *Haitian Nutrition Initiative* materials.

Videotapes:

Delivery: Self-Attachment. Geddes Productions, 10546 McVine, Sunland, CA 91040, 1-800-453-8316.

Breastfeeding Your Baby - Positioning Solutions. Medela, Inc., P.O. Box 680, McHenry, IL 60051, 1-800-869-7892.

A Healthier Baby by Breastfeeding. Childbirth Graphics, P.O. Box 21207, Waco, TX 76702, 1-800-299-3366.

The Clinical Management of Breastfeeding for Health Professionals. Vida Health Communications, 6 Bigelow Street, Cambridge, MA 02139, 1-800-550-7047.

Best Start's Three-Step Counseling Strategy. Note: All WIC local agencies have a copy of this training manual and videotape.

University of Florida Cooperative Extension Service and Florida Department of Health. *Haitian Nutrition Initiative* materials.



**Florida Department of Health
Bureau of WIC and Nutrition Services**

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Florida Nutrition Training Guide

Nutrition Education Series

Breastfeeding Module



State of Florida
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