Breastfeeding, Family Physicians Supporting (Position Paper)

Introduction
The American Academy of Family Physicians (AAFP) has long supported breastfeeding. All family physicians, whether or not they provide maternity care, have a unique role in the promotion of breastfeeding. They understand the advantages of family-centered care and are well positioned to provide breastfeeding support in that context. Because they provide comprehensive care to the whole family, family physicians have an opportunity to provide breastfeeding education and support throughout the life cycle to all members of the family.

Family physicians may provide prenatal care and labor support, deliver the infant, help in the prompt initiation and continuation of breastfeeding, and continue caring for the baby and family. Breastfeeding education and support can be integrated into these visits. Family physicians have the unique opportunity to emphasize breastfeeding education beginning with preconception visits and continuing through prenatal care, delivery, postpartum care, and during ongoing care of the family. Encouragement from a physician and other family members, especially the baby's father and maternal grandmother, are important factors in the initiation of breastfeeding. In caring for a mother's immediate and extended family, a family physician should remind her social support system to encourage breastfeeding.

History
Throughout most of history, breastfeeding was the norm, with only a small number of infants not breastfed for a variety of reasons. In the distant past, wealthy women had access to wet nurses, but with the industrial revolution this practice declined as wet nurses found higher-paying jobs. By the late 19th century, infant mortality from unsafe artificial feeding became an acknowledged public health problem. Public health nurses addressed this by promoting breastfeeding and home pasteurization of cows' milk. After the turn of the century, commercial formula companies found a market for artificial baby milks as safer alternatives to cows' milk. During this same period, infant feeding recommendations became the purview of the newly organized medical profession. Partially because of physician support and a vision of "scientific" infant care, the widespread use of formula as a breast milk substitute for healthy mothers and babies emerged in the first half of the 20th century. Throughout the middle part of the 20th century, most physicians did not advocate breastfeeding, and most women did not choose to breastfeed. An entire generation of women—and physicians—grew up not viewing breastfeeding as the normal way to feed babies. Despite the resurgence of breastfeeding in the late 20th century in the United States, breastfeeding and formula feeding continued to be considered virtually equivalent, representing merely a lifestyle choice parents may make without significant health sequelae.
Current attitudes about infant nutrition have been molded by the manufacturers of human milk substitutes who have aggressively created markets for their products. They have advertised to physicians and directly to the public in ways that are inconsistent with the International Code of Marketing of Breastmilk Substitutes (Appendix 3). Although much of the literature about breastfeeding distributed by formula companies is accurate, omissions of fact and images of unhappy mothers and babies can mislead parents, reinforce misconceptions about breastfeeding, and suggest that breastfeeding mothers also need to use formula. Physicians have been used to convey this advertising and encourage brand loyalty through "free" literature and formula samples. Use of commercial literature and samples has been demonstrated to decrease breastfeeding rates and increase premature weaning. Currently, the World Health Organization (WHO) recommends that a child breastfeed for at least two years. The American Academy of Pediatrics, like the AAFP, recommends that all babies, with rare exceptions, be exclusively breastfed for about six months and continue breastfeeding with appropriate complementary foods for at least one year. The U.S. Public Health Service's "Healthy People 2010" set national goals of 75% of babies breastfeeding at birth, 50% at six months, and 25% at one year. In 2007, based on a review of the evidence showing benefits of exclusive breastfeeding for the mother and infant, two new goals were added to the original Healthy People 2010 breastfeeding section: to increase the proportion of mothers who exclusively breastfeed at three months to 60% and through six months to 25%. The United States has not yet met its breastfeeding goals. Data published by the Centers for Disease Control and Prevention in 2008 shows that 77% of U.S. mothers initiate breastfeeding, and the percentage of mothers who are still breastfeeding some at six months is variable among ethnic groups from 20-40%. Although some subpopulations come close to Healthy People 2010 initiation goals, many do not, and few mothers breastfeed exclusively. Breastfeeding rates quoted for the United States reflect data that do not distinguish between exclusive breastfeeding, breastfeeding with supplementation, and minimal breastfeeding. National data are sparse on exclusive breastfeeding or breastfeeding beyond six months of age.

Despite growing evidence of the health risks of not breastfeeding, physicians, including family physicians, do not receive adequate training about supporting breastfeeding. Although physicians make health recommendations about many aspects of infant care, many physicians still worry that advocating breastfeeding will cause parental guilt. In fact, parents may feel less guilt if they have had an opportunity to learn all the pertinent information and make a fully informed decision.

Family physicians can make a difference in increasing breastfeeding initiation rates, and especially continuation rates, by advocating breastfeeding, supporting patients and providing appropriate, evidence-based care for breastfeeding dyads.

**Health Effects**

Family physicians should be familiar with the health effects of breastfeeding on women and
children. The evidence concerning health effects continues to expand in terms of depth of understanding and quality of research. Although it is beyond the scope of this paper to specifically review all of the literature, several systematic review articles outline the evidence supporting the role of breastfeeding in optimal health outcomes for mothers and children.\textsuperscript{11,20} Because breastfeeding is the physiologic norm, we will refer to the risks of not breastfeeding for infants, children, and mothers.

In 2007, a systematic review of the effects of breastfeeding on maternal and infant health found that for infants in developed countries, not breastfeeding is associated with increased risks of common conditions including acute otitis media, gastroenteritis, atopic dermatitis, and life-threatening conditions including severe lower respiratory infections, necrotizing enterocolitis, and sudden infant death syndrome.\textsuperscript{20} The health effects of breastfeeding persist beyond the period of breastfeeding. Children who were not breastfed are at increased risk of obesity, type 1 and 2 diabetes, asthma, and childhood leukemia.\textsuperscript{20}

Maternal health outcomes are also affected by breastfeeding. In the short term, the data on postpartum weight loss suggest that the role of breastfeeding is minor compared with other factors.\textsuperscript{20} Further studies with more consistent definitions of breastfeeding intensity and duration are needed. When counseling mothers to breastfeed exclusively, family physicians should reinforce the importance of a well balanced diet and regular exercise. Not breastfeeding is associated with an increased risk of postpartum depression.\textsuperscript{20} In the longer term, for women in developed countries, not breastfeeding is associated with increased risks of type 2 diabetes, breast cancer, and ovarian cancer.\textsuperscript{20}

The evidence base also supports the importance of six months of exclusive breastfeeding (when compared with four months) as protective against gastrointestinal tract and respiratory tract infection, including otitis media and pneumonia.\textsuperscript{20-22}

The evidence overwhelmingly supports the recommendation for breastfeeding for almost all mothers and babies. Increasingly, evidence-based practices that enhance the likelihood of successful breastfeeding have been described. Appendix 1 summarizes some of the appropriate practices. Appendix 2 lists references that may be helpful for family physicians. The remaining portions of this paper discuss special breastfeeding issues and unique concerns of certain populations.

**Special Breastfeeding Issues**

**MEDICATION AND SUBSTANCES**

Almost all prescription and over-the-counter medications taken by the mother are safe during breastfeeding. Several resources are available to help estimate the degree of drug exposure an infant will receive through breastmilk.\textsuperscript{20-22} The National Library of Medicine provides an easy-to-use online source for information on the use of drugs in lactation; it is available at
Physicians must weigh the risks of replacing breastfeeding with artificial feeding against the risk of medication exposure through breast milk. Even a temporary interruption in breastfeeding carries the risk of premature weaning, with the subsequent risks of long-term artificial feeding. Generally, it is recommended that breastfeeding should be interrupted if the mother ingests drugs of abuse, anticancer drugs, and radioactive compounds. Among antidepressants, cardiovascular medications, immunosuppressants, and many other classes of medications, certain drugs are preferred over others for lactating women. In a particular class of medications it is best to choose a drug that has the least passage into breast milk, has fewer active metabolites, and/or is used locally rather than systemically.

Given that there is continuously new information on medications and their effect on breastfeeding, family physicians are encouraged to use reliable and up-to-date resources for advising their patients and advocating for them. Suggested references include those that are regularly updated such as Hale’s Medications and Mothers’ Milk, local or state-wide pregnancy risk hotlines, or the Academy of Breastfeeding Medicine evidence-based protocols.

Physicians should counsel patients before ordering medications or procedures. Often, patients will be counseled inappropriately by well-meaning health care professionals to “pump and dump” or stop breastfeeding based on old information or package inserts. Family physicians should be aware of up-to-date information and advocate for patients to continue breastfeeding safely.

Some medications and substances, such as bromocriptine, nicotine, moderate or large amounts of alcohol, and estrogen-containing oral contraceptives, are known to decrease milk supply. Contraceptive alternatives for breastfeeding mothers are discussed below (see Contraception section).

TOBACCO AND ALCOHOL USE
Infants should not be exposed to cigarette smoke. Children of mothers who smoke cigarettes have elevated cotinine levels in their urine compared with children of nonsmoking women. Nursing women who smoke pass a significant amount of cotinine through breast milk to the baby, such that the baby’s cotinine levels are higher than those of babies exposed to passive cigarette smoke only. Women who breastfeed are advised not to smoke, but if they cannot quit, it is probably still more valuable to breastfeed, although they should be advised to not smoke in the infant's environment, to smoke as little as possible, and to smoke immediately after nursing (rather than before) to minimize the nicotine levels in their milk. Alcohol passes easily into breast milk but is also cleared from breast milk as rapidly as it is cleared from the bloodstream. Although it is safest for nursing mothers to consume no alcohol, there is no documented risk from small amounts. Mothers may be assured that having an occasional
alcoholic drink does not preclude breastfeeding.

CONTRACEPTION IN THE BREASTFEEDING MOTHER
Breastfeeding mothers have a number of options for contraception. The Lactational Amenorrhea Method has been demonstrated to be highly effective when practiced according to three specific criteria: 1) exclusive breastfeeding without routine supplements or delays in feedings, 2) infant is younger than six months, and 3) menses have not returned (i.e., no bleeding after 56 days postpartum.) In a Cochrane analysis of 13 studies that met inclusion criteria, the pregnancy rates at six months ranged from 0.45 to 2.45%. In the absence of any one of these three criteria, this method is unreliable and additional precautions are needed.

Contraceptive options which may be used once the Lactational Amenorrhea Method is ineffective include barrier methods, intrauterine devices (IUDs), and hormonal contraceptives. The main advantage of barrier methods such as condoms and diaphragms is the lack of potential adverse effects to the nursing infant, whereas their main disadvantage is lower effectiveness. They may have their greatest use as a complement to lactational amenorrhea. A previously used diaphragm must be refitted postpartum. IUDs, including copper and progesterone types, are an excellent choice for breastfeeding mothers because of their effectiveness and low risk of adverse effects in the infant. However, they are invasive and carry the risk of infection, uterine perforation, ectopic pregnancy, and secondary infertility. As in non-lactating women, they are not recommended for women with multiple partners or for those with a history of sexually transmitted infections.

Hormonal methods may be prescribed for breastfeeding mothers but are generally not considered as first-line agents, especially in the early weeks postpartum before the establishment of the maternal milk supply. Although anecdotal reports linking hormonal contraceptives to a decrease in milk supply, a recent Cochrane review found that the data are inconsistent and limited. It is generally believed that progestin-only hormonal contraceptive methods are preferable to combined methods because estrogen carries a greater risk of reducing the milk supply. Progestin-only methods including the “mini-pill” and the depot injectable progesterone are best started after six weeks postpartum, after the milk supply is well established. Hormonal methods are best avoided in mothers with existing or previous low milk supply, a history of breast surgery, multiple or preterm birth, or compromised maternal or infant health.

OCCUPATIONAL EXPOSURE AND POLLUTANTS
Women without specific occupational or other known poisonous exposures to pollutants may nevertheless be found to have a variety of polluting chemicals in their bodies. Some of these chemicals may be transferred to fetuses in utero, and possibly to infants postnatally through breast milk. Although the presence of toxic chemicals in humans’ fetal environment and milk signals the urgent need to reduce community exposure to these pollutants, the weight of the
evidence indicates that breastfeeding remains the healthiest option for mothers and babies. The risk of cancers and less-than-optimal neurologic development remains higher in formula-fed babies compared with breastfed babies in similar environments. Women with average environmental exposure do not need to worry about having their milk screened for pollutants. For women with known poisonous exposures, testing of breast milk may be necessary.

Bisphenol A (BPA) is a common chemical used to make many plastics, including baby bottles. Further study is needed on the exact effects of BPA in humans. BPA-free bottles do exist and parents may choose to use those to limit exposure. Because noncommercial fish and wildlife ingestion can be a highly significant environmental source of pollutants, health professionals should remind pregnant and nursing women to follow the fish and wildlife consumption guidelines provided by their state, U.S. territory, or Native American tribe [http://www.epa.gov/waterscience/fish](http://www.epa.gov/waterscience/fish).

INFECTIOUS DISEASES

For most maternal infections, breastfeeding helps protect the infant against the disease or decreases the severity of the illness because of anti-infective components of human milk. Only a few maternal infections preclude breastfeeding:

- In the United States, women with human immunodeficiency virus (HIV) should be advised not to breastfeed because of the potential risk of transmission to the child. In countries with high infant mortality rates caused by infectious illnesses or malnutrition, the benefits of breastfeeding may outweigh the risk of HIV transmission.
- In women with active tuberculosis, the mother and infant should be separated until both are receiving appropriate antituberculosis therapy, the mother wears a mask, and the mother understands and is willing to adhere to infection control measures. Once the infant is receiving isoniazid, separation is not necessary unless the mother has possible multidrug resistant Mycobacterium tuberculosis disease or has poor adherence to treatment and direct-observation treatment is not possible.

Many infections do not preclude breastfeeding, but certain considerations must be made. During active herpes simplex outbreaks, it is safe for a woman to nurse unless she has lesions on her breasts. It is recommended that she not nurse from the affected breast until lesions resolve.

Babies born to mothers who develop chickenpox within five days antepartum or within two days postpartum are at risk for more serious chickenpox infections. It is recommended that baby and mother be separated until the mother is no longer infectious, but expressed milk may be supplied, as long as the milk does not come into contact with active lesions.

Transmission of hepatitis C through breast milk has not been established. The risk of infection from mothers with hepatitis C is the same in breast- or bottle-fed infants. However, bleeding or cracked nipples may put an infant at risk for transmission of the virus.

MATERNAL ILLNESS

Women with chronic noninfectious illnesses may be empowered by their ability to breastfeed. For most illnesses, medication issues do not prevent breastfeeding, as reasonable medication choices can almost always be made. Exceptions include treatment of breast or other cancers, which necessitates use of antimetabolites. Women with severe trauma or acute life-threatening
illness may be too ill to nurse or express milk. If maternal illness causes separation, assistance with maintaining lactation should be provided.

Maternal anesthesia rarely contraindicates breastfeeding. Local anesthetics enter the bloodstream in minute quantities, too small for significant amounts to enter mother’s milk. Most agents used for general anesthesia, including those used for inducing anesthesia, have short half-lives and clear the maternal circulation rapidly. There is no need to delay breastfeeding after general anesthesia for a procedure done within the first two to three days postpartum, such as tubal ligation, because the amount of colostrum is too small to carry a significant quantity of the anesthetic agents. For surgical procedures done later, the decision about resuming breastfeeding depends on the condition of the infant. Mothers of healthy term neonates can resume breastfeeding once they are awake and able to hold the infant. In the case of a preterm or otherwise compromised neonate, pumping and discarding the milk for 12 to 24 hours after the procedure may be warranted.

It is rarely necessary to interrupt breastfeeding for radiologic procedures. The radioiodides used as intravenous contrast agents for some radiography and computed tomography scanning have an extremely short half-life and virtually no oral bioavailability. Therefore, they pose an insignificant risk to a breastfed infant. Similarly, gadolinium used as contrast for magnetic resonance imaging has such minimal excretion in the milk and even lower oral absorption, causing infinitely small amounts to be available to the nursing infant. The knowledgeable family physician can reassure patients going for such procedures that there is no need to interrupt breastfeeding, and may need to intervene on their behalf if the radiologist recommends temporary cessation based on misleading manufacturer’s literature. Similarly, most diagnostic procedures using radioisotopes do not require interruption of breastfeeding. However, there are some which may require temporary interruption and, rarely, cessation of breastfeeding. The Nuclear Regulatory Commission has a list of radionuclides and the duration of any required interruption of breastfeeding (http://www.nucmed.com/nucmed/ref/8_39.pdf). For most diagnostic radioactive scanning, it is possible to find a radioisotope that does not require interruption or at least one with the shortest half-life. The duration of breastfeeding cessation would be five times the half-life. The breastfeeding mother has the option of pumping and storing her milk before the procedure.

BREAST SURGERY

Some women who have had breast augmentation may not be able to produce sufficient amounts of milk. Some of these women may have had insufficient breast tissue before surgery. Breast reduction surgery also increases the risk that a woman will not be able to produce sufficient milk. Breast biopsy with circumareolar incision can interfere with milk supply and transfer in that breast. These women should be encouraged to breastfeed, but mother and baby need to be followed closely to ensure that the infant has an adequate milk intake. Women who develop a suspicious breast mass during lactation should not wean for the purpose of mass evaluation.
Mammography and breast mass biopsy can be done without interfering with lactation. Milk fistula occasionally develops after breast surgery during lactation; this condition is benign and generally resolves without intervention.

MRI may provide additional information in lactating breasts. Family physicians should assist their patients with decisions about breast surgery. They should communicate with the surgeon to advocate for their patient's future breastfeeding needs and breastfeeding conservation surgeries whenever medically feasible.

INFANT ILLNESS
Ill infants benefit from breastfeeding and/or breast milk. These infants often will have poor suck, appetite, and alertness, and often may need supplementation—ideally with pumped milk or pasteurized donor human milk. Illnesses may be acute such as hyperbilirubinemia or hypoglycemia or chronic such as infants with congenital anomalies. Infants born with defects such as cleft lip and palate often may breastfeed, but require consultation with an experienced lactation professional to assure success. However, infants with galactosemia are unable to breastfeed and must be on a lactose-free diet. Infants with phenylketonuria should breastfeed, but they must receive supplementation with a low-phenylalanine formula. Breastfed infants with phenylketonuria have better developmental outcomes compared with those exclusively fed low-phenylalanine formulas.

FATHER’S ROLE IN BREASTFEEDING SUPPORT
As family physicians, it is important to understand and include the baby’s father in the protection and support of breastfeeding. The role of a father has been shown to be one of the most powerful influences on a mother’s decision to breastfeed in the United States. To support and increase breastfeeding initiation and continuation, the opinion, attitude, and the father’s knowledge about breastfeeding and his relationship to his baby and the baby’s mother must be considered.

Strong approval and support of breastfeeding by the father is associated with a high incidence of the decision to breastfeed. Mothers who perceive their partners to prefer formula or be ambivalent about the feeding method are significantly more likely to discontinue breastfeeding before discharge compared with those who perceive their partners as being supportive. Even if the mother thinks that the father has a negative attitude toward breastfeeding, she is more likely to bottle-feed, even if that perception was incorrect.

Much of the focus on breastfeeding support is on the maternal-infant dyad. This focus may lead some fathers to feel excluded and resentful of breastfeeding. Fathers’ negative perceptions of breastfeeding’s effects on such things as interference with sex or having a damaging effect on breast appearance can also lead the mother to bottle-feed.
In general, fathers whose children are bottle-fed have poor knowledge about breastfeeding. Fathers who had previous breastfed children, had attended breastfeeding classes, and received information about breastfeeding from medical personnel had a significantly higher chance of having a better knowledge about breastfeeding. Providing postpartum advice and educational materials to fathers is associated with higher incidence of exclusive breastfeeding or receiving maternal milk within the first three months. If the decision by the mother to breastfeed is made after she becomes pregnant and not before, she is more likely to discontinue breastfeeding before discharge, so it is important for the couple to begin discussing breastfeeding before pregnancy.

For fathers with no breastfeeding role models or those who have not discussed breastfeeding with their partner or who have not attended a breastfeeding class, their first exposure to breastfeeding may be at the time of delivery. Family physicians must encourage pre-pregnancy and prenatal participation by fathers, as well as the mother’s entire support system, to promote breastfeeding.

Family physicians must be prepared to educate fathers and other family members on the benefits of breastfeeding for the mother and baby and dispel any myths and misperceptions they may have. They need to understand that what they may perceive as problems, such as soreness, physiologic infant weight loss, jaundice, baby fussiness, and frequency of feedings especially at night do not necessitate a switch to formula.

NURSING BEYOND INFANCY
As recommended by the WHO, breastfeeding should ideally continue beyond infancy, but this is not the cultural norm in the United States and requires ongoing support and encouragement. It has been estimated that a natural weaning age for humans is between two and seven years. Family physicians should be knowledgeable regarding the ongoing benefits to the child of extended breastfeeding, including continued immune protection, better social adjustment, and having a sustainable food source in times of emergency. The longer women breastfeed, the greater the decrease in their risk of breast cancer. Mothers who have immigrated from cultures in which breastfeeding beyond infancy is routine should be encouraged to continue this tradition. There is no evidence that extended breastfeeding is harmful to mother or child. Breastfeeding during a subsequent pregnancy is not unusual. If the pregnancy is normal and the mother is healthy, breastfeeding during pregnancy is the woman's personal decision. If the child is younger than two years, the child is at increased risk of illness if weaned. Breastfeeding the nursing child after delivery of the next child (tandem nursing) may help provide a smooth transition psychologically for the older child.

EMPLOYMENT AND BREASTFEEDING
In the past 30 years, significant demographic shifts have affected child care and, more specifically, lactation. With a reduction in family size has, there has been a progressively earlier
return of mothers to the workforce, as well as an increased percentage of families headed by women and families in which both parents are employed. These demographic changes have made breastfeeding more difficult to implement. The most significant obstacle to breastfeeding duration is the mother's need to return to work. The day care industry has concurrently grown, fueled by the early return of new parents to the workplace. Regardless of the quality of the day-care facility, studies have documented an increased rate of transmission of infectious diseases in these settings.

Employers can benefit when they promote a positive attitude towards lactation. Many new mothers bring skills and experience to the workplace, and an encouraging atmosphere will promote retention of these valued employees. Women who believe their employers are positive towards their desire to continue breastfeeding are often less torn between their child and loyalty to an employer; such positive attitudes generally result in greater employee productivity. Additionally, breastfeeding mothers lose less time from the workplace because breastfed babies tend to stay healthier than their formula-fed counterparts. Employers may choose to capitalize on their prolactation policies. Such policies may generate customer approval and favorable publicity in the community.

The logistics involved in promoting ongoing lactation vary from employer to employer. Large employers with on-site day care may simply choose to allow breaks for the mother to breastfeed. All employers should be encouraged to have a written policy about the promotion and protection of breastfeeding in the workplace. Ideally, employers should provide a dedicated space for women to nurse or express milk (Table 1). Some employers may choose to offer their employees the option of working part-time or telecommuting the first four to six months when lactation is most time-intensive. A positive approach by employers goes a long way toward assuaging concerns on the part of other employees. In time, federal and state tax benefits could be offered to companies that implement affirmative lactation policies for their employees.

Table 1. Provisions for A Breastfeeding-Friendly Workplace
Family physicians may encourage employers to provide the option of a postpartum leave of at least four months' duration; or part-time employment, telecommuting, or any other available option that could permit the breastfeeding mother to spend more time with her baby. An excellent way to motivate employers is by promoting the 2008 program, “The Business Case for Breastfeeding: Steps for Creating a Breastfeeding Friendly Worksites: Easy Steps to Supporting Breastfeeding Employees,” available at http://ask.hrsa.gov/detail.cfm?PubID=MCH00250. This is a comprehensive program sponsored by the U.S. Department of Health and Human Services, Health Resources and Services Administration Maternal and Child Health Bureau.

Medical students, family medicine residents, and practicing family physicians should be afforded the opportunity to establish and maintain lactation.
MILITARY ISSUES
Military mothers have many issues in common with other employed mothers, but also face some unique challenges. There is not a comprehensive Department of Defense (DOD) policy about breastfeeding, but most branches of the service do have some kind of instruction regarding active duty women and breastfeeding.

The Navy instruction notes that “providing accommodations for breastfeeding offers tremendous rewards for the DOD and Navy, in cost savings for health care, reduced absenteeism, improved morale and service member retention.” The instruction also advises servicewomen to exclusively breastfeed for the first six months and encourages them to continue to provide breast milk for the first year. The Navy, Marine Corps, and the Air Force have policies supporting servicewomen in breastfeeding by providing time (15 to 30 minutes) every 3 to 4 hours, in a clean, secluded space with ready access to running water.

The military environment provides different challenges to breastfeeding servicewomen. All services require active duty mothers to return to work six weeks after delivery and mothers are deployable four months postpartum. Maintaining breastfeeding could be a challenge if the mother must complete field exercises or deployment. The Air Force instruction allows the obstetrician, pediatrician, or family physician to provide a recommendation for deployment for those mothers that are exclusively breastfeeding.

Another challenge is the variety of resources, support, time, and environmental factors that vary from command to command. In the military environment, the attitudes of leaders, such as commanders, are important to the success of any breastfeeding programs. Other key components are scheduled breaks during training and a supportive environment provided by senior leadership.

Family physicians should be aware of the unique challenges these families have and be actively involved in working with the military population to educate commanders, supervisors, and peers about the benefits of breastfeeding and how to support new mothers.

PUMPING, EXPRESSING AND STORAGE GUIDELINES
Expressing milk can be accomplished in various ways. The optimal method varies with the length of the mother’s absence from the infant and maternal preference. For occasional brief absences, hand expression and/or the use of a hand pump is usually sufficient. The longer and more frequent the separations, the more important it is for the mother to use a hospital grade double-pumping electric pump. This is especially important in cases of maternal-infant separation caused by illness or prematurity and maternal return to full-time work in the absence of on-site day care. To avoid a significantly reduced milk supply during the work week, mothers who work full-time can try frequent breastfeeding when they are with their infants, pumping at a frequency as close to the feeding frequency as possible, and instructing the infant care provider.
not to feed a full bottle to the infant shortly before the mother’s arrival to pick up the infant.

Mothers whose milk ejection reflex is inhibited at work can be encouraged to use an item of the
infant’s clothing and/or the infant’s picture as a stimulus and ensure as comfortable an
environment as possible for pumping.

Mother’s milk can be stored safely for longer periods than were previously recommended. For
working mothers with healthy, term infants, the milk can be stored at room temperature for six
to eight hours, in an insulated cooler bag with ice packs for 24 hours, and in the refrigerator for
up to five days. Frozen milk can be stored in the freezer compartment inside a refrigerator for
two weeks, a separate door freezer for three to six months and a chest or upright manual defrost
deep freezer for six to 12 months. Small amounts of milk can be added to previously expressed
milk, but the fresh milk should be chilled before adding to already frozen milk. Room should be
left in the container for expansion during freezing.

The best storage containers are hard plastic or glass containers. It is best to avoid clear plastic
containers because of the possible leaching of BPA into the milk during warming. Warming and
thawing of milk should not be done in the microwave. Thawing can be accomplished by placing
the frozen milk in the refrigerator overnight or with the use of a bowl of warm water or running
warm water. Once thawed, the milk should not be refrozen but can be stored in the refrigerator
for 24 hours. Because any thawed milk that has been partially drunk must be discarded, it is
advisable to use small containers to avoid unnecessary waste.

WEANING

Weaning is the time of gradually transitioning infants from mother’s milk to complementary
foods or an older child’s diet. In this sense, weaning begins with the introduction of solids at the
middle of the first year. Complete weaning, or complete cessation of breastfeeding, ideally
should be a gradual process accomplished over a long period. There is no evidence that a
specific age of weaning is necessary or mandated. Like other developmental milestones,
children wean when they are ready, physically and psychologically. There are several weaning
techniques that can be recommended when a mother wishes to encourage the process.

Medications to decrease or stop milk production are not necessary and should be avoided.
Sudden abrupt complete weaning is rarely necessary, and can place the mother at risk for
engorgement, plugged ducts, galactoceles, mastitis, and breast abscesses. The child may be
placed at risk for infectious illnesses, dehydration, malnutrition, and psychological trauma such
as feelings of abandonment. In cases in which abrupt weaning is necessary, the advice of a
lactation consultant should be sought to minimize the risks.

BREASTFEEDING AND PRETERM INFANT

The period following the birth of a premature infant can be overwhelming for families. The
advice and support of a trusted family physician can be invaluable to parents confronted with
unforeseen decisions and numerous uncertainties. Some relatively mature preterm infants may
be able to breastfeed right away. Family physicians can provide immediate guidance on maintaining lactation when mother-infant separation is required.

Preterm breast milk differs from term breast milk, in that it has a higher concentration of protein, immunoglobulin A, infection-fighting cells, immunomodulators and anti-inflammatory factors and it provides short- and long-term health advantages for preterm infants. Premature infants who receive their mother’s milk have a decreased risk of necrotizing enterocolitis, improved gut motility and maturation, and reduced rates of sepsis compared with infants who receive milk substitutes. Studies of preterm infants have also demonstrated reduced rates of atopic disease in infants with a family history of atopy. A meta-analysis of 20 studies concluded that breastfeeding is associated with long-term cognitive advantages and that preterm infants derive more benefit than full-term infants. Breast milk has also been associated with enhanced retinal development and visual acuity in preterm infants. However, mother’s milk may need to be supplemented with a fortifier for smaller or more fragile preterm infants.

Studies have shown that preterm infants show greater cardiac and respiratory stability when breastfeeding rather than bottle-feeding. Therefore, initiating breastfeeding in preterm infants does not require demonstrated ability to bottle-feed. In addition to promoting physiologic stability in premature infants, skin-to-skin contact or "kangaroo care" increases maternal milk supply and breastfeeding rates. Mothers of preterm infants should be presented with information about the benefits of breastfeeding and breast milk for the premature infant. Women who are hesitant to make a long-term commitment to breastfeeding should be encouraged to nurse or express colostrum and milk for her infant until the baby is discharged from the hospital. The mother of a preterm infant faces many challenges including infant illness, maternal-infant separation, infant feeding difficulties at the breast including the possibility of prolonged pumping, with the emotional and physical stress of juggling personal care with other commitments to her family, job, and her newborn. When family physicians work as part of a medical team of neonatologists, nurses, social workers, dietitians, and lactation consultants, they can be effective in supporting the successful initiation and continuation of breastfeeding the preterm infant.

BREASTFEEDING THE NEAR-TERM INFANT

Newborns born at 35 to 37 weeks’ gestation have special nutritional needs compared with newborns that are full term, and require extra lactation support. These babies tend to be sleepy and are at high risk of not feeding effectively enough at the breast to support sufficient growth. This increases their risk for hypoglycemia and dehydration. Because of their relative immaturity, they are also at risk for delayed hepatic bilirubin excretion leading to jaundice. These babies require monitoring of adequate breast milk intake, and often need supplementation of expressed colostrum or milk until they are sufficiently vigorous at the breast to maintain proper growth.
SUPPLEMENTATION
Routine supplementation of healthy, term breastfeeding infants is not recommended unless medically indicated. Mothers who supplement their nursing infants with infant formula are at risk for a decrease in their milk supply caused by decreased demand. In addition to potential loss of milk, supplementation should only be used when medically indicated because it can also interfere with other psychosocial and neurodevelopmental benefits of breastfeeding. (Note the AAFP policy on supplementation of exclusively breastfeeding infants in Appendix 1). Common situations that require infant supplementation include infant hypoglycemia not responsive to nursing, insufficient maternal milk supply, delay in lactation, excessive infant weight loss, infant illness such that feeding at the breast is not effective, and maternal-infant separation.

Supplementation may be done with expressed milk, pasteurized donor human milk, or artificial infant formula. Methods of supplementation include cup feeding, finger feeding with a syringe attached to a feeding tube, a supplemental feeding tube at the breast, and bottle feeding. One method is not necessarily more suitable than another, and the choice of method depends on individual evaluation of the mother-infant pair. Parents need professional guidance when supplementation is necessary, and consultation with a certified lactation consultant or other knowledgeable health professional is recommended.

Sunlight has historically been the primary source of vitamin D for humans. Human mothers and babies receive much less sun exposure than they historically did because of urban/indoor lifestyles, migration, and sun avoidance or use of sunscreens to prevent skin cancer. Human milk contains low levels of vitamin D, leaving breastfed babies, especially dark-skinned babies, at increased risk for rickets. It is recommended that healthy, term breastfeeding babies receive 200 units of vitamin D supplementation daily by two months of age. Breastfeeding babies receiving 500 mL or more of vitamin-D fortified artificial infant formula do not need additional vitamin D supplementation.

DONOR MILK
There are 10 nonprofit human milk banks in the United States that are members of the Human Milk Banking Association of North America. Each milk bank carefully screens donors, then pasteurizes and distributes donor human milk to a variety of infant and child populations in need. Banked pasteurized donor human milk has been found to be safe and nutritionally sound for babies who do not have access to their mother’s own milk. Certain premature infants, such as those weighing less than 1,500 g generally need protein fortification of banked donor milk to achieve optimal growth.

ADOLESCENTS AND BREASTFEEDING
Although teenage mothers share issues with their adult peers, they also face many unique pressures. The family physician is well positioned to assist the pregnant and breastfeeding...
teenager and her family. All adolescent mothers should be encouraged to breastfeed.112

Many adults in our society may have a negative attitude toward the pregnant teenager. It is essential for her family physician to be aware of these negative attitudes, including his or her own feelings. The family physician can help pregnant teenagers cope with these issues and encourage breastfeeding.112 Enlisting the teenager's support system is important; including the baby's father, peers, and friends may make the difference.114 Peer counseling by other breastfeeding teenagers can be powerful. Adolescents are usually interested in learning about the practical issues of breastfeeding and learn quickly. However, they may often have an incorrect understanding, and dispelling myths is key.11

Pregnant and breastfeeding adolescents often have significant concerns about body image. These concerns can be addressed by providing positive images of discreet breastfeeding and educating them about changes that will occur during pregnancy and breastfeeding. Often, teenagers are disinclined to bring up such concerns, but if asked they are willing to discuss body image concerns, as well as issues such as sexuality and contraception. Because teenagers worry about their changing bodies, it is important to proactively share information about proper nutrition, diet, exercise, and weight loss with the mother and those in her support system.115,116

Milk production in teenagers has been evaluated because of concerns about a possible decreased milk supply in adolescent mothers.117 They may make less milk as a result of having less breast tissue.118 Teenage mothers often feed their infants less frequently and supplement with solids earlier.119 However, most teenage mothers with proper support have ample milk supplies.

Continued support of the adolescent mother will help her maintain breastfeeding. It is also important to help create environments suitable for her success in breastfeeding. The physician may need to advocate on the mother’s behalf at school or work to provide time for breastfeeding and pumping. In addition, anticipatory guidance about her baby’s growth and development, as well as ongoing parenting education, will help the mother and her family to maintain breastfeeding as part of her lifestyle.

ADOPTIVE BREASTFEEDING
Family physicians often care for adoptive parents. The physician should offer the adoptive mother the opportunity to breastfeed her child.

A knowledgeable physician or lactation consultant may help the mother develop a milk supply before or after an adoption.120 The family physician should support lactation induction or relactation as early as possible in the adoptive process. The physician should facilitate placing the newborn to the breast as soon as possible after the birth of the adopted child.

Many adoptive mothers are physiologically capable of producing breastmilk.121 Although the
adoptive mother may not develop a full milk supply, with induced lactation techniques and the use of galactagogues, it is often possible to provide a significant amount of breast milk. The family physician should also consider and facilitate milk from human milk banks to supplement the supply of the adoptive mother. Suckling at the breast has developmental advantages for babies. In many cases, the opportunity to emotionally bond during nursing is the primary benefit of breastfeeding for adoptive mothers and babies.\textsuperscript{122}

BREASTFEEDING MULTIPLES
Mothers of twins and higher order multiples should be encouraged to breastfeed. These mothers will need additional support for breastfeeding. Most mothers can fully breastfeed twins. However mothers of higher order multiples are more likely to need to supplement their milk. Encouraging simultaneous feedings may be helpful to the breastfeeding mother of multiples, and attendance at support groups can also be beneficial.\textsuperscript{123}

BREASTFEEDING IN UNDERSERVED POPULATIONS
Breastfeeding is important for all infants, but children exposed to overcrowding or to poverty are especially vulnerable to the risks of not being optimally breastfed.\textsuperscript{124} Racial, ethnic, and socioeconomic disparities in breastfeeding rates persist despite overall increases.\textsuperscript{11,20,125} Incidence and duration data, however, do not truly measure breastfeeding rates among various ethnic and cultural groups. Statistics gathered under the simplistic groupings of "African-American," "Hispanic," etc., inadequately represent the many cultures and ethnicities included in each category.

Reasons for the relatively low rates in several ethnic and socioeconomic subgroups are cultural and economic.\textsuperscript{126} Women of lower socioeconomic status may have less education and are often employed in positions where work hours, transportation, and other constraints interfere with the maintenance of a regular schedule of breastfeeding and/or pumping. Provision of formula through the Women, Infants, and Children (WIC) program may make bottle-feeding an attractive alternative, despite concordant attempts to encourage breastfeeding. Family responsibilities, the cost of nursing paraphernalia, lack of a private space to nurse, and issues of partner acceptance pose additional obstacles to lactation.\textsuperscript{64,127,128} In addition, these mothers often lack personal role models and access to breastfeeding information and lactation specialists. Certain populations are potentially more vulnerable to the effects of aggressive infant formula marketing practices.\textsuperscript{129,130}

Ethnic subgroups within our society also face significant obstacles to breastfeeding even when economics is not a factor. First-generation immigrants from countries where breastfeeding is the norm are more likely to breastfeed than are second- and later-generation women. This may be because of convenience, belief in modern food technology, and attempts to acculturate into a society where bottle-feeding is perceived to be the norm.\textsuperscript{131} Thus, breastfeeding role models are lost with successive generations. Additionally, accurate breastfeeding information is less
available in languages of smaller ethnic minorities. Few lactation consultants or other health care personnel are equipped to help women who speak languages other than English or Spanish. Some ethnic and cultural groups are under-represented in the lactation consultant field. Many cultures also have unique beliefs about lactation, including rituals regarding milk production, concerns about colostrum, sexual taboos, and beliefs about wet-nursing. These beliefs need to be taken into account when counseling about the lactation process.

Family physicians can promote lactation among their patients of various ethnicities and socioeconomic levels in a number of ways, including:

- Learning about the family structure of their patients. In some cultures, enlisting the cooperation of a pivotal family member (many times the patriarch of the family, but may also be the elder woman in the household) may greatly assist in the promotion of breastfeeding, whereas in others, the participation of a particular family member may be inappropriate.
- Understanding the partner's perspectives and beliefs that may affect breastfeeding success and educating where appropriate.
- Ensuring that parents from diverse cultures understand the importance of breastfeeding to their children's growth and development.
- Respecting cultural traditions and taboos associated with lactation, adapting cultural beliefs to facilitate optimal breastfeeding, while sensitively educating about traditions that may be detrimental to breastfeeding.
- Encouraging exclusive lactation in the hospital in a culturally sensitive manner.
- Providing all information and instruction, wherever possible, in the mother's native language in a culturally relevant manner, and assessing for literacy level when appropriate.
- Understanding the specific financial, work, and time obstacles to breastfeeding, and working with families to overcome them, and providing specific means to address the obstacles.
- Being aware of the role of the physician's own personal cultural attitudes when interacting with patients.
- Being aware of the interaction between the larger American culture and the patient's culture.

**Education of Medical Students, Residents, and Family Physicians**

**MEDICAL STUDENTS**

In the preclinical years, courses in anatomy, physiology, and biochemistry, among others, should include aspects pertinent to lactation (Table 2). These include anatomy of a lactating breast and how this relates to baby's latch-on, physiology of milk production and the milk ejection reflex, biochemistry of human milk and the vast differences in artificial substitutes. Some topics could be covered as "clinical correlation" lectures. Aspects of lactation relevant to particular disciplines could be integrated into the existing curriculum. For example, the basics of the passage of medications into human milk could be incorporated into the pharmacology course. In the introductory clinical course, students should be taught the importance of a patient's own infant feeding history as a possible risk factor for disease, how to take a breastfeeding history when appropriate, and how to examine lactating breasts.

**Table 2. Lactation Topics for Preclinical Years**

- Physiology of the breast during lactation
In the clinical years, patient care experience in family medicine, obstetrics, and pediatrics should include instruction in normal breastfeeding, including risks to mother and baby if alternate choices are made ("informed consent" for formula use).\textsuperscript{133} Topics to be included are preparation to breastfeed during pregnancy, anticipatory guidance for the mother during the first week of lactation, normal growth of breastfed infants, and anticipatory guidance for other issues that arise regarding breastfeeding of older infants and toddlers. Management of other special considerations in breastfeeding dyads, such as breast milk and breastfeeding jaundice, infectious disease and lactation, contraindications to breastfeeding, medications in the breastfeeding mother, nutritional support, lactation and fertility, and the allergic family should be addressed. Other issues that should be incorporated into the curriculum include assisting mothers with breastfeeding an ill or special-needs infant, reestablishing lactation, inducing lactation for an adoptive family, advocacy for employed mothers, and psychosocial support for the breastfeeding family (Table 3).

Table 3. Normal Breastfeeding Topics for Clinical Years

- Effects of labor and delivery interventions on initiation of breastfeeding
- Facilitating and assisting mother with the first feeding in the delivery room
- Neonatal breastfeeding assessment
- Supporting mothers returning to school or work
- Pumps and pumping
- Advocacy

Venues for instruction include lectures, clinics, wards, special lactation clinics, and mentoring by instructors with expertise in breastfeeding medicine. Modes of instruction should include case presentations, problem-based learning modules, direct patient care, patient education opportunities, didactics, and computerized learning modules. Family medicine interest groups could present workshops about breastfeeding to complement the medical school curriculum.

In view of the lack of adequate medical education regarding breastfeeding and human lactation\textsuperscript{17} until recently, it is crucial to provide appropriate faculty development opportunities to provide medical students with faculty knowledgeable in evidenced-based breastfeeding management.

FAMILY MEDICINE RESIDENCY

Family medicine residency curriculum should reinforce the concept that breastfeeding is the physiologic norm for mothers and children. Risks to the child of not being breastfed should be addressed, including nutritional differences between human milk and substitutes,\textsuperscript{18} and short-term and life-long health,\textsuperscript{135-136} developmental,\textsuperscript{95,134-136} and social risks. Risks of not breastfeeding to the mother, including health,\textsuperscript{137-143} financial, and social issues,\textsuperscript{76,144,145} should be covered. Risks of not breastfeeding to the family should also be addressed, such as financial aspects, stress of having an ill child, and long-term loss of income when raising a child with suboptimal development.
The special role of the father and/or the mother’s partner, relatives, and friends in supporting breastfeeding should be addressed. Additionally, risks to society as a whole should be taught, including increasing health care costs\textsuperscript{12,14,15-17} and ecologic considerations.\textsuperscript{14,18}

All aspects of normal breastfeeding (Table 3) and management of common problems (Table 4) should be covered and integrated longitudinally in the three-year residency curriculum.

Individual topics may be addressed as appropriate in the following areas:

- Family medicine centers (prenatal, postpartum, and well-child visits)
- Mother-baby unit of the hospital (including delivery and postpartum)
- Hospital wards (maintaining lactation in ill mothers)
- Didactics, case conferences, online learning projects\textsuperscript{150} and journal club (all topics as appropriate)
- Community lactation consultation clinics and breastfeeding support groups\textsuperscript{151}

**Table 4. Suggested Topics for Residency Curriculum**

**Breastfeeding Basics (Tables 1, 2, 3)**

**Management of common lactation problems**

- **Maternal**
  - Sore nipples
  - Plugged ducts
  - Mastitis
  - Candidal infections of breast
  - Inadequate milk supply
  - Breast lumps during breastfeeding

- **Infant**
  - Latch and suck problems
  - Supplementary feeds
  - Jaundice
  - Inadequate weight gain
  - Frenotomy

- **Special situations**
  - Congenital anomalies
  - Down syndrome
  - Congenital heart defects
  - Cleft lip or palate
  - Maternal breast imaging

Specific elective experiences in breastfeeding medicine should be made available for residents who want more intensive education. Multidisciplinary breastfeeding education has proven beneficial to interns across primary care.\textsuperscript{150} Residency practices should model support of their breastfeeding patients. Specific support should also be provided for medical students and residents (and other staff members) who are themselves breastfeeding.

**CONTINUING MEDICAL EDUCATION FOR PRACTICING FAMILY PHYSICIANS**

With breastfeeding rates rising, it is important for practicing family physicians to seek
continuing medical education (CME) opportunities regarding evidence-based practice for breastfeeding support and management of problems that may occur. Many conferences and seminars on breastfeeding for health professionals offer CME hours for physicians as well. The AAFP is a cooperating organization for the La Leche League International Seminar for Physicians on Breastfeeding, as well the Academy of Breastfeeding Medicine’s Annual International Meeting. Breastfeeding is often a topic at AAFP national educational conferences.

FAMILY PHYSICIANS AND BREASTFEEDING ADVOCACY

Family physicians have had a long history of advocating for patients in various aspects of their health care. The AAFP\textsuperscript{15} endorses the Ten Steps for making hospitals and staff more breastfeeding friendly (Appendix 3). To reach AAFP and United States breastfeeding goals, we will need to be advocates with and for our breastfeeding patients. Until breastfeeding is considered the norm, family physicians will need to be involved in shaping policies that affect breastfeeding. Family physicians can become advocates for breastfeeding in several areas, including in physician offices, hospitals, birthing centers, and workplaces, and with insurance companies. Family physicians can help shape public health policies and encourage research. Although an individual family physician is not likely to be involved in all areas of advocacy for breastfeeding, family physicians working together as a group can become effective advocates for breastfeeding patients.

Studies have shown that the physician’s recommendation to breastfeed increases breastfeeding initiation and duration rates.\textsuperscript{1,154,155} Eliminating formula company literature, advertising, and distribution of samples encourages breastfeeding as normal infant feeding.\textsuperscript{10} We need to be sure that our office and hospital nursery policies support our breastfeeding patients and employees. There are some simple steps that all physicians can take to advocate breastfeeding in our offices (Appendix 1).\textsuperscript{3,133,156-158}

When advocating for breastfeeding issues related to insurance coverage and workplace changes, the economic benefits of breastfeeding are essential points. Several studies have shown substantial increase in cost to families, communities, health care systems, and employers when babies are not breastfed.\textsuperscript{11,116,118} Physicians must be aware of these data to be effective advocates in promoting change in policies regarding breastfeeding. Recent legislative efforts of states have ensured protection for lactating mothers.\textsuperscript{159} Family physicians have assumed many administrative roles in hospitals, managed care plans, insurance companies, and large physician organizations. In these roles, family physicians are in a position to promote breastfeeding and ensure appropriate payment for lactation services provided by physicians or lactation consultants. Family physicians should advocate for improved access to lactation services by encouraging increased availability of lactation consultants.

Family physicians should support and advocate for public health policies that would increase breastfeeding rates. They should actively promote legislation that would encourage the ease,
safety, and security of breastfeeding. Family physicians should advocate for and become involved with breastfeeding-related research aimed at increasing innovative educational models in training programs, the evidence base and, increasing breastfeeding rates.

Family physicians are active and influential in their communities. By projecting a positive attitude toward breastfeeding in the office and the community, they can strongly affect patients’ decision to breastfeed. The U.S. Preventive Services Task Force recommends structured breastfeeding education and counseling to improve breastfeeding rates. Family physicians provide a wealth of patient education in their offices. As a part of their health education and promotion activities in schools, family physicians should incorporate breastfeeding into their education for boys and girls. Making breastfeeding education available to all family and community members will make breastfeeding the community norm.

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REFERENCES:


Appendix 1: Recommendations for Breastfeeding Promotion and Management

AAFP Policy Statement on Breastfeeding

Breastfeeding is the physiological norm for both mothers and their children. Breastmilk offers medical and psychological benefits not available from human milk substitutes. The AAFP recommends that all babies, with rare exceptions, be breastfed and/or receive expressed human milk exclusively for the first six months of life. Breastfeeding should continue with the addition of complementary foods throughout the second half of the first year. Breastfeeding beyond the first year offers considerable benefits to both mother and child, and should continue as long as mutually desired. Family physicians should have the knowledge to promote, protect, and support breastfeeding. (1989) (2007)

AAFP Policy Statement on Hospital Use of Infant Formula in Breastfeeding Infants

The AAFP encourages that hospital staff respect the decision of the mother who chooses to breastfeed exclusively by not offering formula, water or pacifiers to an infant unless there is a specific physician order.

The AAFP discourages distribution of formula or coupons for free or discounted formula in hospital discharge or physician office packets given to mothers who choose to breastfeed exclusively.

General Recommendations for All Family Physicians

1. Breastfeeding promotion and education need to occur throughout the life cycle.
   a. Provide accurate and appropriate breastfeeding information at all preventive health visits throughout the lifespan.
   b. Provide accurate information about infant feeding during preconception and all prenatal visits.

2. Family physicians, whether or not they provide maternity care, should establish a breastfeeding-friendly office.
   a. Avoid the direct or implied endorsement of artificial baby milks (formula) by eliminating the distribution of samples and formula-company sponsored materials.
   b. Display culturally appropriate breastfeeding pictures and posters.
   c. Ensure that all office staff members are knowledgeable about and supportive of breastfeeding.
   d. Have current breastfeeding resources available in the office.

3. Family physicians should actively promote breastfeeding in the community.
   a. Promote practices consistent with the "Ten Steps to a Baby-Friendly Hospital" (Appendix 3)
   b. Provide educational programs in the community about the importance and practical aspects of breastfeeding.
   c. Advocate for mother-friendly policies in the workplace.
   d. Support legislation and public policy that protects breastfeeding.

Specific Clinical Recommendations

1. Preconceptual and Prenatal Education
   a. Address the infant feeding decision before conception or as early in pregnancy as possible; women make their decision about breastfeeding very early. Prenatal intention
to breastfeed has an influence on initiation and duration of breastfeeding. Continue to bring up the issue of infant feeding throughout the prenatal period.1,15

b. Determine the mother's intent and any concerns or misconceptions she may have. Provide appropriate education and anticipatory guidance to encourage her to consider breastfeeding and determine what support she will need to make and carry out this decision.16

c. Elicit any factors in the family medical history that may make breastfeeding especially important (e.g., atopic diseases, diabetes, obesity, cancers), and advise the woman of these factors.14,17-21

d. Elicit any risk factors for potential breastfeeding problems and any medical contraindications to lactation. Provide appropriate support and education.1,22

e. For multiparous women, document the duration of lactation for each infant, reasons for weaning, and any problems that occurred. (We suggest the history be documented with the labor histories of each infant.) For the current pregnancy, document a plan for intervention, including lactation consultation where indicated, on the prenatal form.1

f. Encourage the participation of the mother’s support persons and educate them as appropriate. Remember that whoever is at the prenatal visit or hospital stay is likely to have influence over breastfeeding and other health care decisions.23,24

g. Recognize the feelings of relatives who did not breastfeed, or weaned prematurely. Encourage them to learn what is known about breastfeeding for the optimal health of the mother and baby.

h. Encourage the woman and her support persons, in a culturally sensitive manner, to attend breastfeeding classes and/or support group meetings prenatally.25,26

i. Provide the woman with accurate, noncommercial breastfeeding literature and recommendations for accurate lay breastfeeding resources (e.g., books, Web sites).

j. Educate women about the potential breastfeeding problems associated with the use of intrapartum analgesia and anesthesia. Encourage the use of a labor support person (doula).27,28

2. Intrapartum support

a. Provide appropriate labor support intended to minimize unnecessary analgesics or anesthesia.27-29

b. If mother and baby are stable, facilitate immediate postpartum breastfeeding. Minimize separation of mother and infant and wait until after the first breastfeeding to perform routine newborn procedures such as weighing, ophthalmic prophylaxis, vitamin K injection, etc.32

c. Provide warming for the stable newborn via skin-to-skin contact with the mother, covering mother and baby if necessary.32

3. Early postpartum education and support

a. Advocate for 24-hour rooming in for mother and baby.33

b. Encourage the mother’s support persons to provide optimal opportunities for breastfeeding.

c. Ensure that breastfeeding is being adequately assessed on a regular basis by qualified professionals. Advocate for lactation consultation services at all hospitals where maternal and infant care is provided.34

d. Educate mothers about the importance of frequent, unrestricted breastfeeding with proper positioning and latch.

e. Help mothers recognize the baby's early feeding cues (e.g., rooting, lip smacking, sucking on fingers or hands, rapid eye movements) and explain that crying is a late sign of hunger. Help mothers also recognize signs that the baby is satisfied at the end of a feeding (e.g., relaxed body posture, unclenching of fists).

f. If mother and baby need to be separated, assist maintenance of breastfeeding and/or ensure that mother receives assistance with expressing milk.
g. Provide mothers with clear verbal and written discharge breastfeeding instructions that include information on hunger and feeding indicators, stool and urine patterns, jaundice, proper latch and positioning, and techniques for expressing breast milk.

h. Educate mothers about the risks of unnecessary supplementation and pacifier use.3,15,16,20,40

i. Avoid the use of discharge packs containing formula samples and formula company advertising or literature.39,41

j. Ensure that the mother and baby have appropriate follow-up within 48 hours of discharge and provide mother with phone numbers for lactation support.41,43

k. Identify breastfeeding problems in the hospital and assist the mother with these before discharge.

l. Develop an appropriate follow-up plan for any identified problems or concerns.

m. Provide the family with information about breastfeeding support groups in the community.

4. Ongoing support and management1,2,43
   a. Evaluate the mother and baby soon after hospital discharge to assess adequacy of milk intake and address any problems that have developed.
   b. Use breastfeeding-friendly approaches to treatments for problems.
   c. Continue to encourage breastfeeding throughout the first year of life and beyond, at well-child and other visits. Encourage exclusive breastfeeding for the first six months of life.44
   d. Be knowledgeable about prevention and management of common breastfeeding challenges.
   e. Develop a working relationship with professionals with expertise in lactation issues, such as International Board Certified Lactation Consultants. Consult when breastfeeding concerns exceed your level of expertise.
   f. Encourage mothers who are returning to work to continue to breastfeed.45,46
   g. Encourage mothers who do not feel they can continue to exclusively breastfeed to continue partial breastfeeding as long as possible.
   h. Support mothers who choose not to breastfeed or who wean prematurely.

General Reference Material


Management Appendix References


**Appendix 2: Resources for Family Physicians and Other Health Professionals**

The following is a limited list of references and resources to assist family physicians in their efforts to support recommendations of the AAFP Position Paper on Breastfeeding.
General Directories of Support Services

Centers for Disease Control and Prevention
The CDC is committed to increasing breastfeeding rates throughout the United States and to promoting optimal breastfeeding practices as a means of improving the public’s health.
http://www.cdc.gov/breastfeeding

The National Women’s Health Information Center
List of breastfeeding resources
A Project of the HHS Office on Women's Health
U.S. Department of Health and Human Services
http://www.womenshealth.gov/breastfeeding

State Departments of Public Health
Many states have comprehensive programs that support breastfeeding and breastfeeding education.

State Universities
Many state universities or extension services offer information, training materials, and educational opportunities for physicians and other health professionals.

National Library of Medicine Drug and Lactation Database
A user-friendly source for information on the use of drugs in lactation

Textbooks and Printed Resources

*Breastfeeding : A Guide for the Medical Profession*
Ruth A. Lawrence, Robert M. Lawrence
6th ed. (April 2005)
Mosby, Inc.

*Breastfeeding Handbook for Physicians*
American Academy of Pediatrics (AAP), American College of Obstetricians and Gynecologists (ACOG)
2006
http://www.aap.org/bookstore

*Breastfeeding and Human Lactation*
Jan Riordan
3rd ed. (2005)
Educational Resources for Physicians

American Academy of Family Physicians
AAFP Breastfeeding Position Statement
Additional courses with AAFP Prescribed credit may be found through the Academy's CME database
http://www.aafp.org

American Academy of Pediatrics
AAP Policy Statement
Section on Breastfeeding
Breastfeeding and the Use of Human Milk
http://aappolicy.aappublications.org/cgi/content/full/pediatrics;115/2/496

ABM Clinical Protocols
Clinical guidelines for the care of breastfeeding mothers and infants
Academy of Breastfeeding Medicine
140 Huguenot St., 3rd floor
New Rochelle, NY 10801
800-990-4ABM (toll free)
914-740-2101 (fax)
E-mail: ABM@bfmed.org
Web site: http://www.bfmed.org

Academy of Breastfeeding Medicine Annual International Conference
What Every Physician Needs to Know About Breastfeeding
Health Team Members Conference
Academy of Breastfeeding Medicine
140 Huguenot St., 3rd floor
New Rochelle, NY 10801
800-990-4ABM (toll free)
http://www.bfmed.org

Breastfeeding Basics
An online short course on the fundamentals of breastfeeding; may be used as curriculum for a student or resident rotation
http://www.breastfeedingbasics.org

Breastfeeding Promotion in Pediatric Office Practices Program (BPPOP III)
American Academy of Pediatrics
Support for pediatric, obstetric, and family medicine residents; practicing physicians; and other health care professionals in effective breastfeeding promotion and management
http://www.aap.org/breastfeeding/new%20bppopIII.cfm

Lactation Management Curriculum - A Faculty Guide for Schools of Medicine, Nursing, and Nutrition
Lactation Management Self-Study Modules, Level 1
Wellstart International
http://www.wellstart.org
Patient Information

The Womanly Art of Breastfeeding
7th revised ed. (May 2004)
La Leche League International
PO Box 4079
Schaumburg, IL 60168-4079
http://www.llli.org

A Woman's Guide to Breastfeeding
Division of Publications
http://www.aap.org

Breastfeeding Support Organizations

American Academy of Family Physicians
A national organization representing more than 97,000 members who provide comprehensive, coordinated, and continuing care to all members of the family and serve as the patient's advocate in the changing health care system. Breastfeeding support materials and CME training are available through AAFP.
11400 Tomahawk Creek Parkway
Leawood, KS 66211-2672
800-274-2237
http://www.aafp.org

Academy of Breastfeeding Medicine
A worldwide organization of physicians dedicated to the promotion, protection, and support of breastfeeding and human lactation
140 Huguenot St., 3rd floor
New Rochelle, NY 10801
800-990-4ABM (toll free)
914-740-2115
914-740-2101 (fax)
E-mail: ABM@bfmed.org
http://www.bfmed.org

American Academy of Pediatrics
http://www.aap.org

American College of Obstetrics and Gynecology
http://www.acog.org
Baby-Friendly USA
Implements the U.S. UNICEF Baby-Friendly Hospital Initiative in the United States
327 Quaker Meeting House Rd., E.
Sandwich, MA 02537
   (508) 888 - 8092
   (508) 888 – 8050        (fax)
E-mail: Info@babyfriendlyusa.org
http://www.babyfriendlyusa.org

International Board of Lactation Consultant Examiners
The International Board of Lactation Consultant Examiners (IBLCE) is the internationally recognized certifying agency for lactation consultants
IBLCE in the Americas
6402 Arlington Blvd., Suite 350
Falls Church, VA 22042-2356
   703-560-7330
   703-560-7332        (fax)
E-mail: iblce@iblce.org
http://www.iblce.org

International Lactation Consultants Association
The International Lactation Consultant Association (ILCA) is the professional association for International Board Certified Lactation Consultants (IBCLCs) and other health care professionals who care for breastfeeding families. ILCA publishes the *Journal of Human Lactation*
1500 Sunday Dr., Suite 102
Raleigh, NC 27607
   (919) 861-5577
   (919) 787-4916        (fax)
E-mail: info@ilca.org
http://www.ilca.org

La Leche League International
Their mission is to help mothers worldwide to breastfeed through mother-to-mother support, encouragement, information, and education, and to promote a better understanding of breastfeeding as an important element in the healthy development of the baby and the mother.
PO Box 4079
Schaumburg, IL 60168-4079
http://www.llli.org
Wellstart
A nonprofit organization that promotes maternal and child health, specializing in the area of breastfeeding. Wellstart provides educational opportunities for perinatal health care professionals, focusing on the scientific basis and management of human lactation.
PO Box 602
Blue Jay, CA 92317
E-mail: info@wellstart.org
http://www.wellstart.org

World Alliance for Breastfeeding Action - WABA
The World Alliance for Breastfeeding Action (WABA) is a global network of individuals and organizations concerned with the protection, promotion and support of breastfeeding worldwide.
WABA Secretariat
P.O. Box 1200, 10850
Penang, Malaysia
604-6584816 (tel)
604-6572655 (fax)
E-mail: waba@streamyx.com
http://www.waba.org.my

WABA - North America
LLLI 1400 N. Meacham Rd.
Schaumburg, IL 60173-4840
(847) 519-7730 (tel)
(847) 519-0035
E-mail: rmagalhaes@llli.org
http://www.waba.org.my

Appendix 3: National and International Breastfeeding Initiatives
The Baby Friendly Hospital Initiative
The Baby-Friendly Hospital Initiative is a worldwide project of UNICEF and the World Health Organization (WHO). The goal of the initiative is to recognize hospitals and birth centers that take special steps to provide an optimal environment for breastfeeding. Approximately 14,000 hospitals worldwide have received this prestigious award. In the United States, hospitals and birth centers may take a first step toward receiving Baby-Friendly designation through the Certificate of Intent program. For an application packet, call 508-888-8044 or visit http://www.babyfriendlyusa.org

10 Steps to Successful Breastfeeding (endorsed by the AAFP)
1. Develop a written breastfeeding policy and routinely communicate it to all health care staff.
2. Train all health care staff in skills necessary to implement the policy.
3. Inform all pregnant women about the benefits and management of breastfeeding.
4. Help mothers initiate breastfeeding within half an 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 breast milk, unless medically indicated.
7. Practice rooming-in: Allow mothers and infants to remain together 24 hours a day.
8. Encourage breastfeeding on demand.
9. Give no artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants.
10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

The WHO/UNICEF Code of Marketing of Breast milk Substitutes

In 1981, the World Health Assembly adopted The International Code of Marketing of Breastmilk Substitutes, as a tool to protect breastfeeding. Formula marketing targets women. New mothers are given free samples of formula, babies are given bottles in hospitals, coupons or food samples arrive in the mail, or booklets and videotapes are distributed on breastfeeding and weaning. The Code prohibits marketing of these products in these ways. It covers formula, other milk products, cereals, teas and juices, as well as bottles and teats.

The Code has 10 important provisions:

1. NO advertising of any of these products to the public.
2. NO free samples to mothers.
3. NO promotion of products in health care facilities, including the distribution of free or low-cost supplies.
4. NO company sales representatives to advise mothers.
5. NO gifts or personal samples to health care personnel.
6. NO words or pictures idealizing artificial feeding, or pictures of infants on labels of infant milk containers.
7. Information to health care personnel should be scientific and factual.
8. ALL information on artificial infant feeding, including that on 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 infants.
10. Manufacturers and distributors should comply with the Code's provisions even if countries have not adopted laws or other measures.

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

The Innocenti Declaration was produced and adopted by participants at the WHO/UNICEF policymakers' meeting on "Breastfeeding in the 1990s: A Global Initiative," cosponsored by the U.S. Agency for International Development (AID) and the Swedish International Development Authority (SIDA).

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 breast milk from birth to four to six months of age. Thereafter, children should continue to be
breastfed, while receiving appropriate and adequate complementary foods, 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.

- Attainment of this 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 nutritional 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 health care 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, nongovernmental organizations, and health professional associations.

- Ensured that every facility providing maternity services fully practices all 10 of the Ten Steps to Successful Breastfeeding set out in the joint WHO/UNICEF statement, "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 Breast-Milk Substitutes and subsequent relevant World Health Assembly resolutions in their entirety.

- Enacted 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.

Encourage and support national authorities in planning, implementing, monitoring, and evaluating their breastfeeding policies.

**HHS Blueprint for Action on Breastfeeding**

The Blueprint for Action introduces an action plan for breastfeeding based on education, training, awareness, support, and research. The plan includes key recommendations that were refined by the members and reviewers of the Subcommittee on Breastfeeding during their deliberations of science-based findings. Recognizing that breastfeeding rates are influenced by various factors, these recommendations suggest an approach in which all interested stakeholders come together to forge partnerships to promote breastfeeding.

David Satcher, MD, PhD
Assistant Secretary for Health
Surgeon General
U.S. Department of Health and Human Services

**Healthy People 2010 Breastfeeding Goals**

**U.S. Department of Health and Human Services:**

- To increase to 75% the proportion of mothers who breastfeed their babies in the early postpartum period.
- To increase to 50% the proportion of mothers who breastfeed their babies through five to six months of age.
- To increase to 25% the proportion of mothers who breastfeed their babies through the end of the first year.

**Added in 2007:**

- To increase to 60% the proportion of mothers who exclusively breastfeed their babies for the first three months of life.
- To increase to 25% the proportion of mothers who exclusively breastfeed their babies for six months.