



# City Health Information

April 2009

The New York City Department of Health and Mental Hygiene

Vol. 28(suppl 1):1-8

**REVISED**

## ENCOURAGING AND SUPPORTING BREASTFEEDING

- **Assess whether breastfeeding is the best option. In most instances, it is.**
- **Discuss the many benefits of breastfeeding for the infant and mother at every visit, beginning at the first prenatal visit.**
- **Provide support to breastfeeding mothers throughout pregnancy, at delivery, during the postpartum period, and during at least the first 6 months of life.**

**E**xclusive breastfeeding for the first 6 months of an infant's life has many short- and long-term health benefits for babies and mothers, including a reduction in infectious diseases and mortality during infancy, improved bonding, and maternal postpartum weight loss (Table 1).<sup>1,2</sup> The economic advantages of breastfeeding are also significant. Money saved by not purchasing infant formula is conservatively estimated at \$1,000 per year.<sup>3,4</sup> The decreased risk of illness in breastfed infants also reduces outpatient care and hospitalization costs, resulting in lower out-of-pocket expenses and copayments for health care visits and medications, as well as fewer work absences and decreased family stress.<sup>3,5-7</sup>

Despite these benefits, relatively few women breastfeed for the recommended time period. In New York City (NYC), nearly 85% of postpartum women initiate breastfeeding, but at 2 months only 32% are still exclusively feeding their infant breast milk.<sup>8</sup> This is far below the Healthy People 2010 goal for 60% of women to breastfeed their babies exclusively for the first 3 months.<sup>9</sup>

Racial disparities in breastfeeding rates are also large. In NYC, nearly twice as many white women as black women breastfeed exclusively for at least 2 months (42% vs. 24%). Asian and Hispanic women also breastfeed their babies less frequently than do white women (18% and 32%, respectively).<sup>8</sup>

Data from ongoing surveys of new mothers in NYC conducted by the Health Department reveal that women stop breastfeeding for many reasons. The most commonly cited reasons women stop breastfeeding include: concern that not enough milk is being produced (39%) or that breast milk doesn't satisfy the baby (39%); the baby has difficulty nursing (25%); sore, cracked, or bleeding nipples (21%); and/or a new mother's need to return to work or school (16%).<sup>8</sup> Most of these problems are preventable when adequate support is provided.



**TABLE 1. THE HEALTH BENEFITS OF BREASTFEEDING<sup>10-31</sup>****For Baby**

- Confers high-level immunity (through secretory IgA).
- Decreases incidence/severity of many infectious diseases during and beyond the period of breastfeeding (e.g., bacterial meningitis, bacteremia, diarrhea, respiratory tract infections, necrotizing enterocolitis, otitis media, urinary tract infections, and late-onset sepsis in preterm infants).
- Reduces risk of postneonatal (>28 days) infant mortality.
- Improves neurodevelopmental outcomes, especially for preterm infants.
- May impart long-term health benefits, including decreased incidence of SIDS, type 1 and type 2 diabetes, Crohn's disease, ulcerative colitis, lymphoma, leukemia, Hodgkin's disease, obesity, hypercholesterolemia, and asthma.
- Improves bonding with mother.

**For Mother**

- Facilitates uterine involution after delivery and decreases maternal blood loss.
- Accelerates return to prepregnancy weight.
- Delays postpartum ovulation, supporting birth spacing.
- Saves time and money.
- Imparts long-term health benefits, including decreased risk of ovarian and premenopausal breast cancer.
- May improve bone remineralization postpartum, leading to a decreased incidence of postmenopausal hip fractures.
- Improves bonding with baby.

The significant health benefits of breastfeeding (Table 1) underscore the importance of breastfeeding support for pregnant women and new mothers by health care providers. Antepartum programs that combine breastfeeding education with behavioral counseling increase breastfeeding initiation and duration among new mothers.<sup>32,33</sup> Ongoing postpartum support for patients, through in-person visits or telephone contacts with providers or counselors, has also been found to increase the proportion of women who continue to breastfeed several months after giving birth.<sup>34-36</sup>

**THE UNIQUE PROPERTIES OF BREAST MILK**

- Colostrum, secreted during the first few days of an infant's life, is rich in essential proteins and confers immunity through IgA.
- Within a few days, the colostrum begins to be accompanied by mature milk and the composition changes—protein and mineral concentrations decrease, while water, fat, and lactose increase.
- Breast milk's composition changes to meet a baby's changing nutritional needs.
  - The milk produced at the start of a feeding is high in water content to quench thirst, while the milk produced later during a feeding contains fat and calories to satisfy nutritional needs.
  - Over time, breast milk contains factors that act as biologic signals to promote cellular growth and differentiation.
- Breast milk contains antimicrobial factors, such as acetylhydrolase and lactoferrin, that protect against infection.

Hospitals can increase breastfeeding rates by providing health care staff (e.g., lactation coordinator, nurse, or physician's assistant) to assist new mothers with breastfeeding initiation, ideally within an hour of delivery, enabling "rooming-in" to aid breastfeeding on demand, not providing bottles to breastfeeding infants unless medically indicated, making breast pumps available to mothers of preterm/low birth weight infants, and eliminating formula promotion materials from labor and delivery units and diaper bags.

Use of nurse home-visiting programs (such as NYC's Newborn Home-Visiting Program and the Nurse-Family Partnership, see box on page 6) can also encourage women to breastfeed their babies.

### **IMPORTANT STEPS PROVIDERS CAN TAKE TO FACILITATE BREASTFEEDING**

#### **1. Assess whether any contraindications for breastfeeding—though rare—exist.**

Despite widespread misconceptions (Table 2), nearly every woman can breastfeed. However, there are some rare absolute contraindications. These include:<sup>31,37-40</sup>

- Infants with galactosemia.
- Mothers who use illegal drugs.
- Mothers infected with HIV, human T-cell lymphotropic virus type I or type II, or who have an active herpes lesion on the breast.
- Mothers taking any of the following medications: radioactive isotopes, cancer chemotherapy agents such as antimetabolites, and thyrotoxic agents.

**TABLE 2. COMMON MISCONCEPTIONS ABOUT WOMEN WHO “CANNOT” BREASTFEED<sup>31,38-47</sup>**

<b>Mothers who ...</b>	<b>Breastfeeding strategies/considerations</b>
<b>have cesarean deliveries</b>	Initiate breastfeeding immediately, using a semirecumbent position on the side or sitting up.
<b>receive vaccinations or live with children who are vaccinated</b>	Neither inactivated nor live vaccines administered to a lactating woman or other family members affect the safety of breastfeeding for the mother or infant.
<b>take medications</b>	Most medications can be taken while breastfeeding. Consult product prescribing information and the LactMed Database about specific drugs: <a href="http://www.toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?LACT">www.toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?LACT</a> . (Also see listing of absolute contraindications on page 2.)
<b>had breast surgery, including breast augmentation or reduction</b>	<i>Augmentation mammoplasty:</i> breastfeed frequently to maintain milk supply. <i>Breast reduction:</i> monitor infant growth because milk supply could be insufficient. <i>Breast biopsy involving an areolar incision:</i> women can compensate by augmenting production in the unaffected breast, but monitor infant growth because milk supply could be insufficient.
<b>have hepatitis A</b>	Initiate breastfeeding after infant receives immune serum globulin, and then vaccinate at 1 year of age.
<b>have hepatitis B</b>	Initiate breastfeeding after infant receives hepatitis B immune globulin and first dose of the 3-dose hepatitis B vaccine series.
<b>have hepatitis C</b>	Hepatitis C is not a contraindication for breastfeeding, but reconsider if nipples are cracked or bleeding.
<b>have pierced nipples</b>	Remove nipple accessories before feeding to avoid the risk of infant choking.

Breastfeeding mothers should avoid alcohol. An occasional drink is acceptable, but breastfeeding should be avoided for 2 hours after the drink. Mothers with untreated varicella should not feed from the breast, but in most cases pumped milk can be fed to the infant.

## 2. Routinely discuss breastfeeding with pregnant patients, beginning at the first prenatal visit.

The initial prenatal visit is an optimal time for obstetricians, family practice providers, nurse midwives, and others who care for pregnant women to encourage or reinforce the decision to breastfeed, since most women decide to breastfeed before they become pregnant or during the first trimester.<sup>36,41</sup>

During this visit, emphasize the advantages of breastfeeding over formula, including the unique properties of breast milk (see box on page 2). Describe breastfeeding’s positive feedback loop: the more a woman breastfeeds, the more milk is produced. Suckling stimulates release of prolactin (which stimulates milk production) and oxytocin (which triggers milk release); these hormones also enhance a mother’s ability to relax and bond with her baby.

At the same time, point out the risks for infants who are *not* breastfed; some women may view such risks as a compelling reason to breastfeed. Risks include:

- Increased incidence of common infections, including diarrhea, otitis media, and urinary tract infections.<sup>10,11,16-19</sup>

- Greater risk of serious, potentially life-threatening health problems, such as neonatal sepsis, pneumonia, and necrotizing enterocolitis.<sup>48-50</sup>
- Possible greater risk of later-onset conditions, such as diabetes, childhood cancers, and obesity.<sup>22-28</sup>

To initiate the conversation, pose a nonjudgmental question such as: “Have you thought about how you want to feed your baby?” or “Have you thought about breastfeeding your baby?” Encourage questions and build on the initial conversation during subsequent prenatal visits. Because work or school is often a barrier to sustaining breastfeeding, ask about a patient’s plans before delivery and suggest ways in which breastfeeding can be sustained through pumping breast milk and other strategies, such as modifying work schedules to increase the number of daily opportunities an infant can breastfeed.<sup>51</sup>

During the third trimester, have at least one discussion to address issues that commonly cause women to stop breastfeeding in the first month postpartum. Provide anticipatory guidance regarding common patient concerns (Table 3). Using pictures, a model, or a DVD, show a patient what a properly latched-on baby looks like. In addition, encourage patients to advocate for themselves while in the hospital, reminding staff of their desire to breastfeed exclusively. Additional strategies for promoting breastfeeding in your practice are listed in Table 4.

### TABLE 3. COMMON QUESTIONS ABOUT BREASTFEEDING AND HOW TO ADDRESS THEM<sup>31,37,39,52-62</sup>

#### Can I breastfeed if my baby is premature?

Yes, breast milk is good for premature babies. Ask your doctor if your baby should get additional food.

#### Can I breastfeed if my baby has jaundice?

Yes, most babies with jaundice can be breastfed.

#### How do I know if my breast milk provides enough food for my baby?

Breast milk is all a baby needs for the first 6 months of life. In the first few days after birth, your breasts produce a special substance that provides complete nutrition for your baby. In a few days, your milk will come in. You can tell if your baby is getting enough breast milk if she has loose, bright-yellow bowel movements by day 5.

#### How often do I need to feed my baby?

Breastfeed often. During the early weeks of breastfeeding, nurse 8 to 12 times every 24 hours (every 1½ to 3 hours). Nurse whenever your baby shows early signs of hunger (increased alertness, physical activity, mouthing).

#### How many bowel movements/urinations should my newborn be having?

During the first 3 to 5 days of life, a baby will have 3 to 4 bowel movements and 3 to 5 urinations every day. At 5 to 7 days, the baby will have 3 to 6 bowel movements and 4 to 6 urinations each day.

#### Should I give my baby water?

No, do not give your breastfeeding baby water or any other fluid. Breast milk is all your baby needs, unless your pediatrician recommends supplementation.

#### What do I do if my breasts become swollen and tender?

Breasts can become swollen, hard, and tender when they are not completely emptied of milk during feedings or if feedings are not frequent enough. If this happens, you should:

- Shower or apply a warm moist cloth to your breasts, then massage them with your fingertips in a circular motion, from the chest wall to the nipple.
- Nurse frequently—1½ to 2 hours or on demand. Make sure your baby is positioned and latched on correctly. While breastfeeding, massage your breast with your fingertips in a circular motion down to the nipple.
- If your baby doesn't nurse long enough to soften both breasts, hand express or pump milk after nursing.
- Apply cold compresses (a bag of frozen peas works well) between feedings until swelling begins to subside; switch to a warm, moist cloth about 10 to 15 minutes before feeding.
- If needed, take anti-inflammatory medication such as ibuprofen.
- If your areola (the dark colored area around your nipple) is engorged, pump or hand express just enough to soften it prior to feeding so that your baby can latch on more easily.

#### What do I do about sore nipples?

Nipples most often get sore when the baby is poorly positioned during feedings or is incorrectly latched on. Be sure your baby is taking as much areola into her mouth as possible. You may wish to talk to a lactation consultant about positioning and latch-on techniques. If your nipples do get sore, it helps to:

- Nurse more frequently for shorter periods.
- Nurse on the less sore side first.
- Coat your nipples with breast milk after feedings and let them air dry.
- Use purified lanolin cream and breast shells (to protect the nipples between feedings).

#### Can I continue to breastfeed if I get mastitis?

Yes, you should continue to breastfeed. Mastitis – an infection in the breast – cannot be passed to your baby. Breastfeeding will empty the affected breast, which is important in treating the mastitis.

#### Do I need to use birth control while I'm nursing?

Yes. You can still get pregnant when you're breastfeeding. To prevent pregnancy, use a safe and effective method. Call 311 and ask for the Health Department's brochure called "Birth Control: What's Right for You."

### 3. Facilitate breastfeeding following delivery.

Breastfeeding should be started within the first hour after birth unless there are medical complications or contraindications (see absolute contraindications on page 2). Place healthy infants in direct skin-to-skin contact with their mothers immediately after delivery and until the first feeding is accomplished. Eye prophylaxis and vitamin K can be administered up to 6 hours after birth and need not be given before the first feeding. Subsequent feedings should be prompted by infant demand, but should occur at least every 1½ to 3 hours. Encourage mothers and their infants to remain together during their hospital stay to facilitate feedings. Delay pacifier introduction until 1 month of age to ensure that breastfeeding is well established.

After a cesarean delivery, provide guidance to mothers on recommended breastfeeding positions—either semirecumbent on the woman’s side or sitting up. Placing a pillow on the abdomen and the infant on the pillow ensures that infant’s full weight will not be on the incision, making the mother more comfortable. For premature and other high-risk infants, encourage feedings with mothers’ milk by direct breastfeeding and/or through expressed milk. Train mothers how to pump, using both manual and mechanical techniques for expressing milk.

Providers should also encourage the adoption of hospital policies that promote breastfeeding (Table 5), including a prohibition on distributing both free samples of formula and educational materials developed

by formula companies. In 1991, the World Health Organization and UNICEF launched an initiative to improve breastfeeding rates worldwide. Table 5 outlines the 10 practices that a hospital must adopt to earn a designation as a “Baby-Friendly” facility. In July 2008, Harlem Hospital Center became the first hospital in NYC to earn this designation.<sup>63</sup>

### 4. Provide breastfeeding support after hospital discharge.

All breastfeeding mothers and their newborns should be seen by a pediatrician, nurse practitioner, or other provider who cares for infants when the newborn is 3 to 5 days of age (the sooner the better).<sup>37</sup> During this visit:

- Praise the mother for breastfeeding, reinforcing the fact that breast milk provides the best possible nourishment for her baby.
- Weigh the infant. Weight loss of greater than 7% from birth weight may indicate breastfeeding problems and requires a more detailed evaluation to determine if the infant is receiving sufficient milk. Intervene as needed to improve milk production and infant intake by providing telephone and in-office support, and referring to a lactation specialist or support group, as needed.
- Perform a physical exam, looking especially for signs of jaundice or dehydration.
- Inquire about and address maternal breast problems, e.g., engorgement, painful feedings, and any other concerns about breastfeeding (Table 3).

#### TABLE 4. PROMOTING BREASTFEEDING IN YOUR PRACTICE <sup>64-66</sup>

- Make educational materials about breastfeeding available in waiting and examination rooms. **Do not, however, use materials developed by formula companies, since they may contain subtle messages that discourage breastfeeding.** Instead, use materials developed by organizations such as the American Academy of Pediatrics, the NYC Health Department, and the New York State Health Department (**Resources**).
- Offer a call-in telephone number for breastfeeding advice—yours or another health care resource available in the community or the hospital where the baby was born.
- Provide information on lactation consultants and other breastfeeding resources (e.g., La Leche League, [www.llli.org/nb.html](http://www.llli.org/nb.html)) in your community.
- Show videos on breastfeeding in the waiting room (**Resources**).
- Provide waiting room seating that is conducive to breastfeeding (e.g., a rocking chair, pillows). If patients breastfeed in your waiting room, pregnant women contemplating breastfeeding will have an opportunity to observe and engage them in discussion.
- Identify and provide training to staff members who can serve as a breastfeeding resource for patients.
- Motivate staff to promote breastfeeding by tracking breastfeeding rates among patients and displaying aggregate data in staff common areas.
- Refer patients to family physicians/pediatricians who are strong advocates of breastfeeding and encourage a visit during pregnancy.

### TABLE 5. 10 HOSPITAL PRACTICES TO ENCOURAGE AND SUPPORT BREASTFEEDING\*

1. Maintain a written policy supporting breastfeeding that is communicated to all health care staff.
2. Train all pertinent health care staff in skills necessary to implement this policy.
3. Inform pregnant women about the benefits of breastfeeding.
4. Offer all mothers the opportunity to initiate breastfeeding within 1 hour of birth.
5. Show breastfeeding mothers how to breastfeed and how to maintain lactation even if they are separated from their infants.
6. Give breastfeeding infants breast milk only, unless supplementation is medically indicated.
7. Facilitate “rooming-in.” Encourage mothers and infants to remain together during their hospital stay.
8. Encourage unrestricted breastfeeding when baby exhibits hunger cues or signals or on request of mother.
9. Encourage exclusive suckling at the breast by not providing pacifiers or artificial nipples.
10. Refer mothers to established breastfeeding and/or mothers’ support groups and services, and foster the establishment of those services when they are not available.

\*Baby-Friendly USA, based on UNICEF/WHO Baby-Friendly Hospital Initiative 10 Steps.

- Inquire about infant bowel patterns.
- Observe the mother breastfeeding, noting position, latching-on, and milk transfer.

If, at the first well-baby visit, a patient reports—and the provider concurs—that breastfeeding is going well, a second ambulatory visit should occur when the breastfeeding infant is 2 to 3 weeks old. Provide support and reassurance to mothers during this critical period, emphasizing that exclusive breastfeeding supports optimal infant growth for approximately the first 6 months of life and provides ongoing protection from diarrhea and respiratory illness. Continue to give positive reinforcement to breastfeeding women at every well-baby visit, noting breastfeeding’s health benefits for both mother and child. Introducing other foods before 6 months of age generally does not increase an infant’s growth rate, and serves only to substitute foods that lack the protective components of human milk.

If a woman experiences problems with breastfeeding, provide a referral to a lactation expert or support group.

Should rehospitalization of the mother or infant become necessary, encourage mothers to maintain

breastfeeding, preferably directly, or by pumping milk and feeding expressed breast milk to the baby.

#### Vitamin and mineral supplementation

- Beginning in the first few days of life, all breastfed infants should receive 400 IU of oral vitamin D drops daily.<sup>67</sup> Supplementation should continue until the infant is consuming at least 1 liter or 1 quart of formula or milk daily. All milk and formula sold in the US is vitamin D-fortified and provides the recommended amount of vitamin D in every quart or liter consumed each day.<sup>67</sup> Although human milk contains small amounts of vitamin D, it is not enough to prevent rickets.
- Preterm infants should receive multivitamin supplements while breastfeeding.
- Iron supplementation should be given only to preterm neonates. However, there are exceptional circumstances in which term neonates should receive iron supplementation—for example, if the newborn has a hematologic disorder or inadequate iron stores at birth. Otherwise, term neonates should receive iron-containing foods beginning at about 6 months. Iron drops, if needed, may be administered while continuing exclusive breastfeeding.
- Oral vitamin K is **not** recommended, as it is not needed or helpful in preventing hemorrhage during the first 4 months of life. The intramuscular dose given at birth is adequate under normal circumstances.
- Supplementary fluoride should **not** be provided during the first 6 months of life.

#### NYC HEALTH DEPARTMENT HOME-VISITING PROGRAMS: BREASTFEEDING SUPPORT FOR NEW MOTHERS

##### Newborn Home-Visiting Program

Visits are provided to mothers who have recently given birth and who live in North and Central Brooklyn, the South Bronx, and in East and Central Harlem. Call 311 or the neighborhood office: 646-253-5700 (Brooklyn), 718-579-2878 (Bronx), 212-360-5942 (Harlem).

##### Nurse-Family Partnership (NFP)

NFP is a home-visiting program for low-income, first-time mothers that operates at 10 sites, including: Astoria, Coney Island, East New York, Harlem, Jamaica, the South Bronx, and Staten Island. Women can enroll in the program until the 28th week of pregnancy by calling 311 and asking for NFP. Also see: [www.nycnfp.com](http://www.nycnfp.com).

## TABLE 6. STORING AND USING BREAST MILK

- Store breast milk in the refrigerator or on ice, in glass or plastic containers.
- Avoid using plastic containers with recycling numbers 3, 6, and 7, or are old or heavily used, to minimize the risk of chemicals leaching into breast milk.
- Use refrigerated milk within 2 days, well before appreciable bacterial growth occurs.
- For longer storage, freeze as soon as possible and keep at the lowest and most constant temperatures available. Frozen milk can be stored for 3 to 6 months.<sup>68</sup>
- Date milk and use in the order it was frozen.
- Thaw frozen milk quickly under running water or gradually in the refrigerator.
- Do not leave expressed milk out at room temperature for more than 4 to 8 hours, expose it to very hot water, or put it in the microwave to heat or thaw.
- Once thawed, use within 24 hours or discard.<sup>51</sup>

### Breastfeeding when mothers return to work

Inquire about plans to return to work or school and help mothers develop strategies for continuing breastfeeding after resuming work. For a working mother, pumping is often the best strategy for maintaining her milk supply and providing breast milk to her baby for feeding by a caregiver. Alert patients to the possibility that there may be a reduction in breast milk volume associated with returning to work. While supplementation is sometimes needed, it can often be avoided or reduced through continuing morning and night-time breastfeedings and routine pumping while at work. Employers are increasingly supportive of accommodating breastfeeding employees by designating private spaces for pumping and providing designated refrigerated storage for pumped milk. Encourage pregnant women to speak with their employers about a plan for breastfeeding when they return to work. Tips for storing and using breast milk are provided in **Table 6**.

### Breastfeeding in public

Let mothers know that it is their legal right to breastfeed in any public area.

### Continued breastfeeding at 6 months and beyond

Beginning at 6 months, complementary foods rich in iron should be introduced gradually. However, continue to encourage breastfeeding, emphasizing the

## BREASTFEEDING—KEY POINTS

- Eight to 12 feedings at the breast should be provided every 24 hours, whenever the baby shows early signs of hunger such as increased alertness, physical activity, mouthing, or rooting. In the early weeks after birth, nondemanding infants should be awakened to feed if 4 hours have elapsed since the beginning of the last feeding.
- Both breasts should be offered at each feeding for as long a period as the infant remains at the breast. The first breast offered should be alternated with each feeding so that both breasts receive equal stimulation and draining.
- Pacifiers should be avoided until breastfeeding is well established.
- Water and juice are unnecessary for breastfed infants and may introduce contaminants or allergens. Supplements (water, glucose water, formula, and other fluids) should not be given to breastfeeding newborns, unless medically indicated.
- All breastfed infants should receive 1.0 mg of vitamin K<sub>1</sub> oxide intramuscularly after the first feeding is completed and within the first 6 hours of life. Oral vitamin K is not recommended.
- All breastfed infants should receive 400 IU of oral vitamin D drops daily beginning in the first few days of life and continuing until the daily consumption of formula or milk is at least 1 liter or 1 quart.
- Supplementary fluoride should not be provided during the first 6 months of life.
- Complementary foods rich in iron should be introduced gradually beginning around 6 months of age.

health and developmental benefits for mother and child. Infants weaned before 12 months should receive iron-fortified infant formula, not cow's milk.

## SUMMARY

Infants and mothers both benefit enormously from breastfeeding. Health care providers play a key role throughout pregnancy and in the postpartum period to encourage patients to breastfeed. Complementary counseling and instruction provided by lactation consultants and other health educators are also recommended. ♦

## RESOURCES

### For Patients

#### American College of Obstetrics and Gynecology

- Breastfeeding Your Baby  
[www.acog.org/publications/patient\\_education/bp029.cfm](http://www.acog.org/publications/patient_education/bp029.cfm)

#### NYC Department of Health and Mental Hygiene

- Breast-Feeding Your Baby  
[www.nyc.gov/html/doh/downloads/pdf/ms/ms-bro-breastfeeding.pdf](http://www.nyc.gov/html/doh/downloads/pdf/ms/ms-bro-breastfeeding.pdf)  
or call the Women's Healthline at 311
- Yes, You Can Breastfeed in Public (palm card)  
Call the Women's Healthline at 311

#### NYS Department of Health

- Growing Up Healthy Hotline: 1-800-522-5006

#### La Leche League

- Breastfeeding Answers from La Leche League  
[www.llli.org/nb.html](http://www.llli.org/nb.html) or call 212-569-6036

#### National Women's Health Information Center

- Breastfeeding — Best for Baby. Best for Mom.  
[www.4woman.gov/breastfeeding](http://www.4woman.gov/breastfeeding)
- An Easy Guide to Breastfeeding: 1-800-994-9662  
All women (English): [www.4woman.gov/pub/BF.General.pdf](http://www.4woman.gov/pub/BF.General.pdf)  
African American women: [www.4woman.gov/pub/BF.AA.pdf](http://www.4woman.gov/pub/BF.AA.pdf)  
Spanish-speaking women:  
[www.4woman.gov/espanol/publicaciones/lactancia.pdf](http://www.4woman.gov/espanol/publicaciones/lactancia.pdf)  
Chinese-speaking women: [www.4woman.gov/pub/BF.Chinese.pdf](http://www.4woman.gov/pub/BF.Chinese.pdf)

#### Centers for Disease Control and Prevention

- [www.cdc.gov/breastfeeding](http://www.cdc.gov/breastfeeding)

#### Lactation consultants

- All HHC hospitals have lactation consultants
- For a listing of certified lactation consultants, go to [www.ilca.org](http://www.ilca.org)

*Resource listings are provided for informational purposes only and do not imply endorsement by the NYC DOHMH.*

### WIC Program

- All About Breastfeeding: [www.breastfeedingpartners.org/about\\_breastfeeding/all\\_about\\_breastfeeding.html](http://www.breastfeedingpartners.org/about_breastfeeding/all_about_breastfeeding.html)
- How WIC Supports Breastfeeding:  
[www.breastfeedingpartners.org/what\\_is\\_WIC/WIC\\_supports\\_breastfeeding.html](http://www.breastfeedingpartners.org/what_is_WIC/WIC_supports_breastfeeding.html)
- To apply for WIC benefits, call the Growing Up Healthy Hotline: 1-800-522-5006

### For electric breast pumps and supplies

- Medela, Inc.: 1-800-835-5968
- Hollister/Ameda-Egnell: 1-866-992-6332

### Videos/DVDs on breastfeeding

- Geddes Productions: [www.geddesproduction.com](http://www.geddesproduction.com) or call 1-323-344-8045

### For Clinicians

#### American Academy of Pediatrics

- Ten steps to support parents' choice to breastfeed their baby  
[www.aap.org/breastfeeding/curriculum/documents/pdf/tenSteps.pdf](http://www.aap.org/breastfeeding/curriculum/documents/pdf/tenSteps.pdf)
- American Academy of Pediatrics, American College of Obstetricians and Gynecologists. Breastfeeding handbook for physicians. Elk Grove Village, IL: AAP; Washington, DC: ACOG; 2006.
- Breastfeeding and the use of human milk – Section on Breastfeeding.  
<http://aappolicy.aappublications.org/cgi/reprint/pediatrics;115/2/496.pdf>

#### US Department of Health and Human Services/Ad Council

- Breastfeeding posters for office  
[www.4women.gov/breastfeeding/index.cfm?page=adcouncil](http://www.4women.gov/breastfeeding/index.cfm?page=adcouncil)

#### The Academy of Breastfeeding Medicine [www.bfmed.org/](http://www.bfmed.org/)

#### Drugs and Lactation Database (LactMed)

<http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?LACT>  
[www.BreastfeedingBasics.com](http://www.BreastfeedingBasics.com) (free online course)

#### Video/DVD on breastfeeding

- The Benefits of Breastfeeding [www.eaglevideo.com/bbvideo.htm](http://www.eaglevideo.com/bbvideo.htm)  
or call 1-800-838-5848

References Available Online: [www.nyc.gov/html/doh/downloads/pdf/chi/chi28-suppl1.pdf](http://www.nyc.gov/html/doh/downloads/pdf/chi/chi28-suppl1.pdf)

**RECEIVE CHI BY E-MAIL** Each time **City Health Information** is published you will receive a link to the issue in PDF format.

To subscribe, visit [www.nyc.gov/html/doh/html/chi/chi.shtml](http://www.nyc.gov/html/doh/html/chi/chi.shtml).

**DOHMH JOB OPENINGS: Nurse Careers:** Nurse-Family Partnership Nurses (home-visiting nurses to partner with first-time mothers), School Nurses, and Newborn Home-Visiting nurses. View jobs at [www.nyc.gov/health/careers](http://www.nyc.gov/health/careers).



# City Health Information

April 2009 The New York City Department of Health and Mental Hygiene Vol. 28(suppl 1):1-8

2 Lafayette Street, 20th Floor, CN-65, New York, NY 10007 (212) 676-2188

**Michael R. Bloomberg**

Mayor

**Thomas R. Frieden, MD, MPH**

Commissioner of Health and Mental Hygiene

#### Division of Epidemiology

Lorna E. Thorpe, PhD, Deputy Commissioner  
Heather S. Lipkind, MD, MS, Consultant

#### Division of Health Promotion and Disease Prevention

Andrew Goodman, MD, MPH, Acting Deputy Commissioner  
Deborah R. Deitcher, MPH, Director of Communications

#### Bureau of Maternal, Infant and Reproductive Health

Deborah Kaplan, Assistant Commissioner, R-PA, MPH  
Lorraine C. Boyd, MD, MPH, Medical Director

#### Expert Consultation and Review

Richard J. Schanler, MD, Chief, Neonatal-Perinatal Medicine  
Schneider Children's Hospital, Manhasset, NY

#### Bureau of Public Health Training

Carolyn Greene, MD, Assistant Commissioner  
Peggy Millstone, Director, Scientific Communications  
Rita Baron-Faust, CHES, Medical Editor  
Peter Ephross, Medical Editor  
Quawana Charlton, Editorial Assistant

Copyright ©2009 The New York City Department of Health and Mental Hygiene

E-mail *City Health Information* at: [nycdohrp@health.nyc.gov](mailto:nycdohrp@health.nyc.gov)

Suggested citation: Lipkind HS, Boyd LC. Encouraging and supporting breastfeeding.

*City Health Information*. 2009;28(suppl 1):1-8. [Update of Lipkind HS, Boyd LC.

Encouraging and supporting breastfeeding. *City Health Information*. 2008;27(3):17-24.]



[nyc.gov/health](http://nyc.gov/health)

PRST STD  
U.S. POSTAGE  
PAID  
NEW YORK, N.Y.  
PERMIT NO. 6174

## ENCOURAGING AND SUPPORTING BREASTFEEDING

### REFERENCES

- Dewey KG. What is the optimal age for introduction of complementary foods? *Nestle Nutr Workshop Ser Pediatr Program*. 2006(58):161–170; discussion: 170–175.
- Kramer MS, Kakuma R. Energy and protein intake in pregnancy. *Cochrane Database Syst Rev*. 2003(4):CD000032.
- Weimer JP. *The Economic Benefits of Breastfeeding: A Review and Analysis*. Food Assistance and Nutritional Research Report No. 13. Washington, DC: Food and Rural Economics Division, Economic Research Service, U.S. Department of Agriculture; 2001. <http://ers.usda.gov/publications/fanrr13/fanrr13.pdf>. Accessed March 9, 2009.
- Ball TM, Wright AL. Health care costs of formula-feeding in the first year of life. *Pediatrics*. 1999;103(4 pt 2):870–876.
- Tuttle CR, Dewey KG. Potential cost savings for Medi-Cal, AFDC, food stamps, and WIC programs associated with increasing breast-feeding among low-income women in California. *J Am Diet Assoc*. 1996;96(9):885–890.
- Cohen R, Mrtek MB, Mrtek RG. Comparison of maternal absenteeism and infant illness rates among breast-feeding and formula-feeding women in two corporations. *Am J Health Promot*. 1995;10(2):148–153.
- Levine RE, Huffman SL, Center to Prevent Childhood Malnutrition. *The Economic Value of Breastfeeding, the National, Public Sector, Hospital and Household Levels: A Review of the Literature*. Washington, DC: Social Sector Analysis Project, Agency for International Development; 1990.
- New York City Department of Health and Mental Hygiene, Bureau of Maternal, Infant, and Reproductive Health. Pregnancy Risk Assessment Monitoring System (PRAMS); 2006. [www.nyc.gov/html/doh/html/ms/ms-prams.shtml#Breastfeeding](http://www.nyc.gov/html/doh/html/ms/ms-prams.shtml#Breastfeeding). Accessed February 5, 2009.
- U.S. Department of Health and Human Services. *Healthy People 2010*. 2nd ed. *Understanding and Improving Health and Objectives for Improving Health*. Washington, DC: U.S. Government Printing Office; November 2000. [www.healthypeople.gov/document/html/tracking/contents.htm](http://www.healthypeople.gov/document/html/tracking/contents.htm). Accessed March 3, 2009.
- Popkin BM, Adair L, Akin JS, Black R, Briscoe J, Fliieger W. Breast-feeding and diarrheal morbidity. *Pediatrics*. 1990;86(6):874–882.
- Howie PW, Forsyth JS, Ogston SA, Clark A, Florey CD. Protective effect of breast feeding against infection. *BMJ*. 1990;300(6716):11–16.
- Lopez-Alarcon M, Villalpando S, Fajardo A. Breast-feeding lowers the frequency and duration of acute respiratory infection and diarrhea in infants under six months of age. *J Nutr*. 1997;127(3):436–443.
- Chantry CJ, Howard CR, Auinger P. Full breastfeeding duration and associated decrease in respiratory tract infection in US children. *Pediatrics*. 2006;117(2):425–432.
- Chulada PC, Arbes SJ Jr, Dunson D, Zeldin DC. Breast-feeding and the prevalence of asthma and wheeze in children: analyses from the Third National Health and Nutrition Examination Survey, 1988–1994. *J Allergy Clin Immunol*. 2003;111(2):328–336.
- Oddy WH, Peat JK, de Klerk NH. Maternal asthma, infant feeding, and the risk of asthma in childhood. *J Allergy Clin Immunol*. 2002;110(1):65–67.
- Saarinen UM. Prolonged breast feeding as prophylaxis for recurrent otitis media. *Acta Paediatr Scand*. 1982;71(4):567–571.
- Duncan B, Ey J, Holberg CJ, Wright AL, Martinez FD, Taussig LM. Exclusive breast-feeding for at least 4 months protects against otitis media. *Pediatrics*. 1993;91(5):867–872.
- Pisacane A, Graziano L, Mazzarella G, Scarpellino B, Zona G. Breastfeeding and urinary tract infection. *J Pediatr*. 1992;120(1):87–89.
- Marild S, Hansson S, Jodal U, Oden A, Svedberg K. Protective effect of breastfeeding against urinary tract infection. *Acta Paediatr*. 2004;93(2):164–168.
- Sadeharju K, Knip M, Virtanen SM, et al. and the Finnish TRIGR Study Group. Maternal antibodies in breast milk protect the child from enterovirus infections. *Pediatrics*. 2007;119(5):941–946.
- Paricio Talayero JM, Lizán-García M, Otero Puime A, et al. Full breastfeeding and hospitalization as a result of infections in the first year of life. *Pediatrics*. 2006;118(1):e92–99.
- Burke V, Beilen U, Simmer K, et al. Breastfeeding and overweight: longitudinal analysis in an Australian birth cohort. *J Pediatr*. 2005;147(1):56–61.
- Gillman MW, Rifas-Shiman SL, Camargo CA Jr, et al. Risk of overweight among adolescents who were breastfed as infants. *JAMA*. 2001;285(19):2461–2467.
- Kwan ML, Buffer PA, Abrams B, Kiley VA. Breastfeeding and the risk of childhood leukemia: a meta-analysis. *Public Health Rep*. 2004;119(6):521–535.
- Beral V, Fear NT, Alexander F, Appleby P, for the UL Childhood Cancer Study Investigators. Breastfeeding and childhood cancer. *Br J Cancer*. 2001;85(11):1685–1694.
- Davis MK, Savitz DA, Graubard BI. Infant feeding and childhood cancer. *Lancet*. 1988;2(8607):365–368.
- Gerstein HC. Cow's milk exposure and type 1 diabetes mellitus. A critical overview of the clinical literature. *Diabetes Care*. 1994;17(1):13–19.
- Pettitt DJ, Forman MR, Hanson RL, Knowler WC, Bennett PH. Breastfeeding and the incidence of non-insulin-dependent diabetes mellitus in Pima Indians. *Lancet*. 1997;350(9072):166–168.
- Vohr BR, Poindexter BB, Dusick AM, et al, and the National Institute of Child Health and Human Development National Research Network. Persistent beneficial effects of breast milk ingested in the neonatal intensive care unit on outcomes of extremely low birth weight infants at 30 months of age. *Pediatrics*. 2007;120(4):e953–959.
- American Academy of Pediatrics, Committee on Breastfeeding. Breastfeeding and the use of human milk. *Pediatrics*. 2005;115(2):496–506.
- Lawrence RA, Lawrence RM. *Breastfeeding: A Guide for the Medical Profession*. 6th ed. Philadelphia, PA: Elsevier Mosby; 2005.
- Dyson L, McCormick F, Renfrew MJ. Interventions for promoting the initiation of breastfeeding. *Cochrane Database Syst Rev*. 2005(2):CD001688.
- Brent NB, Redd B, Dworetz A, D'Amico F, Greenberg JJ. Breastfeeding in a low-income population. Program to increase incidence and duration. *Arch Pediatr Adolesc Med*. 1995;149(7):798–803.
- Pugh LC, Milligan RA. Nursing intervention to increase the duration of breastfeeding. *Appl Nurs Res*. 1998;11(4):190–194.
- Schafer E, Vogel M, Viegas S, Hausafus C. Volunteer peer counselors increase breastfeeding duration among rural low income women. *Birth*. 1998;25(2):101–106.

36. Guise JM, Palda V, Westhoff CW, Chan BKS, Helfand M, Lieu TA. The effectiveness of primary care-based interventions to promote breastfeeding: systematic evidence review and meta-analysis for the U.S. Preventive Services Task Force. *Ann Fam Med*. 2003;1(2):70-78.
37. American Academy of Pediatrics Policy Statement: Breastfeeding and the use of human milk. *Pediatrics*. 2005;115(2):496-506.
38. American Academy of Pediatrics, Committee on Drugs. The transfer of drugs and other chemicals into human milk. *Pediatrics*. 2001;108(3):776-789.
39. Lawrence RM, Lawrence RA. Given the benefits of breastfeeding, what contraindications exist? *Pediatr Clin North Am*. 2001;48(1):235-251.
40. American Academy of Pediatrics. Human immunodeficiency virus infection. In: Pickering LK, Baker CJ, Long SS, McMillan JA, eds. *Red Book: 2006 Report of the Committee on Infectious Diseases*. 27th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2006:378-401. <http://aapredbook.aappublications.org/>. Accessed March 3, 2009.
41. U.S. Preventive Services Task Force (USPSTF). *Behavioral Interventions to Promote Breastfeeding: Recommendations and Rationale*. Rockville, MD: Agency for Healthcare Research and Quality (AHRQ); 2003. [www.ahrq.gov/clinic/3rduspstf/brstfeed/brfeedrr.htm](http://www.ahrq.gov/clinic/3rduspstf/brstfeed/brfeedrr.htm). Accessed March 9, 2009.
42. Atkinson WL, Pickering LK, Schwartz B, Weniger BG, Iskander JK, Watson JC. General recommendations on immunization. Recommendations of the Advisory Committee on Immunization Practices (ACIP) and the American Academy of Family Physicians (AAFP). *MMWR Recomm Rep*. 2002;51(RR-2):1-35.
43. Alexander JM, Grant AM, Campbell MJ. Randomised controlled trial of breast shells and Hoffman's exercises for inverted and non-protractile nipples. *BMJ*. 1992;304(6833):1030-1032.
44. Souto GC, Giugliani ER, Giugliani C, Schneider MA. The impact of breast reduction surgery on breastfeeding performance. *J Hum Lact*. 2003;19(1):43-49.
45. American College of Obstetricians and Gynecologists. Breastfeeding: Maternal and Infant Aspects. Washington, DC: American College of Obstetricians and Gynecologists; 2000. ACOG Educational Bulletin #258.
46. American Academy of Pediatrics. Transmission of infectious agents via human milk. In: Pickering LK, Baker CJ, Long SS, McMillan JA, eds. *Red Book: 2006 Report of the Committee on Infectious Diseases*. 27th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2006:124-128.
47. Recommendations for prevention and control of hepatitis C virus (HCV) infection and HCV-related chronic disease. *MMWR Recomm Rep*. 1998;47(RR-19):1-39.
48. Lucas A, Cole TJ. Breast milk and neonatal necrotizing enterocolitis. *Lancet*. 1991;337(8738):435-436.
49. Oddy WH, Sly PD, de Klerk NH, et al. Breast feeding and respiratory morbidity in infancy: a birth cohort study. *Arch Dis Child*. 2003;88(3):224-228.
50. Contreras-Lemus J, Flores-Huerta S, Cisneros-Silva I, et al. Morbidity reduction in preterm newborns fed with milk of their own mothers. *Bol Med Hosp Infant Mex*. 1992;49(10):671-677.
51. Committee on Health Care for Underserved Women, American College of Obstetricians and Gynecologists. ACOG Committee Opinion No. 361: Breastfeeding: maternal and infant aspects. *Obstet Gynecol*. 2007;109(2 Pt 1):479-480. [www.acog.org/publications/committee\\_opinions/co361.cfm](http://www.acog.org/publications/committee_opinions/co361.cfm). Accessed March 3, 2009.
52. American Academy of Pediatrics and American College of Obstetricians and Gynecologists. In: Schanler RJ, ed. *Breastfeeding Handbook for Physicians*. Elk Grove Village, IL: American Academy of Pediatrics; 2006.
53. Schanler RJ. The use of human milk for premature infants. *Pediatr Clin North Am*. 2001;48(1):207-219.
54. Charpak N, Ruiz-Peláez JG, Figueroa de C Z, Charpak Y. Kangaroo mother versus traditional care for newborn infants ≤2000 grams: a randomized, controlled trial. *Pediatrics*. 1997;100(4):682-688.
55. Hurst N, Valentine CJ, Renfro L, Burns P, Ferlic L. Skin-to-skin holding in the neonatal intensive care influences maternal milk volume. *J Perinatol*. 1997;17(3):213-217.
56. American Academy of Pediatrics, Subcommittee on Hyperbilirubinemia. Management of hyperbilirubinemia in the newborn infant 35 or more weeks of gestation. *Pediatrics*. 2004;114(1):297-316.
57. Snowden HM, Renfrew MJ, Woolridge MW. Treatments for breast engorgement during lactation. *Cochrane Database Syst Rev*. 2001(2):CD000046.
58. Berens PD. Prenatal, intrapartum, and postpartum support of the lactating mother. *Pediatr Clin North Am*. 2001;48(2):365-375.
59. Mass S. Breast pain: engorgement, nipple pain and mastitis. *Clin Obstet Gynecol*. 2004;47(3):676-682.
60. Foxman B, D'Arcy H, Gillespie B, Bobo JK, Schwartz K. Lactation mastitis: occurrence and medical management among 946 breastfeeding women in the United States. *Am J Epidemiol*. 2002;155(2):103-114.
61. Newman J. Blocked ducts and mastitis. [Bright Future Lactation Resource Centre Ltd]. [www.bflrc.com/newman/breastfeeding/mastitis.htm](http://www.bflrc.com/newman/breastfeeding/mastitis.htm). Accessed March 3, 2009.
62. Niebyl JR, Spence MR, Parmley TH. Sporadic (nonepidemic) puerperal mastitis. *J Reprod Med*. 1978;20(2):97-100.
63. Baby Friendly Hospital Initiative USA. Implementing the UNICEF/WHO Baby Friendly Hospital Initiative in the U.S. [www.babyfriendlyusa.org/eng/03.html](http://www.babyfriendlyusa.org/eng/03.html). Accessed February 5, 2009.
64. United States Government Accountability Office. *Breastfeeding: Some Strategies Used to Market Infant Formula May Discourage Breastfeeding; State Contracts Should Better Protect Against Misuse of WIC Name*. Washington, DC: United States Government Accountability Office; 2006. [www.gao.gov/new.items/d06282.pdf](http://www.gao.gov/new.items/d06282.pdf). Accessed March 3, 2009.
65. Howard C, Howard F, Lawrence R, Andresen E, DeBlieck E, Weitzman M. Office prenatal formula advertising and its effect on breast-feeding patterns. *Obstet Gynecol*. 2000;95(2):296-303.
66. Howard F, Howard C, Weitzman M. The physician as advertiser: the unintentional discouragement of breast-feeding. *Obstet Gynecol*. 1993;81(6):1048-1051.
67. Wagner CL, Greer FR, and the American Academy of Pediatrics, Section on Breastfeeding and Committee on Nutrition. Prevention of rickets and vitamin D deficiency in infants, children, and adolescents. *Pediatrics*. 2008;122(5):1142-1152.
68. Arnold L. *Recommendations for Collection, Storage and Handling of a Mother's Milk for Her Own Infant in the Hospital Setting*. 3rd ed. Denver, CO: The Human Milk Banking Association of North America, Inc.; 1999.

## Continuing Education Activity

### Encouraging and Supporting Breastfeeding

#### SPONSORED BY

THE NEW YORK CITY DEPARTMENT OF HEALTH  
AND MENTAL HYGIENE (DOHMH)

#### CITY HEALTH INFORMATION

APRIL 2009

VOL. 28(suppl 1):1-8

### Objectives

At the conclusion of the course, the participants should be able to:

1. Assess whether breastfeeding is the best option for their patients.
2. Understand the many benefits of breastfeeding for both mother and baby.
3. Educate and support women to breastfeed exclusively for longer durations.

### CME Accreditation Statement

The New York City Department of Health and Mental Hygiene is accredited by the Medical Society of the State of New York to sponsor continuing medical education for physicians. The New York City Department of Health and Mental Hygiene designates this continuing medical education activity for a maximum of 1.0 AMA PRA Category 1 credit(s).™ Each physician should only claim credit commensurate with the extent of their participation in the activity.

### CNE Accreditation Statement

The New York City Department of Health and Mental Hygiene is an approved provider of continuing nursing education by the New York State Nurses Association, an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation.

It has been assigned code 6WXLFX-PRV-084.

This CNE activity has been awarded 1.0 contact hours.

Participants are required to submit name, address, and professional degree. This information will be maintained in the Department's CME/CNE program database. If you request, the CME/CNE Program will verify your participation and whether you passed the exam.

We will *not* share information with other organizations without your permission, except in certain emergencies when communication with health care providers is deemed by the public health agencies to be essential or when required by law. Participants who provide e-mail addresses may receive electronic announcements from the Department about future CME/CNE activities as well as other public health information.

Participants must submit the accompanying exam by **April 30, 2012.**

#### CME/CNE Activity Faculty:

Heather S. Lipkind, MD, MS

Lorraine C. Boyd, MD, MPH

Dr. Lipkind is affiliated with Yale University; Dr. Boyd is affiliated with the NYC DOHMH. The faculty does not have any financial arrangements or affiliations with any commercial entities whose products, research, or services may be discussed in these materials.

## CME/CNE Activity

## Encouraging and Supporting Breastfeeding

April 2009

### 1. Which mother(s) should be counseled NOT to breastfeed?

- A. A mother who has had a cesarean delivery.
- B. A mother who admits to drinking one glass of wine every few days.
- C. A mother who is taking chemotherapy agents.
- D. All of the above.
- E. None of the above.

### 2. Obstetric and pediatric providers should support eligible mothers who wish to breastfeed by doing all of the following EXCEPT:

- A. Assess for breast problems that may interfere with breastfeeding.
- B. Use gift bags, magazines, and posters promoting breastfeeding supplied by formula companies.
- C. Counsel the mother to see a lactation specialist if infant loses more than 7% of birthweight by the first infant visit.
- D. Provide for maternal-baby skin-to-skin contact and the first opportunity for breastfeeding in the delivery room.
- E. Refer women to structured breastfeeding classes and support programs.

### 3. Myths about breastfeeding include which of the following?

- A. Mastitis is a contraindication to breastfeeding.
- B. An infant with physiologic jaundice should discontinue breastfeeding.
- C. Contraception is not needed while breastfeeding.
- D. A, B, and C.
- E. A and C only.

### 4. All of the following statements about vitamin D supplementation for breastfeeding infants are true EXCEPT:

- A. Exclusively breastfed infants need vitamin D supplementation.
- B. Vitamin D supplementation should be 400 IU for exclusively breastfed infants.
- C. When an infant begins to consume at least 500 mL of formula, vitamin D supplementation can be stopped.

- D. Partially breastfed infants may need vitamin D supplementation depending on how much formula they consume.
- E. All formulas sold in the US are fortified with vitamin D and provide the recommended amount of vitamin D in every liter or quart consumed each day.

### 5. Which of the following are special consideration(s) for breastfeeding preterm?

- A. Preterm infants who are breastfed require vitamin D supplementation.
- B. Breast milk for premature infants does not require iron supplementation.
- C. Breast milk lessens risk for necrotizing enterocolitis versus formula.
- D. A and C only.
- E. None of above.

### 6. How well did this continuing education activity achieve its educational objectives?

- A. Very well.
- B. Adequately.
- C. Poorly.

### 7. Will the content learned from this activity impact your practice?

- A. Yes.
- B. No.
- C. Not applicable.

### PLEASE PRINT LEGIBLY.

Name \_\_\_\_\_ Degree \_\_\_\_\_

Address \_\_\_\_\_

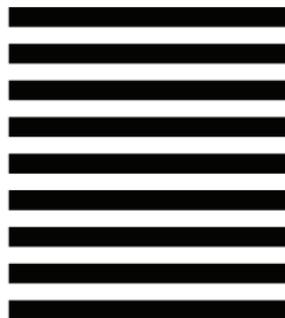
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Date \_\_\_\_\_ Telephone \_\_\_\_\_

E-mail address \_\_\_\_\_



NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES



**BUSINESS REPLY MAIL**  
FIRST-CLASS MAIL PERMIT NO.2379 NEW YORK NY

POSTAGE WILL BE PAID BY ADDRESSEE

CME/CNE ADMINISTRATOR  
NYC DEPARTMENT OF HEALTH  
AND MENTAL HYGIENE  
2 LAFAYETTE ST, CN - 65  
NEW YORK, NY 10277-1632



## Continuing Education Activity

This issue of *City Health Information*, including the continuing education activity, can be downloaded from [www.nyc.gov/html/doh/html/chi/chi.shtml](http://www.nyc.gov/html/doh/html/chi/chi.shtml).

### Instructions

Read this issue of City Health Information for the correct answers to questions. To receive continuing education credit, you must answer 4 of the first 5 questions correctly.

#### To Submit by Mail

1. Complete all information on the response card, including your name, degree, mailing address, telephone number, and e-mail address. PLEASE PRINT LEGIBLY.
2. Select your answers to the questions and check the corresponding boxes on the response card.
3. Return the response card or a photocopy of the card postmarked **no later than April 30, 2012**.

Mail to:

CME/CNE Administrator; NYC Department of Health and Mental Hygiene,  
2 Lafayette Street, CN-65, New York, NY 10277-1632.

#### To Submit Online

Visit [www.nyc.gov/html/doh/html/chi/chi.shtml](http://www.nyc.gov/html/doh/html/chi/chi.shtml) to complete this activity online. Once logged into NYC MED, use the navigation menu in the left column to access this issue of *City Health Information*. Your responses will be graded immediately, and you can print out your certificate.