Pre-test (with Answers)

Section I: Knowledge

1) Hypoglycemia, both symptomatic and asymptomatic, is a common concern in healthy term breastfed neonates. While glucose monitoring should be performed only in high-risk infants and those who are symptomatic, the management strategies employed to prevent and treat hypoglycemia should support breastfeeding. Which one of the following strategies is the **BEST** method to prevent symptomatic hypoglycemia:

   a) Glucose monitoring every thirty minutes following delivery
   b) Oral glucose solution by mouth immediately following birth, followed by breastfeeding on demand
   c) Early initiation of breastfeeding on demand, within 30–60 minutes after delivery
   d) Define hypoglycemia <45 mg/dL (<2.5 mmol/L) within the first 3 hours after delivery
   e) All of the above

**ANSWER: c.** Healthy, term infants do not become hypoglycemic from underfeeding. Even small amounts of colostrum are sufficient to meet normal requirements. Putting infants to breast as soon as possible after birth, and frequently thereafter, is the best way to establish breastfeeding and normoglycemia.

2) Anticipatory guidance for the breastfeeding infant and mother on the day of hospital discharge includes all of the following **EXCEPT**:

   a) Instructions on the techniques for milk expression including how to use a breast pump
   b) A scheduled follow-up visit for the baby at 2 weeks of life
   c) Methods of contacting individuals or organizations, including names and phone numbers, who can provide support and advice related to breastfeeding
   d) Advise to exclusively breastfeed regardless of cultural practices, or need for vitamin supplementation
   e) Answers (b) and (d)

**ANSWER: e.** A follow-up visit should be scheduled 2–4 days post discharge (or 3–5 days of age) to ascertain latch, positioning, jaundice, maternal milk supply/engorgement, and milk transfer. By 2 weeks of age, if there have been any problems, many mothers will have already stopped breastfeeding and the milk glands involuted. Recommending against strong cultural practices (that are not dangerous) will only distance the physician from the family. Vitamin D supplementation should be recommended for all exclusively breastfed infants.

3) All of the following are recommended to encourage successful breastfeeding **EXCEPT**:

   a) Initiation of breastfeeding within 1 hour of birth
   b) Avoiding the use of pacifiers and artificial nipples in term breastfeeding infants
   c) Continuous rooming in with breastfeeding on demand
   d) Restricting length of breastfeeding time to prevent nipple soreness and engorgement
   e) Avoiding use of supplemental formula during the early stages of milk production

**ANSWER: d.** Restricting the time at breast has no relationship to nipple soreness (usually due to improper latch and/or positioning) and will promote engorgement, rather than prevent it.
4) Which of the following is a correct statement about the latch during breastfeeding?
   a) The baby must take all of the areola into the mouth to achieve a good latch
   b) A narrow angle at the corner of the infant’s mouth is indicative of a good latch
   c) The baby needs to be latched so that he compresses the milk sinuses when suckling at the breast
   d) The baby needs to be latched so that he compresses the base of the nipple when feeding
   e) Mothers who have had previous breastfeeding experience rarely require assessment of the baby’s latch in the hospital or birthing center

   **ANSWER:** c. The infant should take a good portion of the areola into his mouth with his mouth wide open (wide angle at the corner) and lips everted (“fish lips”) so that his tongue can come forward to compress the milk sinuses against the hard palate to extract the milk.

5) The mother of a breastfed 3-month-old will be away from her baby overnight for a business trip. She has an electric pump, but will not have a refrigerator available to her during the trip. Of the following, which is the **BEST** advice to give her regarding pumping and storing of her breast milk during the time of separation?
   a) She should pump the milk and save it to take home with her; it’s okay for 24 hours without refrigeration
   b) She should pump and dump her milk; she won’t be able to save the milk, but at least she can maintain her supply
   c) She doesn’t need to bring the pump; with such a short separation, she won’t need to pump at all
   d) She should pump the milk and store it with ice in a cooler at approximately refrigerator temperature (<40°F)

   **ANSWER:** d. Mature milk can be stored at <40°F for ~8 days. If kept at ~60°F, 24 hours is appropriate, but “room temperature” is considered to be >72–80°F, and 4–8 hours is the time limit at that temperature. No need to pump and dump, since most hotels have ice available, and even with such a short separation, pumping would be essential to prevent painful engorgement, and possibly blocked ducts.

6) All of the following medications given during a nursing mother’s hospitalization are compatible with uninterrupted breastfeeding **EXCEPT**:
   a) Acetaminophen
   b) Technetium-99m (for nuclear medicine scans)
   c) Cefoxitin
   d) Prednisone
   e) Ibuprofen

   **ANSWER:** b. Although technetium does not require as long of an interruption in nursing as the radioactive iodines, its use for nuclear medicine scans does cause milk to be radioactive for 15–72 hours, during which time the nursing mother is usually instructed to pump and dump.

7) Breastfeeding has been associated with the following health benefits:
   a) A reduction in otitis media
   b) A reduction in lower respiratory illness
   c) A reduction in gastroenteritis
   d) A reduction in hospitalization from any cause
   e) All of the above

   **ANSWER:** e. All of the above.
8) The hormone primarily responsible for milk ejection (“let-down”) is:
   a) Estrogen
   b) Progesterone
   c) Prolactin
   d) Oxytocin
   e) Transferrin

**ANSWER:** d. Oxytocin is secreted by the posterior pituitary and travels via the bloodstream to stimulate contraction of the myoepithelial cells to cause milk ejection.

9) Compared with mature milk, colostrum is:
   a) Lower in sodium, potassium and chloride
   b) Higher in fat and sodium
   c) Higher in protein, sodium, and fat soluble vitamins
   d) Lower in fat and carotenoids
   e) Higher in water-soluble vitamins

**ANSWER:** c. Protein, sodium, and fat-soluble vitamin concentration decrease as colostrum changes to mature milk. Fat concentration increases with mature lactation.

10) Severe engorgement is most often due to:
    a) High prolactin levels
    b) Infrequent feedings
    c) Postpartum depression
    d) Epidural anesthesia
    e) None of the above

**ANSWER:** b. Delayed, infrequent, and inadequate feedings are the most common causes of engorgement.

11) The most common cause of poor weight gain among breastfed infants during the first 4 weeks after birth is:
    a) Infant metabolic disorders
    b) Infrequent or ineffective feedings
    c) Low fat content of breast milk
    d) Maternal endocrine problems
    e) Maternal nutritional deficiencies

**ANSWER:** b. The lack of stimulation to the breasts causes a decrease in milk supply with resultant poor weight gain in the infant.

12) The addition of complementary foods is recommended at about:
    a) 2 months
    b) 4 months
    c) 6 months
    d) 9 months
    e) 12 months

**ANSWER:** c. Breast milk alone maintains adequate nutrition and growth up to 6 months of age in most infants. Stable sitting and oral feeding skills are also developed at this time in most infants.
13) Breast milk jaundice is **BEST** characterized by:
   a) Weight loss  
   b) Poor feeding  
   c) Brick dust urine  
   d) A high direct bilirubin  
   e) A thriving infant with persistent jaundice

**ANSWER:** e. Breast milk jaundice usually appears after the first week in a healthy, thriving infant. It is not a reflection of inadequate milk intake, but felt to be a factor in the milk which impairs conjugation or excretion of the bilirubin.

14) Breastfeeding is contraindicated in which of the following conditions:
   a) Infants with galactosemia  
   b) Maternal Hepatitis B  
   c) Maternal Hepatitis C  
   d) Maternal mastitis  
   e) Infants with Cystic Fibrosis

**ANSWER:** a. As human milk contains lactose (glucose + galactose), galactosemia is one of the few conditions that preclude breastfeeding/breast milk. Infants of mothers with Hepatitis B should receive Hepatitis B vaccine and HBIG. There is no increased transmission of Hepatitis C with breastfeeding. Milk of mothers with mastitis is safe for baby. Infants with Cystic Fibrosis may need supplemental enzymes, but breastfeeding is encouraged.

15) A mother with a 3-day-old baby presents with sore nipples. The problem began with the first feeding and has persisted with every feeding. The most likely source of the problem is:
   a) Baby’s suck is too strong  
   b) Feeding time is too long  
   c) Lack of nipple preparation during pregnancy  
   d) Inverted nipples  
   e) Poor attachment to the breast

**ANSWER:** e. Nipple preparation has not been shown to affect nipple soreness. Attachment may be more difficult with inverted nipples, but correct attachment can usually be obtained. Length and vigor of feedings are not associated with sore nipples. Poor attachment is by far the most frequent cause of sore nipples.

16) Hospital policies that interfere with breastfeeding include all of the following **EXCEPT:**
   a) Moving the infant to the nursery for the night to allow mother to rest and build up her milk supply  
   b) Feedings scheduled every 4 hours to allow mother’s breasts to make more milk  
   c) Use of pacifiers to prevent the infant using mother as a pacifier and giving her sore nipples  
   d) Showing all mothers how to express or pump breast milk in case they are separated from their infants  
   e) Routine water supplementation by dropper to prevent dehydration

**ANSWER:** d. Keeping mother and baby apart, limiting feedings, offering a pacifier instead of the breast, and offering supplement, all restrict breastfeeding and interfere with establishing a full milk supply. Hand expression or pumping is a skill that can help maintain milk supply.
17) In which of the following circumstances should it be necessary to delay the initiation of breastfeeding after delivery (for more than 1 hour):
   a) C-section with spinal anesthesia
   b) Mother fatigued due to a long and difficult labor
   c) Mother receiving MgSO4 for preeclampsia
   d) All of the above
   e) None of the above

**ANSWER:** e. None of the above. If mother is awake and alert enough to hold her infant she should be encouraged to breastfeed immediately after delivery.

18) Which of the following factors should be considered when choosing drug therapy for a nursing mother?
   a) Age of the infant
   b) Experience with the drug in infants
   c) Relative concentration of the drug in mother’s milk and plasma
   d) Potential long-term effects in the infant
   e) All of the above

**ANSWER:** e. Although every effort should be made to minimize drug transfer to the infant, very few drugs are contraindicated for breastfeeding mothers.

19) Signs of milk ejection in the first few weeks include all of the following EXCEPT:
   a) Milk leaking from the other breast
   b) Uterine cramping
   c) Breast erythema
   d) Audible swallowing
   e) “Pins and needles” sensation in the breast

**ANSWER:** c. Oxytocin causes myoepithelial cell contraction and uterine contractions. With milk ejection, infant swallowing can be heard, and leaking from the other breast can be seen. Erythema is not part of the milk ejection reflex.

20) All of the following will influence maternal milk production EXCEPT:
   a) Retained placental fragments
   b) Maternal smoking
   c) Maternal fatigue and stress
   d) Excessive maternal caloric intake
   e) Diuretic medications

**ANSWER:** d. The rapid drop in progesterone when the placenta is expelled is necessary to trigger the onset of copious milk production. Maternal smoking, fatigue, stress and diuretic medications have all been associated with a reduction in maternal milk production. Extra calories will be stored, but will not affect milk production adversely.
Section II: Clinical Practice

The questions in this section ask the residents about their common clinical practices. The information below each of the questions is to guide you on what the best answer should be. Pre-implementation of the curriculum, it is likely you will get a variation of answers in this section.

21) When do you usually schedule the first postnatal office visit for an infant discharged to home?
   a) At 3–5 days of life
   b) At 2 weeks of life
   c) At 1 month of life
   d) At 2 months of life
   e) Any of the above is acceptable

**ANSWER: a.** The AAP recommends that infants be seen for their first postnatal office visit within 3–5 days of life or 48–72 hours post discharge from the hospital.

22) When discussing feeding options with parents of healthy full-term infants in your practice, which one of the following do you usually recommend for the first month of life?
   a) Formula feeding exclusively
   b) Breastfeeding exclusively
   c) Breastfeeding with formula supplement
   d) Make no recommendation/support mother’s choice

**ANSWER: b.** The AAP recommends that infants be breastfed exclusively for the first 6 months of life. Residents should usually be recommending exclusive breastfeeding unless there is a medical contraindication.

23) For approximately what length of time do you recommend exclusive breastfeeding?
   a) 1 month
   b) 2 months
   c) 4 months
   d) 6 months
   e) 9 months

**ANSWER: d.** The AAP recommends that infants be breastfed exclusively for the first 6 months of life.

24) How frequently do you usually recommend that infants be breastfed *during the first week of life*?
   a) Every hour
   b) Every 2 hours
   c) Every 3 hours
   d) Every 4 hours
   e) Whenever the baby seems hungry or fussy (i.e., on demand), approximately 8–12 times per day

**ANSWER: e.** Infants should be fed on demand, whenever the infant seems hungry or fussy or is displaying signs of hunger.
25) How frequently do you usually recommend that infants be breastfed *during the first month of life*?

   a) Every hour
   b) Every 2 hours
   c) Every 3 hours
   d) Every 4 hours
   e) Whenever the baby seems hungry or fussy (i.e., on demand), approximately 8–12 times per day

**ANSWER:** e. Infants should be fed on demand, whenever the infant seems hungry or fussy or is displaying signs of hunger.

During the past 6 months, how often have you: *Circle 1 response for each item*

<table>
<thead>
<tr>
<th>Event</th>
<th>Never</th>
<th>1 or 2 Times</th>
<th>3 or 4 Times</th>
<th>5 or more Times</th>
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</thead>
<tbody>
<tr>
<td>26) Observed a patient breastfeeding in a hospital or office setting</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>27) Counseled an expectant or newly delivered mother about infant feeding choices</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>28) Taught a new mother breastfeeding techniques (e.g., latching on, positioning infant at breast)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>29) Taught a breastfeeding mother how to use a breast pump</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>30) Counseled a breastfeeding mother about lactation problems (e.g., mastitis, cracked nipples, low milk supply)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>31) Performed a prenatal or postpartum breast examination</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>32) Asked a mother about her cultural beliefs and practices regarding intake of colostrum when advising her to breastfeed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>33) Asked a breastfeeding mother about her diet when counseling about breastfeeding</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>34) Asked a breastfeeding mother whether she is using medications and how they will affect breastfeeding</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>35) Asked a breastfeeding mother whether or not she is using herbal supplements or treatments</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>36) Asked for assistance by another member of your staff (chaperone) when breastfeeding was observed and evaluated</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>37) Used a bilingual staff member or certified interpreter for a breastfeeding mother who has low English proficiency (LEP)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>38) Asked about the cultural beliefs and practices of a breastfeeding patient before counseling about breastfeeding</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
How confident are you of your ability to do the following? *Circle 1 response for each item*

<table>
<thead>
<tr>
<th>Item</th>
<th>Very Confident</th>
<th>Neutral</th>
<th>Not at all Confident</th>
</tr>
</thead>
<tbody>
<tr>
<td>39) Adequately address parents’ questions about breastfeeding</td>
<td>1</td>
<td>2</td>
<td>3  4  5</td>
</tr>
<tr>
<td>40) Competently manage common breastfeeding problems</td>
<td>1</td>
<td>2</td>
<td>3  4  5</td>
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</tbody>
</table>

**Resident Characteristics**

41) If you have children, how many of your children have been: *Enter a number or “0”*

   *If you have no children, check here □ and go to Question #42*

   **Number of Children**

   - Formula-fed exclusively
   - Breastfed exclusively for less than 6 months
   - Breastfed exclusively for 6 or more months
   - Breastfed any amount (other than exclusively)
   - Do not know

42) What is your race/ethnicity? *Check one*

   - Caucasian, non-Hispanic
   - Black/African American
   - Hispanic
   - American Indian/Alaskan Native
   - Asian
   - Native Hawaiian/other Pacific Islander
   - Other

43) Do you or an office staff member speak any languages fluently other than English?
   a) Yes, *Please specify languages*
   b) No

44) What is your gender?
   a) Male
   b) Female

45) In what year were you born?
   19

*This pre-test was derived in part from:*

The Academy of Breastfeeding Medicine: What Every Physician Needs to Know About Breastfeeding Course
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