Post-test (with Answers)

Section I: Knowledge

1) The recommended treatment of symptomatic hypoglycemia includes all of the following EXCEPT:
   a) Gavage feeds with glucose water or expressed breast milk
   b) Breastfeeding on demand once symptoms resolve
   c) Glucose monitoring before each feed until glucose is stabilized
   d) Intravenous glucose using 2 cc/Kg 10% glucose bolus, followed by 6–8 mg/kg/min continuous glucose infusion
   e) Examination and evaluation to exclude underlying illness

   ANSWER: a. Symptomatic hypoglycemic infants need investigation, monitoring, and IV glucose, not forced feedings.

2) During the postpartum stay, a breastfeeding mother reports that she is having difficulty getting her infant to breastfeed. Your best response to this situation should be to:
   a) Explain that most babies have a difficult time starting out and to just keep trying
   b) Advise that the baby may be getting dehydrated, so he is not interested in feeding
   c) Encourage supplementation until the baby learns to breastfeed
   d) Discharge the infant, so the mother will be more relaxed breastfeeding at home
   e) Request assistance for the mother at the infant’s next feeding to evaluate the breastfeeding technique

   ANSWER: e. Reassurance without observation and investigation may lead to a dehydrated, jaundiced baby and a frustrated, engorged mother. Supplementation without a valid indication and plan will sabotage the supply and demand nature of breastfeeding.

3) An adequately breastfed healthy, term infant can be expected to have all of the following EXCEPT:
   a) Infrequent stools in the first 2 weeks of life
   b) Loss of no more than 8%–10% of birth weight initially, with regain of birth weight by about 2 weeks of age
   c) Loose, yellow, seedy stools after most feedings in the early weeks of life, beginning when the mother experiences an increase in her milk production
   d) Desire to feed frequently, at least every 2–3 hours
   e) Weight gain pattern of 15–30 grams per day beginning with mother’s increased milk production

   ANSWER: a. Frequent (4–10 per 24 hours), yellow, cottage cheese and mustard stools are the hallmark of adequate intake after mothers’ full milk supply “comes in” (Lactogenesis II). Urine output can be adequate without adequate nutrition for appropriate growth. What goes in must come out!
4) When positioning a newborn to breastfeed, all of the following are correct EXCEPT:

a) After a cesarean section delivery, the side-lying or football hold (clutch) positions are most comfortable for mother.

b) When using the cradle hold, the infant should be placed in a supine position across the mother's lap, with the infant's neck extended and rotated to latch on to the nipple.

c) The mother needs to be sitting or lying in a comfortable position without excessive strain on her shoulders, arms, or back.

d) The cross-cradle, or transitional, hold usually works well for most breastfeeding infant and mother when learning to breastfeed.

e) Alternating or rotating 2 or more breastfeeding positions may help to prevent nipple discomfort in the early days after delivery.

ANSWER: b. In any hold or position the infant’s head, shoulders, and hips should be in alignment with the infant chest-to-chest or tummy-to-tummy facing the mother. If the head is turned, the infant will not be able to swallow, and will be pulling at the mother's breast and nipple to pull it into alignment, causing poor milk transfer and sore nipples.

5) The mother of a breastfed infant is going to have surgery (not involving the breast) requiring general anaesthesia and an overnight hospital stay. How soon after surgery can she resume breastfeeding?

a) 6 hours
b) 12–24 hours
c) 48 hours
d) 1 week
e) When she is fully awake and able to care for herself

ANSWER: e. General anesthetics are relatively short acting, and the mother can usually resume breastfeeding as soon as she is fully awake and able to care for herself. Many anaesthesiologists conservatively recommend pumping and dumping for 12–24 hours, but this is not strictly necessary.

6) Although some older studies found a correlation between breastfeeding and higher intelligence, more recent studies, which controlled or adjusted for maternal education, socio-economic status, and related factors have:

a) Found no correlation between IQ and breastfeeding duration in full-term infants
b) Found no correlation between IQ and breast milk intake in preterm infants
c) Found a small, but statistically significant, increase in IQ and academic performance in breastfed or breast milk-fed infants
d) Found breastfed infants have a 13–15 IQ point advantage over artificially fed infants

ANSWER: c. Although controlling for confounding factors in families is extremely difficult, recent studies and a meta-analysis have concluded that breastfed infants have a small, but statistically significant improvement in intellectual function, with preterm infants benefiting the most.

7) The primary hormone responsible for milk synthesis is:

a) Estrogen
b) Prolactin
c) Progesterone
d) Oxytocin

ANSWER: b. Prolactin is secreted by the anterior pituitary and travels via the bloodstream to stimulate the mammary alveolar cells to produce milk.
8) The component of human milk that binds iron locally to inhibit bacterial growth is:
   a) Lactoferrin  
   b) Transferrin  
   c) Macrophages  
   d) Oligosaccharides  
   e) Secretory IgA
   **ANSWER:** a. Lactoferrin is an iron-binding protein which inhibits the growth of iron-dependent microorganisms in the GI tract.

9) Milk production is increased by:
   a) More frequent milk removal  
   b) Forcing fluids  
   c) Increasing maternal caloric intake  
   d) Vitamin D  
   e) Hearing an infant cry
   **ANSWER:** a. The more stimulation the breasts receive through frequent and thorough milk removal, the more milk will be made. Forcing fluids has no positive effect on milk supply. Increasing caloric intake may improve the mother's energy level but will not improve milk volume. Vitamin D intake has no effect on milk volume. Hearing an infant cry may trigger a milk ejection reflex.

10) A breastfeeding mother with a 3-month-old infant has a red, tender, wedge-shaped area at the outer quadrant of 1 breast. She has flu-like symptoms and a temperature of 39°C. Your management includes all of the following EXCEPT:
   a) Antibiotics for 10 days  
   b) Extra rest  
   c) Interrupt breastfeeding for 48 hours  
   d) Moist heat to the involved area of breast  
   e) Fever and pain control with acetaminophen
   **ANSWER:** c. An essential part of the treatment of mastitis is maintaining milk flow through breastfeeding or a pump. Mastitis is a cellulitis and the milk itself is not dangerous to the infant. The usual antibiotics (dicloxacillin/erythromycin) used to treat mastitis are safe for the baby.

11) Poor weight gain in the breastfed infant is **MOST OFTEN** caused by:
   a) Low fat content of the milk  
   b) Inappropriate feeding routines  
   c) Poor maternal nutrition  
   d) Neglect  
   e) Inadequate maternal milk intake
   **ANSWER:** b. Unless mothers are truly starving to death, the quality and quantity of milk changes very little. You do not have to drink milk to make milk. Although neglect can cause FTT, the most common reason is inappropriate feeding routines such as restricting time at breast and scheduled 4 hour feedings.
12) Exclusive breastfeeding (no other foods) is recommended for the first:
   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) Breastfeeding jaundice is reduced by:
   a) Frequent feedings at the breast (8–12 times per 24 hours)
   b) Water after breastfeeding, given by dropper
   c) Supplemental glucose water
   d) Letting the baby sleep more
   e) All of the above

**ANSWER:** a. As breastfeeding jaundice is not due to dehydration, water and glucose water do nothing to relieve it. Additional colostrum and human milk stimulates the passage of meconium, reducing the re-uptake of bilirubin through the enterohepatic circulation, to reduce the jaundice.

14) Signs of adequate breast milk intake in the first 4–6 weeks include all below EXCEPT:
   a) At least 3–4 stools in 24 hours
   b) At least 4–6 wet diapers wet with urine in 24 hours
   c) Baby gaining weight
   d) Baby sleeping through the night
   e) Sounds of swallowing

**ANSWER:** d. Breast milk empties from the stomach faster than artificial milks. Breastfed babies need to eat a minimum of 8 times in 24 hours in the early weeks. Sleeping through the night before 6 weeks is not physiologic and may reflect inadequate caloric intake.

15) Nipple candidiasis can be associated with all of the following EXCEPT:
   a) Burning pain in the breast
   b) Fever, malaise, and headache
   c) Oral thrush in the infant
   d) Pink and shiny appearance of the nipples
   e) Nipple tenderness between breastfeeding

**ANSWER:** b. Nipple candidiasis is a local fungal infection without systemic symptoms. Fever, malaise, and headache are strongly associated with bacterial mastitis.
16) Breastfeeding should be temporarily interrupted when:
   a) Mothers are undergoing diagnostic tests with radioactive contrast agents
   b) Mothers have an acute viral illness
   c) Mothers have mastitis
   d) Infants have acute gastroenteritis
   e) All of the above

**ANSWER:** a. Radioactive contrast agents require temporary cessation of breastfeeding with “pump and dump” to maintain milk supply. Acute, self-limited, or readily treatable illnesses of mother or infant are not contraindications to breastfeeding.

17) The WHO/UNICEF Baby Friendly Hospital Initiative (BFHI) Ten Steps include all of the following **EXCEPT:**
   a) Infants should be given nothing but breast milk, unless medically indicated
   b) Infants should room in with their mothers
   c) Mothers should be informed of the benefits and management of breastfeeding
   d) Infants should be given pacifiers to improve their suck coordination
   e) Infants should be put to breast within the first 30 minutes after birth

**ANSWER:** d. Rooming in provides the opportunity for mother to notice early hunger cues and to breastfeed frequently. Limiting supplementation and early breastfeeding help to establish mother’s milk supply. Anticipatory guidance promotes breastfeeding success. Pacifiers have been associated with shorter duration of breastfeeding and may interfere with frequent suckling at breast.

18) Markers of failure to thrive in the breastfed infant include:
   a) Maximum weight loss of >8% of birth weight
   b) Failure to gain 8–10 oz per week
   c) Weight loss after day 5
   d) Under birth weight by day 7
   e) a and c

**ANSWER:** e. The optimally breastfed infant will lose approximately 6% of birth weight and start regaining weight by day 5 (after full milk supply appears, days 3–4), gain 5–7 oz/week so that the infant will be above birth weight by day 10–14 of life.

19) An acceptable medical reason to supplement a breastfed infant in the hospital is:
   a) To quiet a fussy baby
   b) Separation from the mother due to maternal or infant illness
   c) To teach the baby to take a bottle for later
   d) To prevent dehydration
   e) To allow the mother to rest

**ANSWER:** b. An infant who has been transported, or a mother in the ICU, is an indication to supplement the infant until breastfeeding or pumping can be established. A fussy baby may need more frequent feedings at the breast, a diaper change, or simply a cuddle with the parent. Once breastfeeding is well established (4–6 weeks), a bottle may be introduced. Mothers get no additional rest when separated from their infants. Normal infants will not get dehydrated while awaiting Lactogenesis II.
20) When women believe they have a low milk supply, they can BEST be helped by:
   a) Supplementing the baby by cup or finger-feeding to give the mother a break
   b) Taking a breastfeeding history and assessing the infant at the breast
   c) Having the mother pump for 15 minutes after every feeding
   d) Teaching the mother to assess urine output
   e) Reassurance that it is only an infant growth spurt — that her milk supply is adequate

**ANSWER:** b. The perception of low milk supply occurs much more frequently than true low milk supply. However, low milk supply can, and does, occur. Taking a feeding history and assessing milk transfer at the breast is essential to separate the 2 issues. Supplementation before assessment will only decrease a low milk supply further, or convince the mother with sufficient milk, that her milk is inadequate. Pumping is very helpful to increase milk supply AFTER it is established that the supply is truly low. Stool output, not urine, is a good marker of infant intake. Reassurance without assessment can create serious morbidity.

**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. Post-implementation of the curriculum, the residents should be performing the correct clinical practices.

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.

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

<table>
<thead>
<tr>
<th></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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<tbody>
<tr>
<td>a) Observed a patient breastfeeding in a hospital or office setting</td>
<td>1</td>
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<td>b) Counseled an expectant or newly delivered mother about infant feeding choices</td>
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<td>2</td>
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<td>c) Taught a new mother breastfeeding techniques (e.g., latching on, positioning infant at breast)</td>
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<td>d) Taught a breastfeeding mother how to use a breast pump</td>
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<td>e) Counseled a breastfeeding mother about lactation problems (e.g., mastitis, cracked nipples, low milk supply)</td>
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<td>f) Performed a prenatal or postpartum breast examination</td>
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<td>g) Asked a mother about her cultural beliefs and practices regarding intake of colostrum when advising her to breastfeed</td>
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<td>h) Asked a breastfeeding mother about her diet when counseling about breastfeeding</td>
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<td>i) Asked a breastfeeding mother whether she is using medications and how they will affect breastfeeding</td>
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<tr>
<td>j) Asked a breastfeeding mother whether or not she is using herbal supplements or treatments</td>
<td>1</td>
<td>2</td>
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27) How confident are you of your ability to do the following? *Circle 1 response for each item*

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<th>Very Confident</th>
<th>Neutral</th>
<th>Not at all Confident</th>
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<tr>
<td>a) Adequately address parents’ questions about breastfeeding</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>b) Competently manage common breastfeeding problems</td>
<td>1</td>
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28) How much influence do you think breastfeeding education during your residency training will have on how you will care for mothers and babies in the future?

<table>
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<tr>
<th></th>
<th>Very Influential</th>
<th>Neutral</th>
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*This post-test was derived in part from:*

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