

Linda J. Smith

FOURTH EDITION

Comprehensive Lactation Consultant EXAM REVIEW



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Comprehensive Lactation Consultant EXAM REVIEW

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Dedication

This *Fourth Edition* is dedicated to four remarkable women who have greatly influenced my life, my career, and the creation of this edition.

Hannah S. Boswell, my daughter, lived and practiced the principles in this book. As a child, she was the recipient of these principles; she later carried them through expertly into her own mothering. I watched with pride and awe as she nourished and nurtured her daughter Carrie through childhood and beyond. More pertinent to my personal life and the creation of this new edition, she “dropped everything” to come to my rescue during several unexpected health crises, driving hundreds of miles on scant notice to care for me. She expertly used her caregiving and counseling skills when I was recuperating from illness and accident; became a skilled scribe when I broke my arm; and maintained her sense of humor and kind presence as she supported my husband and me in times of crisis. Thank you, Hannah.

K. Jean Cotterman, RNC, IBCLC, was actively helping breastfeeding families literally until the day she died on June 11, 2014, at age 83. She and I spoke and consulted on many occasions, and she regularly lectured in my Exam Preparation courses. Her family gave permission to use many of her clinical photographs in this edition. Her deep and thorough investigation into the role of intravenous fluids on postbirth breast edema bore fruit after her death as the publication of a remarkable peer-reviewed article on the topic: Kujawa-Myles, S., Noel-Weiss, J., Dunn, S., Peterson, W., & Cotterman, K. (2015). Maternal intravenous fluids and postbirth breast changes: A pilot observational study. *International Breastfeeding Journal*, 10(1), 18.

Chris Mulford, RN, IBCLC, FILCA, was a role model and mentor since before the birth of this profession. Chris was a professional musician, La Leche League Leader, avid gardener, nurse, and IBCLC. She devoted many wise and collaborative hours to the development of global and U.S. national policies in breastfeeding. Chris and her husband, George, were frequent guests at my home on their way to yearly vacations in the Rocky Mountains before Chris’s unexpected death in 2011. Every time I reference the *Healthy People 2020* Goals or a WABA initiative, I fondly remember Chris’s gentle ways and expansive wisdom. A favorite publication of Chris’s was Mulford, C. (1995). Swimming upstream: Breastfeeding care in a nonbreastfeeding culture. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, 24(5), 464–474.

Nikki L. Rogers, PhD, CPH, CKC, continues to profoundly influence my work. As an anthropologist, she invited my collaboration on a research project in Ethiopia, studying colostrum avoidance. As a faculty member in the public health program in the Boonshoft School of Medicine at Wright State University, she continues to steer MPH students toward collaborating with me on their Culminating Experience projects related to breastfeeding. She volunteers many hours in support of the Ohio Lactation Consultant Association. Her curiosity, academic rigor, enthusiasm, creativity, energy, and friendship have been invaluable resources as she continues to successfully and skillfully weave breastfeeding solidly into the academic medical school and public health world by connecting medical and public health graduate students with this body of knowledge and community, both locally and internationally. Nikki literally became my right arm and hand (after I broke my arm), enabling me to finish editing the last few hundred questions in this edition.

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I'm also thankful for the patient expertise of the editorial and production teams at Jones & Bartlett Learning who guided the production of this book: Teresa Reilly, Amanda Clerkin, Lauren Vaughn, Rebecca Humphrey, Wes DeShano, and others whom I've inadvertently omitted or never met in person. Thank you!

About the Author

Linda J. Smith, MPH, IBCLC, FACCE, FILCA, is a lactation consultant, childbirth educator, author, and international consultant on breastfeeding and birthing issues. She was a founder of IBLCE, founder and past board member of ILCA, and serves on the United States Breastfeeding Committee. Her diverse background spans four decades of direct education and support for pregnant and breastfeeding women in nine cities in the United States and Canada. She has worked in hospital systems and local and state public health agencies, and supported colleagues with service on related associations' boards. Linda is an Adjunct Instructor in the Boonshoft School of Medicine at Wright State University in Dayton, OH, and has represented ILCA to the World Health Organization's biannual meetings of BFHI Country Coordinators from Industrialized Countries since 2006. Linda is also a consultant to Baby-Friendly USA and INFACT Canada/IBFAN North America. She is currently the owner and director of Bright Future Lactation Resource Centre (BFLRC), whose mission is "Supporting the People Who Support Breastfeeding" with lactation education programs, consulting services, and educational resources. BFLRC is on the Internet at www.BFLRC.com. She is the author of four professional textbooks on birth and breastfeeding and co-author of *Sweet Sleep* by La Leche League International. She has lectured in 19 countries; her presentations have been translated into 12 languages including Chinese, Russian, and Inuktitut. She has presented her key research areas to international health experts at the World Health Organization meetings. Her Lactation Management/Exam Preparation Course is the longest-running course of its kind, the first to be based on the IBLCE Exam Blueprint, and has been presented to thousands of students for over 23 years.

Introduction

The lactation consultant profession celebrated its 30th anniversary in 2015. We've come a long way since 250 candidates took the first exam simultaneously in Melbourne, Australia, and Washington, DC in 1985. The 30th administration of the IBLCE exam took place in 159 sites in 40 countries on 5 continents in 17 languages and was administered to more than 4,000 candidates. As of this writing, more than 45,000 candidates have taken the exam and 27,450 IBCLCs now practice in 101 countries.

The *Fourth Edition of Comprehensive Lactation Consultant Exam Review* expands on the previous 3 editions with 950 practice questions, 20 case studies with questions, and more than 300 clinical photos. Every question has been reviewed, sometimes revised, referenced, and re-assigned to the *2016 Detailed Content Outline* (formerly called the Exam Blueprint). This book is designed to give exam candidates practice in answering multiple-choice questions typical of the questions found on the examination administered by the International Board of Lactation Consultant Examiners (IBLCE). None of these questions have been submitted to IBLCE for possible use, and all were created by the author or an IBCLC contributor.

Preparing for the IBLCE Exam includes information about the exam layout, successful study and preparation strategies, and an expanded set of clinical exercises based on the *2016 Detailed Content Outline*. The clinical exercises for each discipline help the student explore a variety of aspects of lactation consultant practice. Some research suggests that candidates who complete clinical exercises and analyze the effects on their practice of doing the exercises may perform better on the exam. My experience is that students who use the exercises to explore a wide variety of lactation consultant activities are enriched, enhanced, and excited by the process.

Chapters 1–11 are practice questions based on the chronological periods in the *2016 Detailed Content Outline*. Even though most of the textbooks in our field are arranged by topic (discipline), effective support of the breastfeeding dyad is usually based on the baby's age, which determines the stage of lactation; the mother's progress in maternal role acquisition; nutrition, growth, and development of the mother and child; changes in milk biochemistry and immunology; and more. There may be overlap in some of the chronological periods. Many clinical situations involve more than one discipline. In this book, each question has been assigned to only one period, one discipline, and one of the seven taxonomy categories, which are identified in the answer sections. The IBLCE exam uses the sophisticated Nedelsky technique to establish the passing grade. Each question also has a "degree of difficulty" rating based on how close the incorrect answers approximate the correct answers. Choices that every candidate should reject are easy to eliminate; choices that only well-prepared candidates will reject are more difficult to distinguish from the correct answer. The difficulty rating is calculated from the mix of "obviously wrong" choices and "wrong-but-close" choices: the higher the difficulty rating, the harder the question. In general, the higher the percentage of difficult questions that are asked in a given year's exam, the lower the passing score that year. The average passing grade over many years has been approximately 65%.

Chapter 12 presents 20 clinical case studies with several multiple-choice questions based on each case. This format allows more in-depth analysis of the body of knowledge required to help

the mother and baby in each case and more closely simulates situations encountered in actual practice. All of the clinical case studies in this book are actual situations contributed by lactation consultants, with identifying details changed to maintain client confidentiality.

The online interactive testing program has two complete practice exams with pictures. The distribution and number of questions in each discipline and chronological period are balanced to conform to the *2016 Detailed Content Outline*, which is derived from an analysis of skills, knowledge, and abilities of practicing lactation consultants. Common functions and activities of lactation consultants were examined for frequency of use in practice and criticality of that function or activity to breastfeeding success. Knowledge, skills, and abilities that are used more frequently or are more critical to lactation success are more heavily weighted in the exam content outline. Therefore the number of questions per discipline and chronological period on the practice exams are based on the relative importance of that topic or period in actual clinical practice.

Every attempt has been made to include questions that relate to the wide body of knowledge that is tested on the IBLCE exam. All questions have been referenced to the published professional literature, and an extensive bibliography is included in the appendix.

When studying, use the most current editions of widely available texts and research articles published in relevant professional journals. If one reference appears to contradict another, look carefully for the common ground, or examine the primary research on the topic. The exam will test the most critical and frequently used principles of supporting breastfeeding families, not esoteric trivia. Some research articles can be downloaded in their entirety from the online version of peer-reviewed journals for free or a fee. In other cases, the abstract is available for free online. Most medical libraries provide public access to a wide selection of the journals cited.

- Knowledge areas are found in the suggested readings and bibliographies.
- Skills are learned through experience, preferably supervised, and indirectly tested by the questions with accompanying photographs.
- Attitudes are difficult to test with a paper-and-pencil (or computerized) multiple-choice examination, yet are central to effective breastfeeding care. Listening to mothers' concerns and experiences is vital to understanding the supportive attitudes that emerge in the sample questions. The clinical exercises will help develop skills and deepen your understanding of each discipline, especially the exercises that involve interviewing or observing mothers and babies.

The practice questions may include signs and symptoms of various diseases, therapeutic treatments including antibiotics and other prescription medications, and other information related to the overall health or medical condition of the lactating mother or breastfed child. Inclusion of this information does not imply that the lactation consultant, on the basis of IBCLC certification alone, is qualified or legally allowed to diagnose medical conditions or recommend, prescribe, or determine medical treatments of the mother or child.

Although this book is intended to help candidates prepare for the IBLCE exam, no guarantees of passing the IBLCE exam are expressed or implied. This book is intended to augment lactation management or exam preparation textbooks and courses, not replace them. Students in lactation management courses often find that coursework focuses their study, validates existing knowledge, and identifies weak areas. The book can be used as a guide for self-study, the formation of study groups, or to supplement academic courses.

Until recently, all lactating/breastfeeding adults were referred to as mothers or women. This was not intended to diminish the relevance or existence of individuals who were assigned male gender at birth and transitioned to being female nor individuals who were female at birth and transitioned to being male; some of these individuals may be breastfeeding parents. Nor was there

any intent to assume that the partner of the breastfeeding person is necessarily of the opposite gender or whether a partner is involved with the breastfeeding person at all. Gender pronouns (he or she) referring to the baby or babies in the cases or questions were randomly selected, or reflect the actual child or children in the question or photograph.

Finally, I made every attempt to include questions that cover the depth and breadth of topics that might be tested on the IBLCE exams. This book may over- or under-represent some topics tested on a given year's exam. New research will inevitably be published after this book is released that expands, deepens, or even replaces earlier understandings. Therefore, this book's questions, references, and exercises should be considered a guide and starting point for study, not the final word on any topic or concept. I am grateful to readers who contact me with comments, possible corrections, and suggestions. My email is lindaj@bflrc.com.

For more information and update, regarding IBLCE certification, contact www.iblce.org/about-iblce/worldwide-offices.

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Preparing for the Exam: Study and Exam Preparation Strategies

The IBLCE examination tests a broad and diverse body of knowledge, skills, and attitudes important to two individuals with interrelated physiology and needs: the mother–baby breastfeeding dyad. The WHO/UNICEF *Global Strategy for Infant and Young Child Feeding* states elegantly and eloquently that “Mothers and babies form an inseparable biological and social unit; the health and nutrition of one group cannot be divorced from the health and nutrition of the other.”

It is wise to develop a study plan well in advance of the exam that fits your personality, study habits, and available time. The *Core Curriculum for Lactation Consultant Practice, Third Edition*¹ and IBLCE’s *Detailed Content Outline* are useful guides for a study plan. Although no single book covers all the material that could be tested on the IBLCE exam, the most recent editions of core textbooks are excellent places to start your review.

Personal study preferences and learning styles will affect your preparation. For example, I’m an extrovert and learn better when I’m with a group of peers. When I am preparing to take or retake the exam, I invite local colleagues to study sessions at my home. A schedule of dates and topics is circulated; each person is invited to pick a topic or month to lead the group discussion; and we all bring research articles, dolls, breast models, equipment, videos or DVDs, textbooks, pictures and slides, and snacks to share. I have learned that groups containing individuals from different backgrounds work well, because a nurse will have different areas of expertise from that of a dietitian, and a mother-support group leader will bring experiences that are different from those of a midwife or speech therapist. A kinesthetic learner might want to take copious notes or even make flash cards to study. Those who spend significant time driving or riding on public transportation may find listening to recorded conference presentations to be an effective way to study. I also learn better from in-person instruction and interactive activities than I do from on-line learning opportunities. With that in mind, I developed and continue to offer the Lactation Consultant Exam Preparation course sponsored by Bright Future Lactation Resource Centre www.BFLRC.com, which is the longest-running and the first course of its kind based on the Exam Blueprint (*Detailed Content Outline*).

Do Some Planned “Assignments” or Clinical Exercises

The IBLCE examination is heavily based on practical help for real-life situations. An analysis of courses and candidates’ results suggests that doing, and writing up, various clinical exercises is related to higher scores on the exam. Merely doing the exercises is helpful; writing them up and reflecting on what you learned is even better. If your experience in lactation is primarily in

¹<http://www.jblearning.com/catalog/9780763798796/>

one area (early postbirth, mother-to-mother breastfeeding groups, prenatal education), it is most helpful to concentrate on the areas in which you have the *least* experience.

If you plan to observe lactation care providers, seek permission from the facility, the lactation consultant (LC), and the client being observed. Remember, the facility or LC may welcome you, but the mother may feel uncomfortable with you present. Obey any local protocols (wearing scrubs, etc.). Your role is an observer, not a co-counselor. Seek permission, introduce yourself, and send a thank-you note afterward. During the observation, do not interrupt or attempt to assist the LC or group leader. You may briefly share your own experiences if asked. Take notes on what you have observed. Arrange with the observed party to spend time after the observation period or meeting to talk and ask questions. Be respectful of the LC when asking questions. If you have observed something that you disagree with, tactfully and privately request information on the LC's rationale. You may be surprised to find out that the LC's actions or information was most appropriate for that circumstance regardless of what the books say or what your previous experience dictates. Always thank the client (mother) being observed for her willingness to allow you into her "space." Restrain yourself from exhibiting negative body language in the presence of your hostess or the client. Do not observe on a day when you are sick, distracted, or rushed. Always be courteous, patient, and kind. Thank the LC in person and again with a note. Let her know how she has facilitated your education and about the positive things you experienced and saw. Everyone likes a "pat on the back" for a job well done. (Be genuine, don't fabricate. You can always find something to compliment!)

Challenge Yourself with the Questions in Chapters 1–11

Each chronological period in this book represents a chronological period in the *Detailed Content Outline*. The age of the baby determines the care and solutions specific to that child's developmental stage, the stage of lactation of the mother, unique developmental tasks of the dyad, and far more. The IBLCE exam includes general principles, prenatal development and details of the mother–baby breastfeeding relationship extending beyond the first 12 months of the child's life, because breastfeeding for at least 2 years is a global recommendation. The answers for all the chronological-stage questions follow each exam's questions and include the correct answer, an explanation or rationale, the discipline and period, whether which taxonomy best applies to the concept tested, and the degree of difficulty.

Read the Clinical Case Presentations and Questions (Chapter 12)

Each of the cases describes a real mother and baby who contacted a lactation consultant for help. The associated questions explore the knowledge, skills, and attitudes needed to resolve the mother and baby's breastfeeding situation. IBLCE now includes case presentation–format questions on the exam, although the format may differ from those in this book. The answers to each case's questions follow the questions for that case and include the correct answer, an explanation or rationale, the discipline and period, which taxonomy best applies to the concept tested, and the degree of difficulty.

Before the IBLCE Exam

- Review your knowledge and skills several days before the exam. Then, put away all books and references until after the exam. **Do not cram!** Cramming does not help and increases anxiety. Cramming can even lower your actual test scores.

- Do something relaxing and fun during the 2 days prior to the test. Ideally, get some fresh air and a change of pace on the day before the test. Go for a walk, clean the closets, bathe your dog, paint the fence or a picture, go to a movie or play or picnic—in other words, do anything *other* than obsess about the exam.
- Allow sufficient travel time to the exam site to avoid feeling rushed. Get a good night's sleep, and follow your normal routine as closely as possible. Wear comfortable clothes in layers.
- Eat normally and emphasize protein-rich foods that will help you stay alert and focused. Drink water, which facilitates brain and nerve function.
- Trust yourself. Give yourself positive affirmations and trust your knowledge of mothers and babies; for example, “I know how to help breastfeeding mothers and babies,” and “I am a good test taker.”
- Use calming or centering techniques that have served you well in the past, such as taking a deep breath, closing your eyes, meditating, or focusing on your breathing. Visualize recalling all the wealth of your knowledge, passing the exam, and receiving your excellent score report.
- Anxiety isn't always a bad thing. Allow yourself to feel any anxiety that arises—it will pass, just as a labor contraction does, and you will feel normal afterward. A slight rise in adrenal hormones may sharpen your focus and concentration, even as the same hormones have the unpleasant side effect of making you feel “testy.”
- Carefully examine each question (and image, if there is one) before answering. Read each question, especially the stem, very carefully before you answer.
- Never change an answer unless you are absolutely, positively *sure* the first answer was clearly wrong. If you are unsure, rely on your best guess and first hunch.
- Allow yourself to miss a few questions. Nobody has yet achieved a score of 100% in the 30 years that this examination has been administered around the world. Review the Candidate's Guide and IBLCE resources one more time, paying attention to the structure and format of test items.

Be Patient and Calm While Waiting for the Exam Results

During any breaks and after the exam, resist the temptation to discuss your answers with other candidates. This is a sure recipe for self-doubt and increased anxiety! Remember that you only have to *pass*. If the worst happens and you don't get a passing grade, you can take the exam again in the next cycle. Use your score report to focus on areas of weakness. Take additional formal and informal educational courses, arrange mentoring experiences, and use the time to reflect on long-term goals and aspirations.

Celebrate and Network

Keep reading to stay up to date, whether or not you pass the exam. New information is constantly appearing that will either confirm or change existing practices. Avail yourself of as many resources as possible, especially new texts and reference books. Many publishers schedule textbook revisions approximately every 5 years.

Plan your budget to purchase several new books and attend at least one major breastfeeding conference each year. Attend continuing educational programs in breastfeeding and related fields. Read the *Journal of Human Lactation*, *Breastfeeding Medicine*, *International Breastfeeding Journal*,

and *Breastfeeding Review*, and as many resources as you can find or afford. Search the Web frequently for pertinent information.

Use your new credential proudly! Join ILCA and national, state, provincial, or local affiliates or chapters and participate as time allows. Continue building a support network for yourself as a lactation consultant. Just like the mothers you work with, lactation consultants need a support system, too!

Clinical (Field) Exercises

Clinical (field) exercises help the LC experience the full depth and breadth of breastfeeding in real-life situations. They add a practical, dynamic and multidimensional aspect to the course material. The IBLCE examination is highly based on practical help for real-life situations, and an early analysis of courses and candidates' results suggests that doing, *and writing up*, various clinical exercises is related to higher scores on the exam. Merely doing the exercises is helpful; writing them up and analyzing what you learned is even better. If your experience in lactation is primarily in one area (early postbirth, mother-to-mother breastfeeding groups, prenatal education), it is most helpful to concentrate on the areas in which you have the least experience.

Instructions

Complete several exercises in areas that are different from your routine daily work and in different categories/disciplines. The goal is to expand your view of lactation beyond your current setting. Describe (write up) what you learned from doing the exercise, focusing on new insights, application of new information, and how the exercise broadened or expanded your understanding of breastfeeding & human lactation. Merely describing the situation is not enough; you need to include a reflection of how the experience changed your knowledge, attitudes, or understanding of the “world of breastfeeding.”

- ***Recommended for everyone:*** At least one exercise that involves listening to mothers tell their own stories.
- ***Recommended for those without mother-support experience:*** at least one exercise that involves attending or observing a community breastfeeding support group.
- ***Recommended for those without in-hospital experience:*** at least one exercise that involves observing or following a hospital-based clinician or explores in-hospital breastfeeding management.
- ***Recommended for those without experience in managing breastfeeding problems past the early postbirth period:*** at least one exercise that involves working with breastfeeding techniques or equipment and/or breastfeeding into toddlerhood

Shadowing/Observation Guidelines

- Seek permission from the facility, LC, group leader or other professional, and the client being observed. Remember, the facility or LC may welcome you, but the mother may feel uncomfortable with you present. Obey all local protocols (wearing scrubs, etc.).
- You are an observer, not a co-counselor. Seek permission, introduce yourself, and say a thank you. During the observation, do not interrupt or attempt to assist the LC or professional. You may briefly share your own experiences if you are invited to do so.

- Take notes on what you've observed. Arrange with the observed party to spend time after the observation period or meeting to talk and ask questions.
- Be respectful of the LC or professional when asking questions. If you've observed something that you disagree with, tactfully and privately request information. You may be surprised to find out that the LCs or professional's actions or information was most appropriate for that circumstance regardless of what the books say or what your previous experience dictates.
- Always thank the client (mother) being observed for her willingness to allow you into her "space".
- Restrain yourself from exhibiting telltale negative body language in the presence of your hostess and of the client.
- Do not observe on a day when you are sick or distracted. Always be courteous, patient, and kind.
- Thank the LC or professional in person and again with a note. Let her know how she has facilitated your education and about the positive things you experienced and saw. Everyone likes a "pat on the back" for a job well- done. (Be genuine, don't fabricate. You can always find something to complement!)

Online Resources for Literature Searches

- U.S. National Library of Medicine (PubMed): www.nlm.nih.gov
- World Health Organization e-Library of Evidence for Nutrition Actions (eLENA): www.who.int/elena/en
- Cochrane Library: www.cochranelibrary.com
- Centers for Disease Control and Prevention: www.cdc.gov

Overview of Lactation Consultation

1. Interview three or more practicing lactation consultants in a variety of settings. Ask the LCs how they bring the concepts of "protection, support, and promotion" into their work; their philosophy of care; how they integrate therapy into their practice; how they view their role.
2. Write an analysis of the breastfeeding content in your own academic or professional training. Compare this with your personal experience with breastfeeding and information learned from informal sources. Include your feelings about how your formal training affected your personal experiences with breastfeeding. Describe how both kinds of learning have been helpful or harmful in your clinical practice.
3. Write up/prepare at least two case studies of actual breastfeeding situations, changing the names of the families for privacy. Write at least two multiple-choice questions based on the factors in each case that could be used on a lactation exam. The questions should include a stem, four possible answers, and an explanation of why the correct answer is correct and the incorrect answers are wrong, and a reference. (Request the question-writing template if you elect this exercise.)

I. Development and Nutrition

A. INFANT

1. Read at several research articles or text sections on the infant mouth, which could include palate shape, tongue and other structures, size and jaw configuration, maturity, anomalies, and/or defects. Discuss the influence on breastfeeding on different aspects of infant oral anatomy, and influence of infant oral anatomy on breastfeeding.

2. Examine at least two different sources for recommendations on complementary feeding of breastfed babies. Include the age recommended for starting solids, the order and texture of foods presented, and mother–baby interactions involved in feeding. Compare the recommendations with PAHO’s *Guiding Principles for Complementary Feeding of the Breastfed Child*.
3. Observe five babies at breast for two consecutive complete feeding episodes. The babies should be of different ages. Estimate the total volume of milk obtained based on quality and quantity of feeding. Perform pre- and post-feed weighs on a gram-sensitive scale to verify your estimates.
4. Select one to three long-term or chronic health issues that are affected by breastfeeding. Investigate support groups, Internet sites, and educational resources on those issues to see how much information on breastfeeding is (or is not) included in easily available resources. You could contact one organization dedicated to a long-term health issue affected by breastfeeding, and find out how breastfeeding could be inserted into their educational and support programs.
5. Research the causes and risk factors of low infant birth weight and implications for breastfeeding. Use at least two to three sources.
6. Describe at least five differences between nutritional requirements for preterm infants and term infants, with implications for breastfeeding.
7. Research preterm development and growth compared with growth of term infants. Include common concerns raised by parents and professionals related to breastfeeding a premature infant. You could interview a parent of a preterm infant or a professional who regularly works with preterm infants for this exercise. Include references in your write-up.
8. Describe signs of normal and abnormal skin tone, muscle tone, and reflexes that would affect breastfeeding. Discuss breastfeeding management for at least one infant with abnormal findings, including the impact for the mother.
9. Go to a local shopping mall, park, or other public place and watch 5–10 mothers and babies under the age of 3 years interacting. Estimate the age of the child based on its behavior, then verify the child’s age by asking the mother. At least half the sample should include breastfeeding dyads.
10. Describe at least five uses for banked pasteurized donor human milk for babies with serious illnesses, metabolic deficiencies, or other pathological conditions. Include any political, cultural, or social controversies related to donor human milk.
11. Ask three breastfeeding mothers to record feeding frequency and duration of all feeds for three consecutive days. Select infants of different ages. Compare the patterns of the mother–baby pairs with those in popular parenting books. Discuss with the mothers why they did or did not read or follow these books’ advice.
12. Carefully examine the 2006 WHO Growth Standards and compare them with older growth-monitoring documents, including anthropometric data. Investigate why the selection sites were chosen and how the mothers and families were supported. Investigate how the WHO standards data are being used in your community.

B. MATERNAL

1. Compare ultrasound studies of the lactating breast by Donna Ramsay Geddes and other authors with those in books or references published prior to 2010. Describe differences in structure and function, and the implication of these differences on breastfeeding management, techniques, and education of parents.

2. Compare the protein, fat, immune factors, and vitamin content of colostrum, preterm milk, mature milk, and milk produced after 12 months of lactation; (2) influence of fatty acids in human milk in relation to brain development; and (3) effect of maternal diet on the fat, protein, carbohydrates, minerals, fat-soluble, and water-soluble vitamins in her milk. Discuss why these components are important.
3. Select one to three immune components in human milk and research the function of those components. Describe any variations in these components over time, and during heating or freezing and storage. Include short-and long-term implications of immune components in human milk.
4. Read several sources on nipple structure and variations, and discuss implications of various configurations on the course of breastfeeding. If you are able to photograph any mothers with unusual nipple/breast structures, obtain written permission and include a photo in your write-up.
5. Interview a mother who had any type of breast surgery about her experiences with breastfeeding. OR read a publication designed to support breastfeeding women who have had breast surgery.
6. Interview a mother who has unusual nipple structure (inverted, bifurcated, large, small, flat, etc.) and her experience on breastfeeding. OR, read a publication with photos of normal and unusual nipple structure and variations related to breastfeeding.
7. Research the impact of maternal malnutrition and obesity on the mother's ability to lactate normally. This exercise could include global initiatives, policies and practices, or clinical implications for breastfeeding.
8. Do a literature search on maternal and hormonal disorders and their effect on lactation (thyroid, polycystic ovary syndrome, etc.).
9. Investigate the relationship between maternal autoimmune disorders and lactation. This could include lupus, Graves' disease, myasthenia gravis, etc.

II. Physiology and Endocrinology

1. Interview three women who are using the Lactational Amenorrhea Method (LAM) of family planning. Include feeding patterns, night-feeding arrangements, reasons the mothers are using this method, drawbacks or obstacles they encountered, return of menstruation, and effect of this method on other health behaviors in their families.
2. Read several sources or protocols on relactation and induced lactation. Design a basic management protocol to support these processes with rationales and references. If possible, design your plan for a specific mother you have met.
3. Interview a mother who breastfed or is breastfeeding twins, triplets, or quadruplets. Include in your interview the following questions: When did you first learn you were having twins? How did you feel? How did your family react to the news? What is the easiest part about breastfeeding twins? The hardest part? What would you want another mother expecting twins to know? What are the unique features of having multiple babies instead of one at a time? Write up your observations.
4. Investigate tandem nursing by interviewing a mother whose children tandem-nursed and/or by reading *Adventures in Tandem Nursing* and/or checking into any social media site on tandem nursing. Explore the physiology of lactation when the mother is pregnant again, and after the new baby is born.
5. Read several resources and/or policy statements on newborn hypoglycemia. Compare what you've read with any policy or practices in your community. Include a list of acceptable medical reasons for supplementation.

6. Discuss the course of pregnancy, birth and lactation for women with type 1 and type 2 diabetes. Try to interview at least one woman with diabetes who breastfed her child, and include her experiences. Provide some references.
7. Read several sources about the relationship between infertility and lactation, including warning signs and management considerations.
8. Prepare a timeline of normal stooling of the breastfed child from birth through 2 years of age.

III. Pathology

A. INFANT

1. Interview at least two mothers whose children are allergic. Describe the strategies and resources used by the mothers to confirm and manage the allergens that affect their child, and any modifications made by the mother and rest of the family.
2. Interview two mothers whose babies were premature or ill at birth. Explore how breastfeeding was affected by their baby's condition and how they managed to maintain lactation and assist the baby to breastfeed directly during their baby's hospitalization.
3. Read several sources on at least two of the following conditions: nipple and oral thrush; congenital abnormality or structural defect; or endocrine irregularity in the mother or infant. If possible, interview at least one mother whose baby has that condition.
4. Read several professional organizations' position papers and policies on jaundice and/or hypoglycemia. Compare these resources with current research articles on these topics, and discuss the differences and any contradictions or controversies.
5. Tour a neonatal intensive care unit (NICU) or interview a staff member who works in a NICU at a hospital other than where you work. Ask some of the following questions: Which babies are most likely or least likely to be breastfed? What is your policy on giving donor human milk to babies? What are your criteria for determining which milk is usable or unusable? How do mothers obtain breast pumps and attachment kits? What is the recommended pumping regimen? At what point do mothers begin to breastfeed their babies? What kind of breastfeeding support is provided for breastfeeding families? Under what circumstances do you not recommend breastfeeding? Write up your impressions, comparing the answers with current best practices.
6. Read about tongue-tie (ankyloglossia) as it affects the infant and breastfeeding mother. If possible, interview a professional who is skilled in treating tongue-tie and/or a breastfeeding mother whose baby was affected by ankyloglossia.
7. Investigate causes, treatments, and impact of cleft lip and palate on the course of breastfeeding.
8. Investigate the impact of congenital anomalies (cardiac, GI, respiratory, orthopedic, sensory) of the mother or baby on the course of breastfeeding. Choose one or two to focus on, and if possible interview a mother whose family is affected by a congenital anomaly.
9. Describe the prevalence, causes, treatments, and implications of gastroesophageal reflux (GERD) in breastfeeding infants. Read both parent-oriented and professional resources for this exercise.
10. Explore at least three acute infant diseases (bacterial, fungal, viral, and systemic) that may affect the breastfed baby, with implications for management.

11. Interview a mother whose infant has any neurological disability. How was this identified in her infant? Who was especially helpful or unhelpful in helping her breastfeed? What are the implications of breastfeeding to this child, and the impact of the condition on breastfeeding and maternal-infant attachment?
12. Describe the impact of SGA (small for gestational age) or LGA (large for gestational age) on the course of breastfeeding, taking into account the mother's reactions and baby's behavior and unique needs.

B. MATERNAL

1. Interview at least two mothers who experienced mastitis or breast abscess. Ask each about the history leading up to the condition, the actions of professionals who interacted with her, and how she felt about the help she received or failed to receive. Read and cite at least two references in your write-up.
2. Look into normal, overactive, and impaired milk-ejection reflex. What factors influence milk ejection? What hormones influence timing, length, and intervals of milk ejection? What can someone observe during a breastfeed during the milk-ejection reflex?
3. Explore at least three acute maternal diseases (bacterial, fungal, viral, and systemic) that may affect the nursing mother, with implications for management. If possible, interview at least one mother who had a severe acute illness during breastfeeding.
4. Read several sources on a chronic maternal illness/condition and its effect on breastfeeding, and the course of breastfeeding for a mother with this condition. The condition could be diabetes, multiple sclerosis, epilepsy, dwarfism, schizophrenia, sensory or orthopedic impairments, etc. If possible, interview at least one mother with a chronic condition regarding her pregnancy and breastfeeding experiences.
5. Contact a mother with a disability or chronic illness. Interview her and ask what accommodations she has made to care for herself and her baby. on pregnancy, birth, breastfeeding, and caring for her baby. Include a list of several references that address that condition and its impact on lactation.
6. Meet with a healthcare professional who works in an emergency department or urgent healthcare center. Investigate the department's policies and practices for treating/managing a nursing mother who presents with any acute illness or trauma. Compare what you learned with any published resource on acute maternal illness or traumatic injury in a nursing mother.
7. Describe the causes, consequences to breastfeeding, and treatments for pre-eclampsia (pregnancy-induced hypertension) or postbirth hemorrhage. If possible, interview at least one mother who experienced one or both of these complications of pregnancy and the breastfeeding outcomes.
8. Compare the differences between nipple trauma, nipple infections, and non-infectious nipple or breast pain, citing several references. Include causes, treatments, and prevention strategies.
9. Write up a case study of a mother with chronic *low* milk production. Include prenatal signs, labor and birth, postbirth experiences, and remedies/solutions attempted. How did she feed her baby? What was her emotional reaction to chronic low milk production? What strategies worked well, and which were not helpful? Cite several references in your write-up.
10. Write up a case study of a mother with chronic *high* or over-production of milk. Include any prenatal signs, labor and birth, postbirth experiences, and remedies/

solutions attempted. How did she feed her baby? What was her emotional reaction to chronic high milk production? What strategies worked well, and which were not helpful? Cite several references in your write-up.

11. There is growing interest in providing “encapsulated placenta” to postbirth women in some groups. Investigate this practice in your community, including any adverse effects that have been reported. Describe the hormonal influences on lactogenesis, and comment on this practice related to human placenta and lactation physiology.

IV. Pharmacology and Toxicology

1. Write a case study of two breastfeeding women taking a prescription drug. Include the specific drug and reason why she is taking it, any instructions given to the mother by her physician, nurse, or counselor; rate or amount of passage of drug into milk; implications for the baby; any alternatives.
2. Pick at least five common over-the-counter and prescription medications. Using at least two references, discuss the compatibility of the drug to breastfeeding.
3. Investigate the history of galactogogues and lactation suppressants, including “folk” remedies and cultural beliefs, prescription drugs, and herbs. Describe any research available on the safety and effectiveness of at least one of these on milk production and on the infant.
4. Investigate the influence of hormonal methods of family planning (contraception) on lactation, using several sources. Develop a chart or handout that could be used in a prenatal clinic or postbirth breastfeeding class, or prepare a brief presentation on this topic.
5. Do an Internet or PubMed search on nipple creams/ointments, and read several sources. What are the alleged reasons for their use? How are these products tested and regulated? Where can a mother report an adverse experience with a nipple cream or nipple-care product?
6. Research medicinal herb use during lactation, using several sources. Develop a list of evidence-based resources on medicinal herbs during lactation.
7. Follow any social media source for new mothers, and track “can I take XX while breastfeeding?” discussions. Compile a list of evidence-based resources on prescription, over-the-counter, and drugs of abuse use during lactation.
8. Research the prevalence and outcomes of alcohol and tobacco (and marijuana) use during lactation. Compile some teaching points that could be used in prenatal and postbirth clinics or classes, with references.
9. Contact someone working with pregnant women addicted to drugs of abuse. What are the local policies and practices to help her breastfeed safely? What happens in your community if a newly delivered mother’s toxicology screen reveals opiates or other drugs abuse? Investigate programs or protocols that support breastfeeding mothers during treatment for drug abuse.

V. Psychology, Sociology, and Anthropology

1. Interview two women who have had childbirth experiences different from what they expected, or negative experiences. You may include yourself as one of the mothers. Ask them what they didn’t like, what they would have done differently, what they wanted others to have done differently, and how this experience affected their sense of self as a parent and their breastfeeding relationship with their child. Caution: Be an active

- listener. Do not attempt to justify or rationalize the behavior of others. Stay focused on the mother's feelings.
2. Observe at least one complete hospital-based labor and birth episode. Focus on the mother's knowledge and use of non-drug and pharmacologic pain relief techniques and coping techniques and their effect on mother and baby. Describe the status of breastfeeding one week after birth.
 3. Interview at least two breastfeeding mothers who have more than one child, and discuss how the mothers manage nighttime feeds and sleep. Gently inquire why they do, do not, or sometimes share a bed with their nursing infant and/or older children, where the children nap during the day and sleep at night, and how these decisions were made in their family. Caution: Just listen with curiosity. Write up your observations and how the families' practices align with or differ from current recommendations.
 4. Attend two different meetings of La Leche League or other breastfeeding mother-support group. Observe variations in mother–infant breastfeeding interactions related to individual differences in infant behavior, infant age, and maternal response. Listen to the comments and concerns that mothers raise during the meeting and during breaks. Write up your observations and compare them to what you've heard in your professional role.
 5. If you have breastfed, write an essay describing your thoughts on being pregnant, attitudes about labor and birth, feelings about being a mother, and the impact of the attitudes of your immediate family on your becoming a mother. Focus on what surprised you emotionally. If you have not breastfed, interview two mothers concerning the above topics and write an essay on their comments and your reactions to their discussion of their feelings.
 6. Investigate local or cultural beliefs about foods that should be eaten or avoided during breastfeeding. Are there biological rationales for these beliefs? How do mothers maintain breastfeeding when on restricted diets for religious or cultural reasons?
 7. Investigate at least one cultural or religious group in your community different from your own culture. Who supports the mother during pregnancy and breastfeeding? Whom does the mother trust (or distrust)? What is the father's typical role and engagement in early parenting? Are grandparents involved, and in what way? Are any spiritual advisors especially influential in the course of pregnancy, birth, or breastfeeding?
 8. Create a directory of breastfeeding resources in your community, including warm lines, equipment depots, breastfeeding care providers and support groups, etc. Consider making it available widely.
 9. Investigate at least one maternal mental/emotional health condition that affects pregnancy and breastfeeding (depression, anxiety, bipolar, history of abuse, ADHD, autism). Compile a bibliography of evidence-based information on that condition that could be made available in your community or workplace. If your workplace has such a directory of resources, compare that with what you find in referenced breastfeeding resources.
 10. Describe how you would assist and support a mother with a psychological or cognitive impairment. Would you do anything differently, and if so, why? If possible, interview someone who has worked closely with a breastfeeding mother with cognitive impairment.
 11. Read at least one book or watch a DVD or YouTube video clip on safe bedsharing for breastfeeding families. Describe how that resource differs from (or is consistent with) local public health messages about safe sleep, and your personal or professional experiences related to “safe sleep” issues.

12. Compare global recommendations for breastfeeding for two or more years to any two mothers you've encountered. When did the mothers' babies wean? Did the baby nurse longer than she initially intended, or shorter, and why? What were the best and most challenging aspects of weaning?
13. What does "cultural competency" mean to you? How does that concept apply to your current or future practice?

VI. Techniques

1. Interview two mothers whose babies had sucking or feeding problems after full-term births. Discuss the problem's impact on breastfeeding, as well as the impact of breastfeeding on the baby and/or the problem.
2. Interview or observe at least two mothers who experienced breastfeeding problems in the first few days after giving birth. For each, write brief summary of the problem and discuss how the problem should or could have been prevented or handled at a lower level of intervention. Include interactions of other professionals, whether by omission or commission.
3. Watch at least two videos or DVDs on immediate skin-to-skin contact after birth, Kangaroo Mother Care or general skin-to-skin care contact. Discuss your personal or professional experiences with either or both, and include some references and resources.
4. Observe at least three babies at breast for two consecutive complete feeding episodes. The babies should be of different ages. Estimate the total volume of milk obtained based on quality and quantity of feeding. Perform pre-and -post feed weighs on a gram-sensitive scale to verify your estimates.
5. Read or watch at least two sources on hand expression of milk. Practice the motions on a breast model, or if possible with some experienced mothers who are willing to let you practice on them.
6. Compile a list of conditions when babies might have difficulty latching onto the breast. Include at least one strategy for overcoming a problem, and provide references.
7. Perform breast exams and nipple assessments of three different women in different stages of lactation. If possible, include prenatal, lactating, and post-weaning breasts. Write a description of each, including the implication of each situation on the breastfeeding dyad.
8. Investigate the what and how of medically indicated supplementation of the breastfed baby, including WHO recommendations and research-based protocols.
9. Examine the policies and protocols that apply to the first hour after birth in any health facility (including your own). Describe documentation, training, and reactions of families. If your hospital has changed practices recently, describe staff and family reactions to the new practices.
10. Examine at least three different devices or products for breast or nipple care or therapy. What are the indications and drawbacks of each? You could include nipple shields, breast shells, thermal treatments, everters, bra pads, etc.
11. Test several brands of breast pumps with a pressure gauge or balloons, and compare what you find.
12. Test-weigh several common objects using a scale used for weighing babies, and compare with the weight listed on the object (bag of sugar, etc). Then, weigh several babies before and after a feed, estimate how much milk they transferred during the feed, and compare with the scale's results.

VII. Clinical Skills

A. EQUIPMENT AND TECHNOLOGY

1. Examine and measure several infant-feeding devices (teats, pacifiers, tubes) and/or devices used inside the infant mouth (nipple shields, bulb syringes, gavage tubes). Compare the length, diameter, and flexibility (texture) of these devices and the dimensions of the infant mouth, and discuss the implications to breastfeeding.
2. Do a literature search on handling and storage of human milk. Then do one of these: (1) Create an easy-to-read handout (with references) that could be used by breastfeeding mothers in your setting. OR, (2) find at least three handouts for parents on handling and storing human milk, and evaluate them for consistency with evidence-based guidelines that you researched in the first part of this exercise.
3. Examine several different devices or products for nipple care or therapy. What are the indications and drawbacks of each? Include nipple shields, breast shells, and everters. Provide at least two references.
4. Dig into the research on pacifiers, both drawbacks and possible indications. You can include policy statements and position papers, Internet sources and parents' experiences, and the impact on duration of breastfeeding.
5. Follow an International Board Certified Lactation Consultant on hospital or clinic rounds for at least 3 hours. Discuss with the LC what you observed, including all equipment used by mothers or babies during that period. Observe the dynamic interaction between the mother and the LC as much as the clinical problem. In your write-up, discuss any new concepts you observed being used, why you might (or might not have) done things differently, the baby's responses, and how the LC documented the interaction.
6. Test at least five devices for assisting breastfeeding. Milk-removal devices can be tested using a vacuum gauge or balloons. Or, interview several women who have used several different kinds of equipment to assist breastfeeding. Discuss the advantages and drawbacks of these devices or techniques including cost, comfort, and the effect on the mother–baby relationship.
7. Locate at least two different scales used to weigh babies, and check the accuracy of these with standard weights or common objects with verified weights. Investigate the history of weighing babies, including a discussion on why the weight of a newborn is deemed important.
8. Look into several ways that smartphones, Skype, electronic medical records, text messaging, and social media are used (or abused) by mothers and healthcare providers. Write up a description of at least one successful program that uses modern communication technology.
9. Using the *Score Sheet for Evaluating Breastfeeding Educational Materials*, evaluate the content of a handout, video clip or website. Submit a summary of your evaluation and recommendation. (See <http://www.bflrc.com/ljs/documents/ScoreChart2010.pdf> and http://www.bflrc.com/ljs/documents/EvalBF_EducMaterials.pdf.)

B. EDUCATION AND COMMUNICATION

1. Attend Level I of LLLI's Communication Skills program or, if not available, a workshop or class in non-violent or compassionate communication or motivational interviewing. Practice the active listening skills at work and at home for at least a week or two. Describe others' general responses to you when you use these techniques.

2. For each chronological stage on the *Detailed Content Outline* (<http://iblce.org/wp-content/uploads/2013/08/IBCLC-Detailed-Content-Outline-for-2016-for-Publication.pdf>), prepare a list of about 8–10 key breastfeeding issues to expect during that stage.
3. Examine several sample care plans that might be given to a mother at a postbirth breastfeeding consult. OR, interview several mothers who have been helped by a breastfeeding care provider, and ask about the care plans that were communicated to them by the provider. Were the plans realistic and effective? What could have been included or omitted to make the plan more useful?
4. Review some lactation consultant assessment forms or electronic charting screens. Comment on the strengths and weaknesses of each, and any changes you would make. OR, design a set of assessment and reporting forms for use in your setting. Discuss what you learned by doing this exercise.
5. Attend at least two meetings (preferably a full four-meeting series) of La Leche League or other organized mother support group. Observe the communications and group dynamics techniques in use at the meetings. Meet with the leaders afterward, and ask how they manage the group logistics, direct discussion, and handle uncomfortable questions or silence. Write up your observations.
6. Attend and observe at least one breastfeeding class taught in a facility other than where you are currently employed, such as at a WIC clinic, hospital, community center, physician or midwife’s office, or other setting. Pay attention to the structure and timing of the class, reaction of participants, and how the instructor handled questions and challenges. In your write-up, discuss the topics and information presented and whether these concepts were (or were not) effective or helpful to the participants.
7. Attend a lecture or presentation on breastfeeding that is at least 1 hour long. Comment on the published objectives, accuracy of the content, effectiveness of the teaching/presentation methods, and the speaker’s comfort.
8. Examine at least two resources for educating professionals. These could include books, pamphlets, courses, online programs, DVDs, etc. If possible, interview professionals who have attended or used these products, and discuss how they reacted to the program’s content and presentation effectiveness.
9. Talk to several women whose baby or babies’ breastfed longer than 1 year. What factors helped or hindered their breastfeeding relationship? How did their family, health-care providers, and others react to their nursing child as the child continued to nurse past infancy? Listen with curiosity and an open mind. Ideally, find a situation where you can observe nursing toddlers and their mothers.
10. Write a self-reflection on what “emotional support” means to you. You could describe a situation when someone provided important emotional support in a crisis or a situation where you wanted and needed emotional support but none was available. The “facts” of the situation are less important to describe than the emotions involved. How does this relate to your role as a lactation professional?
11. Investigate opportunities for group support for breastfeeding mothers in your local community. You could include WIC, online groups, La Leche League, faith-based groups, breastfeeding cafés or clubs, etc. Prepare a listing or series of Web links that could be distributed widely.

C. ETHICAL AND LEGAL ISSUES

1. Research laws and policies that protect breastfeeding in public places. OR, search the Internet or news outlets for stories of women who were harassed for breastfeeding

- their babies in public places. OR, search for stories of protests or nurse-in demonstrations that occurred in response to mothers who were told they couldn't nurse their babies in public places.
2. Read IBLCE's Clinical Competencies (<http://iblce.org/wp-content/uploads/2013/08/clinical-competencies.pdf>), and evaluate yourself as of today. Reflect on your areas of strength, and where you seek improvement. Keep a copy, to compare your self-evaluations now and in the future.
 3. Download and read IBLCE's Scope of Practice and Code of Professional Conduct documents (<http://iblce.org/resources/professional-standards>). Reflect on these concepts and how you do or will apply these in your practice.
 4. Read several sources for principles of confidentiality in healthcare setting in your country or jurisdiction, including IBLCE's policy on exam confidentiality (<http://iblce.org/wp-content/uploads/2013/08/confidentiality-policy.pdf>). Reflect on these principles and how they are (or are not) applied in your personal experience. Do not identify any places of employment or individuals in your reflection.
 5. Read at least two sources related to copyright and intellectual property rights. You could interview an attorney specializing in intellectual property rights for this assignment. Discuss how copyright law and intellectual property rights apply to lactation consultant education and practice.
 6. Collect resources on Universal Precautions and how these apply to lactation consultant settings. Include references on the handling of human milk.
 7. For each of the following scenarios, decide whether the behavior is ethical or not, give a thorough rationale for your decision, and include any relevant references to support your point of view.
 - a. Scene 1: The LC sees every patient of the doctor for whom she works. When asked by clients what to take to the hospital to facilitate their breastfeeding experience, the LC sells them a package of breastfeeding aids (shells, lanolin, manual breast pump, bra pads, a book.). The LC keeps 100% of the profit.
 - b. Scene 2: The LC teaches all the breastfeeding and childbirth classes in a hospital. Mrs. A attends the childbirth class and later calls the LC for help. She needs more help than can be provided by phone. The LC arranges a home visit and charges the mother for this service. There is no other breastfeeding care provider in this community.
 - c. Scene 3: The LC is working with a baby who has an obvious short frenulum, which severely inhibits breastfeeding. The doctors in this community refuse to acknowledge the need for treatment for short frenulum and recommend cessation of breastfeeding if it causes a problem. The LC tells the baby's mother about a dentist in the neighboring community who can diagnose and treat the short frenulum; the LC does not ask permission from the primary care physician to make the referral.
 - d. Scene 4: As a hospital-based LC, you have been tasked with providing in-service education on breastfeeding to the entire professional staff—doctors, nurses, etc. You have been offered funds from two sources: Abbott-Ross Laboratories and Procter & Gamble. Your supervisor tells you to use the Abbott funds to pay for the in-services because the representative recently donated a new photocopier to the unit.
 8. Prepare a collection of resources related to ethical and legal aspects of breastfeeding. This could include divorce/custody issues, workplace accommodations, and/or breastfeeding in public places.

9. Interview someone who works in a Baby-Friendly (BFHI) designated hospital. Ask about the ease or difficulty of making changes to achieve BFHI designation, parents' responses, impact of BFHI designation on other hospitals in the community, and what the person likes best (or least) about working in a BFHI-designated facility.
10. Go on a treasure hunt at your workplace, the Internet, or any healthcare facility in your community, looking for advertising of infant formula, bottles and teats, pacifiers to the public. If possible, collect samples or take digital photos of the products, noting where you spotted them. Write up your observations and comment on any violations of the International Code of Marketing of Breast-milk Substitutes, conflicts of interest, or ethically questionable ads.

D. RESEARCH

1. Write a critique of a research report (article) related to any aspect of breastfeeding from a recent (within 2 years) primary source. Consider submitting this critique to a journal or other source. Note any significant flaws in the research, with implications for your practice.
2. Write a review of videotape, book, or teaching aid pertinent to any aspect of breastfeeding. Follow the rules for reviews from a professional journal. Consider submitting it to a professional journal for publication.
3. Prepare an annotated bibliography of any clinical aspect of breastfeeding that is relatively new to you using primary and secondary references.
4. Read at least one resource on evaluating research, such as *How to Read a Paper* by Trisha Greenhalgh. Then select any recent research article (you can ask your instructor for suggestions) and analyze that article for weaknesses and strengths.
5. Describe the concept of “levels of strength of evidence” and give an example of a policy with levels of evidence cited.
6. Investigate the history of evidence-based medicine (EBM), including its roots, development, etc. How is EBM applied at your workplace, or in a healthcare facility familiar to you?
7. Choose any published policy from a professional association related to breastfeeding. Read the policy, look through the references, and reflect on whether the policy supports, protects, and promotes breastfeeding adequately.

E. PUBLIC HEALTH AND ADVOCACY

1. Interview at least three LCs who work in different practice settings. Compare and contrast their role, commenting on the similarities and differences.
2. Do ONE of the following: (1) Find a list or compendium of laws protecting breastfeeding, and propose a new law with protections for breastfeeding. (2) Prepare testimony designed to convince your local legislators to protect breastfeeding in some way in your community. (3) Prepare a draft breastfeeding support policy for your workplace, school, or other institution.
3. Using the BFHI Self-Evaluation Criteria, evaluate some aspect of your work setting for “friendliness” to breastfeeding. Devise at least one short-term and long-term strategy for improving breastfeeding management that you personally could implement where you work.
4. Establish a breastfeeding coalition, consortium, or network in your community. Hold at least one meeting and write up what your goals are to promote, support, and protect breastfeeding in your community.

5. Interview someone who has worked at the national or state level in some aspect of breastfeeding promotion. Discuss how they became involved, what obstacles or resistance they have encountered, what progress they have seen, and their vision for the future.
6. Contact your local emergency preparedness agencies and investigate their policies and staff training related to care of pregnant women, breastfeeding mothers, and young children in emergencies and disasters. Extra bonus points: compile local, national, and international resources on infant feeding in emergencies.
7. Read the entire International Code of Marketing of Breast-milk Substitutes and relevant World Health Assembly Resolutions. Here is one concise source: <http://ibfan.org/the-full-code>. Reflect on any aspect of the Code or Resolutions that you find especially important or interesting.

Prenatal Questions

1.1 A mother wants to continue breastfeeding her 18-month-old child during a subsequent pregnancy. A neighbor told her to wean the child so that the toddler's breastfeeding does not trigger premature labor. Your BEST response is to:

- suggest she immediately wean the older baby.
- tell her breastfeeding during a normal pregnancy is not harmful to either child.
- suggest she use lanolin during the pregnancy to prevent nipple pain.
- recommend that she discontinue sexual relations so that uterine contractions do not jeopardize the pregnancy.

1.2 A mother who is pregnant for the second time asks, "Will I be able to breastfeed my second child if I was unable to breastfeed my first baby?" Which of the following should be your FIRST response to her?

- You are wise to be asking these questions now, during pregnancy.
- Yes, most second babies breastfeed better than first babies.
- The answer depends on the reason you had problems the first time.
- No, because your breasts have insufficient glandular tissue.

1.3 A researcher is studying breastfeeding incidence in two neighboring community prenatal clinics. In one clinic, a new videotape is used to teach breastfeeding; the other clinic continues to use an older videotape. At the follow-up, both clinics report similar increases in breastfeeding initiation. The MOST LIKELY reason for this is:

- that all instructional videotapes are equivalent.
- the Hawthorne effect.
- that changing the videotape had no effect.
- the Nedelsky effect.

1.4 Which technique is MOST LIKELY to help this mother and baby achieve a comfortable and effective nursing session?



See color plate 1.

Courtesy of K. Jean Cotterman.

- Suggest the mother pull and stretch her nipple before trying to nurse.
- Have mother apply cold cloths or ice cubes to her nipple before trying to latch.
- Start the feed with a silicone nipple shield, then remove it after a few minutes.
- Have the mother semi-recline, and put the baby prone skin-to-skin on her chest and see if the baby will self-attach.

1.5 A well-balanced diet with sufficient calories accompanied by early and regular prenatal care significantly reduces the incidence of:

- a. infants with diabetes.
- b. low birth weight.
- c. maternal gestational diabetes.
- d. lactation failure.

1.6 A health care provider wants to encourage pregnant women to choose breastfeeding. Which statement is MOST SUPPORTIVE of breastfeeding?

- a. Are you considering breastfeeding?
- b. What have you heard about breastfeeding?
- c. Are you going to breastfeed or bottle-feed?
- d. You are not thinking about breastfeeding, are you?

1.7 You are working with a 3-month-old infant with persistent feeding difficulties. Although the mother's milk production is abundant, the child shows poor coordination at breast and with several feeding devices and is gaining weight very slowly. You notice that the baby's upper lip is thin, the space under her nose is noticeably flat, and her eyes are relatively small. What should you NEXT ask the mother about her pregnancy?

- a. Did you have a high fever more than once during your pregnancy?
- b. Was there a time during your pregnancy when you got very drunk?
- c. Was you home ever tested for ground radiation or radon levels?
- d. Were you responsible for emptying your cat's litter box during your pregnancy?

1.8 When does the mammary secretory glandular tissue develop?

- a. During puberty
- b. Some development occurs with each menstrual period.
- c. In the first trimester of pregnancy
- d. During pregnancy and the early weeks postbirth

1.9 This woman is in her third trimester of pregnancy. What is the MOST IMPORTANT action you could take to help her prepare to breastfeed?



See color plate 2.

- a. Teach her good positioning and latch-on technique, using a doll as a model.
- b. Provide her with breast shells to wear several hours a day.
- c. Teach her Hoffman's techniques to prepare her nipples.
- d. Instruct her to rub her nipples with a towel several times a day.

- 1.10 Which of the following actions is MOST LIKELY to improve this pregnant mother's breastfeeding experience?**



See color plate 3.

- a. Wearing breast shells several hours a day for a few weeks during her pregnancy
- b. Learning nonpharmaceutical methods of pain relief for labor
- c. Vigorously pulling and stretching her nipples several times a day
- d. Immediate and uninterrupted skin-to-skin contact at birth allowing the infant to self-attach
- 1.11 A pregnant woman is worried about giving birth prematurely because of hypertension. Which strategy is MOST LIKELY to prevent or reduce the risk of pregnancy-related hypertension?**
- a. Well-balanced diet with sufficient protein
- b. High-carbohydrate diet
- c. Drinking at least 2 liters of milk every day
- d. Prenatal vitamin supplements
- 1.12 A 27-year-old woman will birth her first baby in about 3 weeks. She asks if she will be able to breastfeed after having a breast reduction with her nipple auto-transplanted at the age of 19. Your BEST response is:**
- a. There will be no problem breastfeeding.
- b. It may be possible for the first 3 months.
- c. You may not be able to breastfeed.
- d. Try it and see what happens.
- 1.13 Which is the MOST COMMON site of placental implantation in the uterus that could affect the baby's intrauterine position and cause labor complications?**
- a. Anterior side, cervical region
- b. Anterior side, fundal region
- c. Posterior side, cervical region
- d. Posterior side, fundal region
- 1.14 A mother wants to know how soon she will return to her prepregnancy weight after her baby is born. Which is the BEST of the following responses?**
- a. Most breastfeeding mothers lose 2 to 3 pounds (0.9 to 1.4 kg) per week.
- b. Making milk uses 1000 calories a day from your diet.
- c. Gradual weight loss preserves your health and energy.
- d. Restrict your food intake to 1500 calories a day.

1.15 What is this mother MOST LIKELY doing?



- a. Expressing colostrum
- b. Performing the pinch test
- c. Everting her retracting nipple
- d. Nipple rolling to firm the tip

1.16 Which prenatal breast condition is MOST LIKELY to affect lactation?

- a. No leaking of colostrum by the third trimester
- b. Flat nipples
- c. No change in pigment of the nipple and areola
- d. No change in breast size during pregnancy

1.17 A pregnant woman is worried that her milk may not come in with her second baby. She said she never actually made milk after her first baby's birth and never became engorged. Which of the following birth complications is MOST RELATED to delayed onset of lactogenesis?

- a. Cesarean birth
- b. Retained placental fragment
- c. Premature birth
- d. Episiotomy

1.18 A pregnant woman taking an antiseizure medication was advised to not breast-feed her first two children because of the medication. She is being encouraged to breastfeed this third child by her neurologist. What is the MOST SUPPORTIVE information you should share with her now?

- a. Your neurologist must know what he's talking about, so following his advice is wise.
- b. Your milk has many components that foster and support brain growth, even if some medication is in the milk.
- c. You followed the best advice at the time with your other children, so do not feel guilty.
- d. Your milk's nutritional properties are not changed by the medication that might be present.

1.19 What process is primarily responsible for the increase in breast size (volume) during pregnancy?

- a. Increase in fatty stores in the breast
- b. Development of the duct system
- c. Growth of secretory epithelial cells
- d. Growing uterus triggers ribcage expansion

1.20 A defect in which structure may cause gastroesophageal reflux?

- a. Esophagus
- b. Trachea
- c. Small intestine
- d. Large intestine

1.21 How would you BEST document this pregnant woman's breasts?



Courtesy of K. Jean Cotterman.

- a. Saggy
- b. Apparent inverted right nipple
- c. Insufficient glandular tissue
- d. Hyperpigmented areola

1.22 A pregnant woman who has type 1 diabetes expresses interest in breastfeeding. Your BEST response is:

- a. You may need to adjust your insulin dosage if you breastfeed.
- b. You may need to eat a snack before you breastfeed.
- c. It will be more difficult to control your blood sugar if you breastfeed.
- d. Breastfeeding may reduce your baby's risk of developing diabetes.

1.23 This mother is 36 weeks pregnant. Your BEST recommendation would be:



See color plate 4.

- a. Rub your nipples with a towel twice a day.
- b. Be sure to breastfeed in the first hour postbirth.
- c. Pull and roll the nipple to stretch it.
- d. You will not be able to breastfeed.

1.24 You are asked to teach formula feeding and breastfeeding to expectant parents. Which approach is MOST SUPPORTIVE of breastfeeding?

- a. Refuse to teach formula feeding and refer students to other resources.
- b. Teach breastfeeding in the class and offer a separate 1:1 session on formula feeding on request.
- c. Teach both during the group sessions, and offer additional information on breastfeeding separately.
- d. Schedule separate classes for breastfeeding and formula feeding.

1.25 This pregnant mother is concerned about the appearance of her nipples. Your BEST response is:



See color plate 5.

- a. You probably have a thrush infection.
- b. A bacterial infection is a possibility.
- c. Do not breastfeed until the herpes lesion heals.
- d. Your breast appears normal.

1.26 A pregnant woman follows a vegan diet and intends to breastfeed. She should be informed that :

- a. Her milk supply may be compromised by her diet.
- b. She should take a vitamin B₁₂ supplement.
- c. Her baby will need a multivitamin supplement.
- d. She will have to change her diet if she wants to breastfeed.

1.27 What is the MOST LIKELY use of milk donated by mothers whose baby died?

- a. Support adults with IgA deficiencies or receiving solid-organ transplants
- b. Research on milk properties, storage, or other factors
- c. Dispensed on prescription to sick or premature babies
- d. Extract human stem cells for research purposes

1.28 During a prenatal consult, a pregnant woman shows you her left nipple and says it is very sensitive to any touch. Based on what you see in the photograph, what is your BEST next action?



Courtesy of K. Jean Cotterman.

- a. Share your observations with her primary care provider
- b. Provide her with sterile gauze to clean her nipple
- c. Reassure her that nipple pain is normal during pregnancy
- d. Teach her how to roll and stretch her nipple to reduce tenderness

1.29 Which hormone involved in lactogenesis is absent and cannot be provided artificially when a mother is inducing lactation and has never been pregnant?

- a. Estrogen
- b. Progesterone
- c. Prolactin
- d. Placental lactogen

1.30 Your client is a pregnant 38-year-old woman who had breast reduction surgery through use of the inferior pedicle technique 10 years ago, after having breastfed two children for about 1 year each. She had low milk production with each of the children. What is the likelihood of a full milk production for the new baby?

- a. High because of the surgical technique used
- b. High because of her two previous lactations
- c. Unlikely because of the type of breast reduction surgery
- d. Unlikely because of length of time since reduction

1.31 A pregnant woman reports seeing a sticky greenish discharge come from her nipple during a bath. The MOST LIKELY cause of this discharge is:

- a. Intraductal papilloma
- b. Breast abscess
- c. Infected Montgomery tubercle
- d. Mammary duct ectasia

- 1.32 A pregnant woman with many allergies asks about infant feeding. Your BEST response is:**
- A baby is never allergic to his mother's milk, but he may be sensitive to foods in the mother's diet.
 - Because many allergic tendencies are inherited, there is nothing you can do to reduce your baby's chances of being allergic.
 - The hypoallergenic formulas will prevent any allergic reaction in your baby.
 - Whether or not you breastfeed, you should delay solid foods until 6 months or later to help your baby avoid allergies.
- 1.33 A pregnant woman is hesitant to breast-feed because she has heard that she needs to eat a high-calorie, nutrient-rich diet during lactation. Your BEST response is to:**
- inform her that women living under a wide variety of circumstances are capable of fully nourishing their infants by breastfeeding.
 - refer her to a supplemental food program to ensure adequate nutrient intake.
 - provide her with a multivitamin-and-mineral supplement.
 - discourage her from breastfeeding, as her current circumstances make it doubtful that she is eating adequately.
- 1.34 A 4-year-old girl was hurt in an auto accident, and as part of her treatment, a chest tube was placed between her ribs below and distal to her right nipple. What is the MOST SIGNIFICANT effect that this surgery might have on her future ability to breastfeed?**
- Damage to the ductal structure
 - Damage to the blood vessels supplying the breast
 - Severed nerve pathways to the nipple
 - Cut blood vessels to the breast

- 1.35 Which structure supports the breast on the chest wall?**
- Bandl's fibers
 - Cooper's ligaments
 - Mammary ligaments
 - Myoepithelial tissue
- 1.36 The MOST IMPORTANT action in helping this mother breastfeed is to:**



See color plate 6.

Courtesy of K. Jean Cotterman.

- Put the baby on her bare chest, skin-to-skin, immediately after birth for at least an hour or until after the first feed.
- Recommend that she wear breast shells for several hours every day during the last trimester.
- Teach her how to hand-express her milk and use a breast pump until her baby can latch directly.
- Refer the mother to her primary provider to investigate the nipple configuration for pathology.

1.37 A pregnant woman had surgery to drain a breast abscess during a previous lactation and asks about consequences to breastfeeding this time. Which aspect of the surgery is MOST LIKELY to negatively affect breastfeeding?

- The circumstances leading up to the abscess
- How long ago the surgery was performed
- Location of the incision relative to milk ducts and nerves
- Stage of lactation when the surgery was done

1.38 Which fetal structure may remain open or be reopened by excessive infant crying?

- Ductus venosus
- Ductus arteriosus
- Foramen ovale
- Portal sinus

1.39 A breastfeeding mother is also pregnant. She asks what it takes to “eat for three” while she’s pregnant. Which of the following is the best response by a lactation consultant (LC)?

- You need to wean; breastfeeding while pregnant will rob the fetus of needed nutrients.
- Check with a nutrition professional for specific recommendations.
- Make sure you are gaining weight within the same parameters as if you were pregnant and not breastfeeding.
- Do you ordinarily have special dietary needs (for example, do you avoid dairy, causing you to need alternative sources of calcium)?

1.40 This pregnant and breastfeeding mother calls and complains of tender nipples and lower milk supply. Your BEST response is:



Courtesy of Sarah Hung.

- It’s best if you start weaning your daughter; she’s nursed long enough already.
- See your primary care provider about the sudden-onset nipple pain – it might be thrush.
- Drink fenugreek tea to increase your milk supply.
- What you are experiencing is common for women who are pregnant and still breastfeeding.

1.41 Which is the MOST APPROPRIATE suggestion for a pregnant woman concerned about eating well enough for her own body growth and her developing baby?

- Take prenatal vitamins every day.
- Eat fruits, vegetables, and protein-rich food 5 times a day.
- Plan your meals and snacks so you eat every few hours.
- Plan to gain 25 to 35 pounds (11.4 to 15.9 kg) by the end of your pregnancy.

- 1.42 During pregnancy, which characteristic of the breasts is MOST RELEVANT to lactation capacity?**
- Breast growth (size change) during pregnancy
 - That one breast is markedly different in size from the other
 - That colostrum can be expressed from the breasts
 - Tubular shape of the breasts
- 1.43 A pregnant woman and the baby's father both have many allergies. She asks whether there is anything she can do to reduce her child's risks of allergic disease. Your BEST response is:**
- Avoid common allergens such as cow's milk during your pregnancy.
 - Exclusively breastfeed for at least 6 months.
 - Continue breastfeeding to at least 24 months or longer if your child is willing.
 - Take steroid medications to strengthen your immune system.
- 1.44 A breastfeeding mother is also pregnant. She is worried about her bones being depleted of calcium due to the overlap. Which of the following is the MOST APPROPRIATE response by the LC?**
- The added burden of pregnancy overlapping with breastfeeding requires an extra 400 mg of calcium a day.
 - Women aged 19 to 50 need the same amount of calcium regardless of whether they are breastfeeding or pregnant.
 - An overlap of breastfeeding and pregnancy actually triggers accretion of bone mineral.
 - You will want to focus on bioavailable calcium sources such as calcium-fortified water and orange juice.
- 1.45 A pregnant woman has gestational diabetes. She can reduce her risk of developing type 2 diabetes if she breast-feeds for how long?**
- At least 3 months
 - At least 6 months
 - At least 12 months
 - Breastfeeding does not change the risk.
- 1.46 Which of the following statements BEST describes fetal nutrition?**
- The umbilical cord delivers nutrients directly to the fetal gut.
 - The fetus swallows and digests amniotic fluid.
 - The fetus absorbs nutrients from the amniotic fluid through his skin.
 - The fetus has no digestive enzymes of his own until after 40 weeks.
- 1.47 A pregnant mother is HIV positive but otherwise healthy. Breastfeeding is expected in her culture and her family and is her personal strong desire. The FIRST thing you should do is:**
- Tell her breastfeeding is contraindicated for HIV-positive mothers.
 - Tell her breastfeeding is safe for the first 6 weeks only.
 - Have her talk to her primary care provider and abide by that decision.
 - Share research results and recommendations of the World Health Organization (WHO) and UNICEF.
- 1.48 Which of the following behaviors suggests a woman is having difficulty moving through the normal developmental tasks of pregnancy?**
- Wearing maternity clothing in her second trimester
 - Choosing possible baby names
 - Discontinuing smoking and consumption of alcohol
 - Waiting until the third trimester to tell family members of her pregnancy