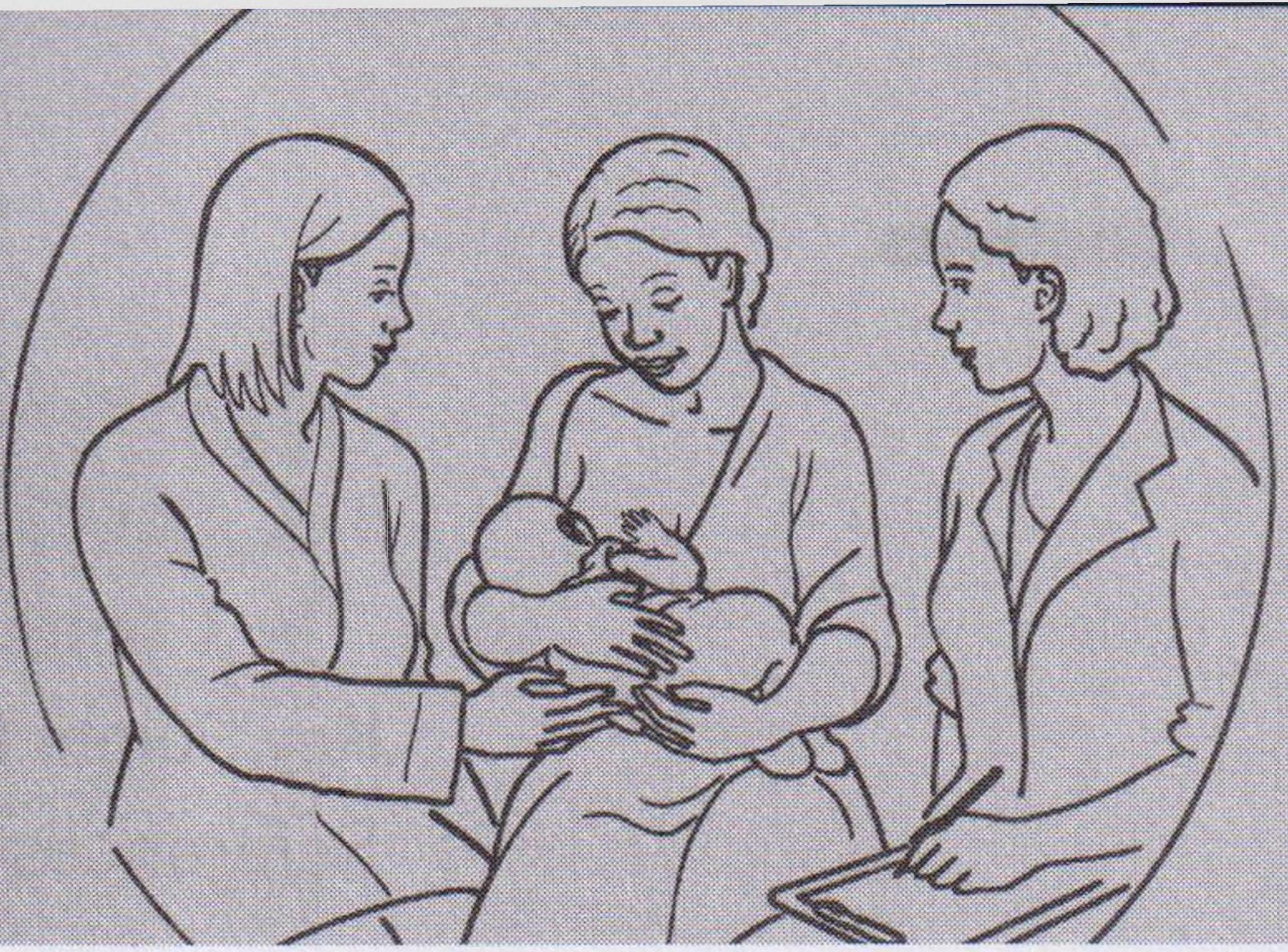


# Contents



|                              |            |
|------------------------------|------------|
| <b>Foreword .....</b>        | <b>xv</b>  |
| <b>Introduction .....</b>    | <b>xvi</b> |
| <b>Acknowledgments .....</b> | <b>xix</b> |
| <b>Contributors .....</b>    | <b>xx</b>  |

## SECTION I Science.....1

### **CHAPTER 1 Scientific Evidence Supporting Lactation .....3**

*Becky Spencer and Kristina Chamberlain*

|  |           |
|--|-----------|
| <b>Overview .....</b>  | <b>4</b>  |
| I. Health Benefits of Breastfeeding for Infants and Children ..... | 4         |
| II. Health Benefits of Breastfeeding for Lactating Parents .....   | 10        |
| III. Global Economic Impact of Breastfeeding .....                 | 12        |
| <b>Key Points from This Chapter.....</b>                           | <b>13</b> |
| <b>References .....</b>  | <b>14</b> |

### **CHAPTER 2 Clinical Decision-making in Lactation Care and Support.....19**

*Becky Spencer and Amanda Watkins*

|   |           |
|---|-----------|
| <b>Overview .....</b>   | <b>20</b> |
| I. Facilitating Implementation of Research into Practice .....        | 20        |
| II. Evaluating Scientific Evidence: Asking the Clinical Question... . | 23        |
| III. Steps to Finding Evidence.....                                   | 24        |
| IV. Steps to Evaluate Research: Quantitative Methods .....            | 25        |
| V. Steps to Evaluate Research: Qualitative Methods.....               | 35        |
| VI. Critique of Qualitative and Quantitative Research .....           | 42        |
| <b>Key Points from This Chapter.....</b>                              | <b>49</b> |
| <b>References .....</b>   | <b>49</b> |

### **CHAPTER 3 Infant Anatomy and Physiology for Feeding .....53**

*Nina Isaac and Elizabeth Choi*

|   |           |
|---|-----------|
| <b>Overview .....</b>                         | <b>54</b> |
| I. Oral Assessment of the Infant .....        | 54        |
| II. Anatomy of the Infant's Oral Cavity ..... | 54        |

|   |    |
|---|----|
| III. Oral Reflexes . . . . .                                | 67 |
| IV. Suckling Cycle . . . . .                                | 69 |
| V. Coordination of the Suck–Swallow–Breathe Triad . . . . . | 70 |
| Key Points from This Chapter . . . . .                      | 72 |
| References . . . . .  | 73 |

## **CHAPTER 4 Normal Infant Behavior ..... 77**

*M. Jane Heinig and Jennifer Bañuelos*

|   |    |
|---|----|
| Overview . . . . .                            | 78 |
| I. The Six Infant Behavioral States . . . . . | 78 |
| II. Infant Communication . . . . .            | 79 |
| III. Infant Crying . . . . .                  | 80 |
| IV. Infant Sleep . . . . .                    | 81 |
| Key Points from This Chapter . . . . .        | 85 |
| References . . . . .                          | 86 |

## **CHAPTER 5 Lactation Pharmacology ..... 91**

*Thomas W. Hale, Kaytlin Krutsch, and Teresa M. Baker*

|  |     |
|--|-----|
| Overview . . . . .   | 92  |
| I. Kinetics of Drug Entry into Human Milk . . . . .                    | 92  |
| II. Maternal Factors That Affect Drug Transfer . . . . .               | 96  |
| III. Predicting Risks of Medications to the Infant . . . . .           | 97  |
| IV. Clinical Implications of Drug Excretion During Lactation . . . . . | 99  |
| V. Galactagogues That Stimulate Milk Production . . . . .              | 107 |
| Key Points from This Chapter . . . . .                                 | 109 |
| Additional Resources . . . . .   | 109 |
| References . . . . .   | 109 |

## **CHAPTER 6 Breast Anatomy and Milk Production ..... 115**

*Claudia Krebs*

|  |     |
|--|-----|
| Overview . . . . .                                       | 116 |
| I. Breast Development . . . . .                          | 116 |
| II. General Anatomy of a Mature Breast . . . . .         | 117 |
| III. Variations in Breast Anatomy . . . . .              | 122 |
| IV. Mammogenesis: Prenatal Breast Development . . . . .  | 125 |
| V. Secretory Differentiation or Lactogenesis I . . . . . | 126 |
| VI. Secretory Activation or Lactogenesis II . . . . .    | 126 |
| VII. Galactopoiesis or Lactogenesis III . . . . .        | 127 |
| VIII. Involution: Apoptosis of Secretory Cells . . . . . | 129 |
| IX. Milk Production and Synthesis . . . . .              | 129 |
| Key Points from This Chapter . . . . .                   | 131 |
| References . . . . .                                     | 132 |

**CHAPTER 7 Biochemistry of Human Milk.....135***April Fogleman, Nicola Singletary, Rebecca Costello, and Jonathan C. Allen*

|  |     |
|--|-----|
| Overview .....                             | 136 |
| I. Macronutrients .....                    | 136 |
| II. Water .....                            | 137 |
| III. Lipids .....                          | 137 |
| IV. Proteins .....                         | 140 |
| V. Carbohydrates .....                     | 144 |
| VI. Micronutrients.....                    | 146 |
| VII. Bioactive Factors in Human Milk ..... | 147 |
| VIII. Mechanisms of Milk Secretion.....    | 148 |
| IX. Colostrum .....                        | 150 |
| X. Pasteurized Donor Milk .....            | 150 |
| XI. Infant Formula.....                    | 151 |
| Key Points from This Chapter.....          | 153 |
| Additional Resources.....                  | 153 |
| References .....                           | 154 |

**CHAPTER 8 Nutrition during Lactation .....161***Alicia C. Simpson and Virginia H. Carney*

|  |     |
|--|-----|
| Overview .....   | 162 |
| I. Initial Assessment.....                                   | 162 |
| II. General Nutrition Recommendations for Lactation .....    | 163 |
| III. Lactating Parent BMI .....                              | 170 |
| IV. Energy Needs during Lactation .....                      | 171 |
| V. Importance of Exercise during Pregnancy and Lactation.... | 171 |
| VI. Tandem Breastfeeding/Chestfeeding.....                   | 172 |
| VII. Special Populations.....                                | 172 |
| VIII. Prolonged Breastfeeding/Chestfeeding.....              | 176 |
| Key Points from This Chapter.....                            | 177 |
| References .....   | 177 |

**CHAPTER 9 Complementary Child Nutrition.....181***Alicia C. Simpson and Virginia H. Carney*

|  |     |
|--|-----|
| Overview .....   | 182 |
| I. Guidelines and Recommendations for Infant Feeding .....           | 182 |
| II. Introduction of Complementary (Solid) Foods.....                 | 183 |
| III. Breastfeeding/Chestfeeding the Toddler (1–3 Years of Age)....   | 185 |
| IV. Prevention of Malnutrition .....                                 | 186 |
| V. Macronutrient and Micronutrient Needs of Infants and Toddlers ... | 187 |
| VI. Food Allergies and Intolerances.....                             | 196 |
| VII. Feeding in Special Populations .....                            | 198 |
| Key Points from This Chapter.....                                    | 200 |
| References .....   | 200 |

**SECTION II Management.....203****CHAPTER 10 Transition to Parenthood ..... 205***Jane Grassley and Becky Spencer*

|   |     |
|---|-----|
| Overview .....  | 205 |
| I. Transition to Parenthood.....                              | 206 |
| II. Parent-Infant Attachment .....                            | 208 |
| III. A Nurturing and Supportive Environment.....              | 209 |
| IV. Factors that Influence the Transition to Parenthood ..... | 212 |
| Key Points from This Chapter.....                             | 218 |
| Suggested Reading .....                                       | 218 |
| References .....  | 219 |

**CHAPTER 11 Breastfeeding and Employment ..... 223***Cathy Carothers*

|   |     |
|---|-----|
| Overview .....  | 224 |
| I. Competing Demands.....   | 225 |
| II. Impact of Employment on Breastfeeding Initiation,<br>Exclusivity, and Duration..... | 226 |
| III. Occupational Hazards and Lactating Employees .....                                 | 229 |
| IV. Supporting Lactation Is a Win-Win-Win<br>for Employers, Employees, and Babies ..... | 230 |
| V. Barriers to Sustaining Lactation after Returning to Work .....                       | 231 |
| VI. Components of a Successful Lactation Support Program.....                           | 231 |
| VII. Safe Worksite Lactation Spaces for Employees .....                                 | 233 |
| VIII. Counseling Breastfeeding/Chestfeeding Employees .....                             | 234 |
| IX. Assisting Employers with Providing Lactation Support .....                          | 240 |
| X. Childcare Providers.....   | 241 |
| XI. The Lactation Consultant as Advocate for Working<br>Parents.....                    | 242 |
| Key Points from This Chapter.....   | 243 |
| Suggested Reading .....   | 244 |
| References .....  | 244 |

**CHAPTER 12 Pregnancy, Labor,  
and Birth Complications..... 249***Cheryl Benn*

|   |     |
|---|-----|
| Overview .....  | 250 |
| I. Hypertensive Disorders of Pregnancy .....            | 250 |
| II. Venous Thromboembolic Conditions in Pregnancy ..... | 252 |
| III. Postpartum Hemorrhage .....                        | 253 |
| Key Points from This Chapter.....                       | 255 |
| Suggested Reading .....                                 | 255 |
| References .....  | 255 |

**CHAPTER 13 Facilitating Initiation of Lactation .... 257***Elaine Webber and Jean Benedict*

|   |     |
|---|-----|
| Overview .....  | 258 |
| I. Strategies for the Initiation of Breastfeeding/<br>Chestfeeding .....                  | 258 |
| II. Exclusive Breastfeeding/Chestfeeding in the Postpartum<br>Period .....                | 260 |
| III. Management of Breastfeeding/Chestfeeding during<br>the Early Postpartum Period ..... | 261 |
| IV. Managing Challenges in Initiating Breastfeeding/<br>Chestfeeding .....                | 270 |
| Key Points from This Chapter .....  | 273 |
| Additional Resources .....  | 273 |
| References .....  | 274 |

**CHAPTER 14 The Preterm Infant .... 279***Suzanne Hetzel Campbell, Laura N. Haiek, and Sarah Coutts*

|   |     |
|---|-----|
| Overview .....  | 280 |
| I. Scientific Basis for Breastfeeding the Preterm Infant .....  | 281 |
| II. Management of the Environment to Support the Preterm<br>Family for Breastfeeding/Chestfeeding Success ..... | 284 |
| III. Initiatives to Support Breastfeeding/Chestfeeding<br>the Premature Infant.....                             | 287 |
| IV. Kangaroo Mother Care .....  | 288 |
| V. Professional Support for Parents of Preterm Infants.....   | 290 |
| VI. Establishing Lactation with a Preterm Infant .....  | 292 |
| VII. Maintaining Lactation with a Preterm Infant .....  | 294 |
| VIII. Discharge Planning .....  | 295 |
| IX. Human Milk Fortification .....  | 296 |
| X. The Late Preterm Infant .....  | 298 |
| Key Points from This Chapter .....  | 301 |
| Website Resources .....   | 301 |
| Acknowledgment .....  | 301 |
| References .....  | 301 |

**CHAPTER 15 Breastfeeding and Multiples .... 309***M. Karen Kerkhoff Gromada and Kathryn Stagg*

|   |     |
|---|-----|
| Overview .....  | 311 |
| I. Multiple-Birth Rate .....  | 311 |
| II. Barriers to Nursing Multiple Neonates .....   | 311 |
| III. The Right to a Nursing Relationship For and with Each<br>Multiple-birth Infant ..... | 314 |
| IV. Anticipatory Guidance: Prenatal Preparation for Nursing<br>Multiples .....            | 315 |
| V. Initiating Nursing and Lactation.....  | 319 |

|       |   |     |
|-------|---|-----|
| VI.   | Biopsychosocial Issues Affecting the Duration of Nursing and Lactation with Multiples .....         | 324 |
| VII.  | Maintaining Exclusive Nursing When All Multiples Nurse Effectively .....                            | 325 |
| VIII. | Ongoing Issues with Nursing/Lactation.....  | 332 |
| IX.   | Exclusive versus Partial (or Combination) Nursing or Human Milk Feeding Options for Multiples ..... | 333 |
| X.    | Nursing Older Infant and Toddler Multiples .....  | 334 |
|       | Key Points from This Chapter.....   | 336 |
|       | Additional Resources.....   | 336 |
|       | References .....  | 337 |

## **CHAPTER 16 Growth from Birth through Weaning ..... 347**

*Debi Ferrarello and Rachelle Lessen*

|                |   |     |
|----------------|---|-----|
| Overview ..... | 348   |     |
| I.             | Breastfeeding/Chestfeeding Patterns during Infancy.....                     | 348 |
| II.            | Physical Conditions that May Affect an Infant's Ability to Breastfeed ..... | 351 |
| III.           | Later Stages of Breastfeeding/Chestfeeding .....                            | 354 |
| IV.            | Weaning .....   | 355 |
|                | Key Points from This Chapter.....   | 358 |
|                | Suggested Reading .....   | 358 |
|                | Additional Resources.....   | 358 |
|                | References .....  | 359 |

## **CHAPTER 17 Maternal Physical Health and Lactation ..... 363**

*Karen A. Wambach and Karman Romero*

|                |                                   |     |
|----------------|-----------------------------------|-----|
| Overview ..... | 364                               |     |
| I.             | Acute Illnesses .....             | 364 |
| II.            | Chronic Illnesses.....            | 367 |
| III.           | Assistance during Illnesses ..... | 380 |
|                | Key Points from This Chapter..... | 381 |
|                | Additional Resources.....         | 381 |
|                | References .....                  | 382 |

## **CHAPTER 18 Lactation and Mental Health ..... 389**

*Kathleen Kendall-Tackett*

|                |   |     |
|----------------|---|-----|
| Overview ..... | 390   |     |
| I.             | Introduction: Key Findings Regarding Breastfeeding and Postpartum Mental Health ..... | 390 |
| II.            | International Incidence of Postpartum Depression and Anxiety.....                     | 394 |
| III.           | Inflammation: The Underlying Physiology of Depression, Anxiety, and PTSD .....        | 395 |

|  |     |
|--|-----|
| IV. Risk Factors for Depression .....  | 396 |
| V. Treatment Options.....  | 408 |
| Key Points from This Chapter.....  | 412 |
| Suggested Reading .....  | 412 |
| Information for Mothers on Postpartum Depression, Trauma,<br>and Treatment Options .....             | 412 |
| Resources for Those Who May Be Experiencing Prenatal<br>or Postnatal Mood or Anxiety Disorders ..... | 412 |
| References .....   | 413 |

## **CHAPTER 19 Induced Lactation and Relactation ..... 421**

*Virginia Thorley and Gemma Cazorla-Ortiz*

|   |     |
|---|-----|
| Overview .....  | 422 |
| I. Research in Relactation and Induced Lactation .....                      | 423 |
| II. Physiological Mechanisms .....  | 424 |
| III. Inducing Lactation or Relactating .....                                | 424 |
| IV. Parent Expectations and Support.....                                    | 426 |
| V. History and Assessment.....  | 427 |
| VI. Initiating Milk Production .....  | 428 |
| VII. When Milk Production Begins .....                                      | 432 |
| VIII. Milk Composition Following Induced Lactation<br>and Relactation ..... | 432 |
| IX. Feeding the Baby.....   | 433 |
| Key Points from This Chapter.....   | 434 |
| References .....  | 435 |

## **CHAPTER 20 Breast Pathology..... 439**

*Katrina B. Mitchell*

|   |     |
|---|-----|
| Overview .....  | 440 |
| I. Breast Evaluation and Variations in Exam.....                            | 440 |
| II. Palpation .....   | 443 |
| III. Breastfeeding/Chestfeeding Complications<br>and Breast Pathology ..... | 443 |
| Key Points from This Chapter.....   | 454 |
| References .....  | 454 |

## **CHAPTER 21 Newborn Challenges: Hyperbilirubinemia and Hypoglycemia..... 457**

*Sahira Long, Jessica Nash, and Michal A. Young*

|   |     |
|---|-----|
| Overview .....  | 458 |
| II. Normal Glucose Regulation in the Newborn.....                             | 459 |
| III. Risk Factors and Clinical Signs for Hypoglycemia .....                   | 459 |
| III. Testing Methods .....  | 460 |
| IV. General Glucose Management Recommendations<br>for All Term Newborns ..... | 460 |

|   |     |
|---|-----|
| V. Management of Documented Hypoglycemia in the Breastfed/Chestfed Infant . . . . .             | 462 |
| VI. Hyperbilirubinemia . . . . .  | 462 |
| VII. Common Types of Jaundice . . . . .   | 463 |
| VIII. Tests to Evaluate Jaundice . . . . .  | 465 |
| IX. Differential Diagnosis . . . . .  | 466 |
| X. Medical Management . . . . .   | 466 |
| XI. Breastfeeding/Chestfeeding Management of the Jaundiced Infant During Phototherapy . . . . . | 467 |
| XII. Evaluation of Successful Resolution of Hyperbilirubinemia . . . . .                        | 467 |
| Key Points from This Chapter . . . . .  | 468 |
| Additional Resources . . . . .  | 468 |
| References . . . . .  | 468 |

## **CHAPTER 22 Low Milk Production and Infant Weight..... 469**

*Kathleen L. Hoover, Lisa A. Marasco, and Kelli R. Fornow*

|  |     |
|--|-----|
| Overview . . . . .   | 469 |
| I. Identifying the Causes for Weight Gain Issues . . . . .   | 470 |
| II. Poor Growth in Breastfed Babies . . . . .  | 472 |
| III. Unsubstantiated Low Milk Production . . . . .   | 475 |
| IV. Secondary Causes for Insufficient Milk Production . . . . .  | 475 |
| V. Primary Lactation Insufficiency: A Systems View . . . . .   | 478 |
| VI. Delayed Lactation: A Risk Factor for Insufficient Milk Production . . . . .                                | 479 |
| VII. Primary Physical Causes of Insufficient Milk Production . . . . .   | 480 |
| VIII. Primary Physiological Causes of Insufficient Milk Production . . . . .                                   | 482 |
| IX. Oxytocin and Milk Ejection Problems as an Overlooked Contributor to Insufficient Milk Production . . . . . | 484 |
| X. Management of Low Milk Production and Poor Weight Gain . . . . .  | 486 |
| XI. Additional Therapies to Increase Milk Production . . . . .   | 494 |
| Key Points from This Chapter . . . . .   | 496 |
| Recommended Key Articles and Resources . . . . .   | 497 |
| References . . . . .   | 497 |

## **CHAPTER 23 Breastfeeding and Infant Birth Injury, Congenital Anomalies, and Illness..... 509**

*Catherine Watson Genna*

|                                 |     |
|---------------------------------|-----|
| Overview . . . . .              | 509 |
| I. Postmature Infants . . . . . | 510 |
| II. Birth Trauma . . . . .      | 510 |

**CHAPTER 26 Counseling and Communication ..... 589***Laurie K. Scherer and Angela Love-Zaranka*

|  |     |
|--|-----|
| Overview .....   | 590 |
| I. Counseling Basics.....                              | 590 |
| II. Group Education and Facilitation .....             | 593 |
| III. Effective Individual Counseling Sessions.....     | 594 |
| IV. Counseling Skills for Challenging Situations ..... | 597 |
| V. Communicating with Professionals .....              | 600 |
| Key Points from This Chapter.....                      | 601 |
| References .....                                       | 601 |

**CHAPTER 27 Problem Solving  
and Documentation ..... 603***Angela Love-Zaranka and Laurie K. Scherer*

|   |     |
|---|-----|
| Overview .....  | 604 |
| I. Stages of Skill Acquisition and Critical Thinking..... | 604 |
| II. Key Elements in a Lactation Health Record .....       | 606 |
| III. Documentation .....                                  | 608 |
| IV. Problem-Solving Steps .....                           | 610 |
| V. Essential Characteristics of a Plan of Care.....       | 612 |
| Key Points from This Chapter.....                         | 613 |
| References .....  | 614 |

**CHAPTER 28 Cultural Humility..... 617***Nekisha L. Killings*

|  |     |
|--|-----|
| Overview .....   | 617 |
| I. Cultural Humility and Its Relationship to Cultural Competency ..... | 618 |
| II. Cultural Humility and Power .....                                  | 619 |
| III. Bias.....   | 620 |
| IV. Cultural Humility and Race, Gender Identity, and Sexuality.....    | 622 |
| V. Interdisciplinary Applications of Cultural Humility.....            | 622 |
| VI. Researched and Nonresearched Evidence .....                        | 624 |
| Key Points from This Chapter.....                                      | 624 |
| Additional Resources.....  | 624 |
| References .....   | 625 |

**CHAPTER 29 Lactation Protection,  
Promotion, and Support ..... 627***Suzanne Hetzel Campbell, Joan Younger Meek, and Tina Revai*

|   |     |
|---|-----|
| Overview .....  | 628 |
| I. Lactation Consultant as Change Agent at the Individual Level .....             | 629 |
| II. Determinants of Breastfeeding/Chestfeeding and Opportunities for Change ..... | 629 |

|   |     |
|---|-----|
| III. Using a Social-ecological Approach to Identify Opportunities for Change .....                          | 632 |
| IV. Lactation Consultant as Change Agent at the Family Level . . . . .                                      | 633 |
| V. Lactation Consultant as Change Agent at the Community Level . . . . .                                    | 633 |
| VI. Lactation Consultant as Change Agent at the Organizational Level . . . . .                              | 634 |
| VII. Lactation Consultant as Change Agent at the Workplace Level and in the Sociocultural Context . . . . . | 638 |
| VIII. Lactation Consultant as Change Agent at the National and Global Levels . . . . .                      | 639 |
| Key Points from This Chapter . . . . .  | 642 |
| Additional Resources . . . . .  | 643 |
| References . . . . .  | 643 |

## **CHAPTER 30 Lactation Education for Health Professionals ..... 651**

*Kristina Chamberlain, Susan Fuchs, and Suzanne Hetzel Campbell*

|   |     |
|---|-----|
| Overview . . . . .  | 652 |
| I. General Principles of Adult Education . . . . .                | 652 |
| II. Types of Learning Styles and Theories . . . . .               | 652 |
| III. Education for Aspiring Lactation Professionals . . . . .     | 653 |
| IV. IBCLC Role in Interdisciplinary Lactation Education . . . . . | 655 |
| V. Lactation Education for Healthcare Professionals . . . . .     | 655 |
| Key Points from This Chapter . . . . .                            | 660 |
| Additional Resources . . . . .                                    | 660 |
| References . . . . .  | 660 |

## **CHAPTER 31 Expression and Use of Human Milk ... 663**

*Frances Jones and Gillian Weaver*

|  |     |
|--|-----|
| Overview . . . . .   | 664 |
| I. Reasons for Milk Expression . . . . .   | 664 |
| II. Validity of Information about Establishing and Maintaining Milk Production . . . . . | 665 |
| III. Strategies to Help Establish and Maintain Milk Production . . . . .                 | 665 |
| IV. Storage and Handling of Milk . . . . .   | 668 |
| V. Transporting Human Milk . . . . .   | 670 |
| VI. Sharing of Human Milk . . . . .  | 671 |
| VII. History of Sharing Human Milk . . . . .   | 672 |
| VIII. Milk Banking Today . . . . .   | 673 |
| IX. Use of Raw versus Pasteurized Donor Milk . . . . .                                   | 677 |
| X. Nonprofit Milk Banks—A Global Snapshot . . . . .                                      | 678 |
| XI. For-Profit Milk Processing Companies . . . . .                                       | 680 |
| Key Points from This Chapter . . . . .   | 681 |
| Additional Resources . . . . .   | 682 |
| References . . . . .   | 682 |

**CHAPTER 32 Interdisciplinary  
Lactation Services ..... 687**

*Rebecca Mannel, Suzanne Hetzel Campbell, and Elizabeth K. Stehel*

|  |     |
|--|-----|
| Overview .....   | 688 |
| I. Interdisciplinary Health Care .....   | 689 |
| II. Interdisciplinary Education.....   | 690 |
| III. Institute of Medicine: Measuring the Impact.....                          | 691 |
| IV. Examples of Interdisciplinary Collaboration.....                           | 692 |
| V. Interdisciplinary Teams.....  | 693 |
| VI. Interdisciplinary Care for Lactation .....                                 | 694 |
| VII. Patient-Centered Care .....   | 695 |
| VIII. Interprofessional Education and Patient-Centered Care .....              | 696 |
| IX. Policy Development Resources for Interdisciplinary<br>Lactation Care ..... | 700 |
| X. The Clinical Lactation Professional as a Key Partner.....                   | 701 |
| Key Points from This Chapter .....   | 702 |
| Additional Resources.....  | 702 |
| Organizations for Interprofessional Education .....                            | 703 |
| References .....   | 703 |

**Case Studies ..... 707**

**Glossary (available online in the eBook) ..... 819**

**Index ..... I-1**