CHAPTER 1: FOUNDATIONS OF MATERNITY, WOMEN’S HEALTH, AND CHILD HEALTH NURSING

Matching Key Terms
1. b 5. d
2. e 6. g
3. c 7. f
4. a 8. h

Historical Perspectives

Maternity Nursing
1. a. Childbirth is usually a normal, healthy event in the life of a family.
   b. Childbirth affects the entire family, and family restructuring is required.
   c. Families are capable of making decisions about care, provided they are given adequate information and professional support.
2. a. Traditional hospital setting—labor, birth, recovery, and postpartum care occur in separate rooms; delay of parent-infant contact.
   b. LDR rooms—labor, birth, and immediate recovery occur in a single room, with transfer to a postpartum room for continuing care; emphasis on keeping parents and infant together; liberal visiting.
   c. LDRP rooms—same as LDR rooms except that mother and infant remain in the same room where birth occurred.
   d. Birth centers—freestanding centers that provide antepartum, intrapartum, postpartum, and newborn care to low-risk mothers and babies; typically staffed by certified nurse-midwives.
   e. Home births—birth occurs in a familiar setting with support people the mother wants; fewer nurse-midwives now attend these births because of malpractice insurance problems.

Pediatric Nursing
1. F 3. T
2. T 4. T

Current Trends in Maternity and Pediatric Care
1. For maternity care, prospective payment plans have resulted in shortened length of stay after delivery. This created problems for some women and infants who required readmission following early discharge. Legislation now mandates length of stay following vaginal birth as 48 hours; following cesarean birth, length of stay is 4 days. Concerns about managed care in pediatrics include delay in treatment authorization and pediatric referrals and limited coordination with community health, education, and social services.
2. F
3. T

Ethical Perspectives on Maternal and Child Nursing
1. beneficence; nonmaleficence; autonomy; justice

Legal Issues
1. a. duty
   b. breach of duty
   c. damage
   d. proximate cause
2. a. client’s competence to consent
   b. full disclosure of information
   c. client’s understanding of information
   d. client’s voluntary consent

Review Questions
1. b 3. a
2. c 4. c

CHAPTER 2: THE NURSE’S ROLE IN MATERNITY, WOMEN’S HEALTH, AND PEDIATRIC NURSING

The Role of the Professional Nurse
1. T
2. T
3. F

Key Concepts
4. a. care provider
   b. teacher
   c. collaborator
   d. researcher
   e. advocate
   f. manager
5. developmental level, language, culture, previous experiences, physical environment, organization, and skill of the teacher
6. a. Certified nurse-midwives—registered nurses complete a course of study and clinical experience and are certified by the American College of Nurse-Midwives; they are qualified to provide complete care during pregnancy, childbirth, and the postpartum period in uncomplicated pregnancies.
   b. Nurse practitioners—advanced practice nurses who provide care to specific groups of clients in a variety of settings. They may work collaboratively with a physician or work independently, depending on the individual state’s board of nursing mandates.
c. Clinical nurse specialists—registered nurses with graduate education to be experts in the care of childbearing families or pediatric clients. Their functions may include clinical leader, role model, client advocate, and change agent.

Implications of Changing Roles for Nurses
1. Therapeutic communication is purposeful, goal directed, and focused. It requires conscious effort and practice.
2. what is being said; nonverbal clues
3. a. Block—failure to acknowledge child’s feelings and providing false reassurance.
   Possible alternative response—“You will feel a prick when I give you the needle. You can cry or yell if you want. I do need you to keep your leg still. I will put a Band-Aid on it when I am done.”
   b. Block—failure to acknowledge comments or feelings
   Possible alternative response—“This pregnancy has not gone as you expected. Tell me how being on bed rest has been difficult for you.”
4. to help nurses make the best clinical judgments by identifying and overcoming habits that interfere with decision making
5. a. recognize assumptions
   b. examine personal biases
   c. analyze the need for closure
   d. manage data
   e. evaluate other factors (emotions, environment) that can impede critical thinking
6. F
7. F
8. T

The Nursing Process in Maternity and Pediatric Care
1. Database assessment involves gathering data about all aspects of a client’s health to identify strengths and problems. Focused assessment involves gathering additional information relevant to an actual problem or one that the client/family is at risk for acquiring.
2. Each outcome criterion is an example of how a nurse might word it; your answer may be different and still be accurate.
   a. Mrs. Lynch will ambulate in her room by 24 hours after surgery. She will ambulate the length of the hallway and back by 48 hours after surgery.
   b. By her next prenatal visit, Jane Starr will bring a diet journal for 1 day that demonstrates the correct number of servings from every food group.
   c. Andrew Franklin will be free of signs of infection, as evidenced by an afebrile state, no redness of integument, and negative cultures until his next examination in 2 weeks.

Review Questions
1. b 3. b
2. c 4. a

CHAPTER 3: THE CHILDBEARING AND CHILD-REARING FAMILY

Matching Key Terms
1. c 5. b
2. g 6. e
3. a 7. d
4. f

The Family and Nursing Care
1. a. stress; child care
   b. poverty; overwhelming child-rearing responsibilities
   c. differences in parenting styles, values, and discipline
   d. little time to prepare for birth; little support afterward
   e. generational conflicts
   f. conflicts with community values
   g. poverty; inability to seek higher education; high infant mortality rate
   h. child neglect; risk-taking behaviors; possible criminal activity
   i. financial hardship; marital stress; sibling resentment
2. a. I e. I
   b. I f. E
   c. E g. E
   d. I h. E

Cultural Influences on Maternity and Pediatric Nursing
1. Southeast Asians
   a. soft voice
   b. no prolonged eye contact
2. Hispanics—polite with preliminary small talk
3. Middle-Easterners
   a. Interpreters should be from an acceptable region; information is typically shared only with friends and family.
   b. A male’s opinion or permission is often required.

Parenting
1. F
2. T
3. F
4. T
5. Distract the child with another object
6. Explains why a behavior is not permitted
7. Placing child in nonstimulating environment for about 1 minute per year of age
8. Helps children see the direct result of their misbehavior
9. A technique that rewards positive behavior and ignores negative behavior
10. A controversial form of discipline usually involving spanking

Review Questions
1. b 5. c
2. b 6. a
3. a 7. a
4. d 8. c
CHAPTER 4: HEALTH PROMOTION FOR THE DEVELOPING CHILD

Matching Key Terms
1. d  6. f
2. g  7. i
3. b  8. a
4. h  9. j
5. c 10. e

Types of Play
1. c
2. b
3. a

Overview of Growth and Development
1. meet the needs of their young clients
2. growth
3. maturation
4. Development
5. learning
6. delays
7. a. school-age
   b. toddlerhood
   c. adolescence
   d. infancy
   e. preschool
   f. infancy
8. a. weight
    b. height
    c. head circumference
9. 6 months, 1 year
10. Head circumference
11. 20; 32

Principles of Growth and Development
1. d
2. a
3. c
4. b
5. under stress
6. blocks of time during which children are ready to master specific developmental tasks
7. T
8. T
9. F
10. T
11. F
12. T
13. F

Theories of Growth and Development
1. c
2. b
3. a
4. d
5. oral
6. phallic
7. genital
8. anal
9. latency
10. mistrust
11. Autonomy
12. Initiative
13. inferiority
14. Identity
15. b
16. a
17. c

Theories of Language Development
1. cognitive
2. understand the spoken word
3. produce meaningful vocalizations

Assessment of Growth
1. Physical growth in infants and young children is an indicator of physical health.
2. nutritional status
3. The earlier growth disorders are detected and treated, the better the long-term prognosis.

Assessment of Development
1. a. observing child’s behaviors and interactions
   b. interviewing child and parents
   c. physical examinations
   d. standardized assessment tools
2. a. Ages and Stages questionnaire
   b. Parents’ Evaluation of Developmental Status (PEDS)
   c. Infant Development Inventory
3. a. gross motor
    b. fine motor
    c. language
    d. personal-social
4. T
5. F
6. T
7. F
8. F

The Nurse's Role in Promoting Optimal Growth and Development
1. Basic information about normal growth and development as a child approaches different ages
2. Predictable times in a child’s development when health care professionals can bring supportive help and information to the family to prevent or diminish problems

The Developmental Assessment
1. F
2. T
3. T
4. work
5. functional play
6. represent an issue to be addressed
7. rules
8. e
9. c
10. b
11. d
12. a

Health Promotion
1. T
2. F
3. F
4. T
5. T
6. T
7. F
8. F
9. live
10. epinephrine 1:1000
11. c
12. e
13. a
14. b
15. d
16. Infancy is a period of rapid growth, and infants need sufficient calories to support this growth.
17. 25 and 35
18. So that the child will not be further stressed by unfamiliar foods in the hospital
19. a. 24-hour dietary recall
   b. food frequency questionnaire
   c. food diary
20. unintentional injuries

Review Questions
1. a  7. b
2. c  8. d
3. d  9. d
4. d 10. c
5. c 11. c
6. b 12. d

CHAPTER 5: HEALTH PROMOTION FOR THE INFANT

Matching Key Terms
1. e  7. k
2. i  8. d
3. a  9. j
4. b 10. g
5. h 11. c
6. f

Growth and Development of the Infant
1. 8–9 months
2. 4–5 months
3. 6–7 months
4. 1–2 months
5. 6–7 months
6. 8–9 months
7. 6–7 months
8. 6–7 months
9. 1–2 months
10. 4–5 months
11. 8–9 months
12. 12 months
13. 4–5 months
14. 8–9 months
15. immature immune systems; small, collapsible airways
decreases; increases
16. Breast milk
17. 6–9 months
18. fluid and electrolyte imbalances
19. d
20. c
21. a
22. b
23. F
24. F
25. F
26. T
27. T
28. T
29. F
30. F
31. When infants’ needs are not consistently met, they perceive their environment as unsafe and develop a sense of mistrust.
32. Through mutually satisfying interactions in which parents meet their infants’ dependency needs and provide nurturance and their infants respond positively to having their needs satisfied.
33. By this age, infants have developed strong feelings of attachment toward their caregivers and are now cognitively able to differentiate them from unfamiliar people.

Health Promotion for the Infant and Family
1. 3
2. immunologic; digestibility
3. a. mothers who use illegal or certain prescription drugs
   b. mothers with untreated tuberculosis (TB)
c. mothers with human immunodeficiency virus (HIV)
4. Weaning is the transition from breastfeeding or bottle feeding to drinking from a cup.
5. When the infant has demonstrated readiness (see Box 5-4 in text), a solid food should be introduced in small amounts for several days before introducing a new solid.
6. F
7. F
8. F
9. T
10. T
11. a. Place infants on their backs to sleep.
b. Use a firm mattress.
c. Keep loose bedding and toys out of the crib.
d. Don’t expose infants to second-hand smoke.
e. Avoid overheating.
12. rear
13. 6 months
14. 120
15. crawl
16. a. hot dogs
   b. hard candy
   c. peanuts
   d. grapes
   e. raisins
   f. chewing gum
17. a. carrying the infant
   b. taking the infant for a car ride
   c. gently patting the infant on the back
   d. placing the infant in an infant swing
18. to ascertain the appropriate dose and learn of possible allergic reactions

Review Questions
1. c  6. c
2. b  7. a
3. b  8. a
4. c  9. b
5. d 10. a

CHAPTER 6: HEALTH PROMOTION DURING EARLY CHILDHOOD

Matching Key Terms
1. i  8. e
2. d  9. h
3. f 10. a
4. n 11. j
5. k 12. l
6. b 13. g
7. m 14. c

Growth and Development During Early Childhood
1. 5  12. P
2. 2; 3 13. P
3. 3  14. T
4. T  15. P
5. P  16. T
6. P  17. a
7. T  18. d
8. T  19. e
9. T  20. b
10. P 21. c
11. P

Health Promotion for the Toddler or Preschooler and Family
1. F  7. c
2. T  8. c
3. F
4. F
5. F
6. 6 months after the first tooth erupts
7. They provide the toddler with a sense of security.
8. Nightmares are frightening dreams that wake the child.
   Night terrors do not wake the child, although the child may scream out in his or her sleep and have the eyes open. The child does remember night terrors when awake.
9. discipline; limit setting
10. a. time-out
    b. time-in
    c. diversion
    d. offering restricted choices
11. They should never leave young children alone in or near bathtubs or swimming pools or near buckets of water. They should keep toilet lids closed.
12. Booster seats raise the child high enough so that the car’s lap belts and shoulder harnesses are correctly positioned over the child’s smaller body.
13. They should be taught to “stop-drop-roll.”
14. Guns should always be kept unloaded. They should be stored in locked cabinets with trigger guards in place.
15. After teaching the child about what is inappropriate touching behavior, teach them to immediately tell an adult if someone touches them inappropriately. Reinforce that they should tell another adult even if the offending adult is a friend or a relative or tells the child not to tell anyone. Explain that they need to keep telling as many adults as necessary until the inappropriate behavior stops.
16. By 24 to 30 months, children are less negative and more willing to please their caregivers. In addition, if the family is undergoing a change such as moving or the birth of another child, it might be better to postpone toilet training until the child has adjusted to the change.
17. a. limit exposure to situations that the child finds hard to handle
    b. anticipate the child’s fatigue
    c. anticipate the child’s hunger
    d. offer choices
18. Before the birth of the sibling, include the child in preparations for the new baby. Read stories about new siblings. Talk about changes that may occur. Allow the child to express his or her feelings. Refer to the baby as “ours.” After the birth, parents should spend a period of uninterrupted private time with the older sibling each day.
19. Speak slowly and pause frequently. Avoid pressuring the child to communicate immediately or rapidly. Notice what situations and environmental factors have a negative effect on the child’s fluency. Do not complete the child’s sentences. Do not draw attention to the child’s speech.

Review Questions
1. c  7. c
2. b  8. c
3. d  9. c
4. a 10. a
5. d 11. b
6. b 12. d
CHAPTER 7: HEALTH PROMOTION FOR THE SCHOOL-AGE CHILD

Matching Key Terms
1. e  4. d
2. b  5. c
3. a

Growth and Development for the School-age Child
1. F
2. T
3. F
4. F
5. F
6. Active play increases coordination, refines motor skills, serves as a foundation for physical fitness as an adult, improves cardiovascular (CV) fitness, increases strength and flexibility, and aids in the prevention of obesity.
7. Children have higher metabolic rates and limited ability to sweat.
8. actions
9. weight; volume
10. Cognitively, they are able to arrange things in logical order and are able to recall similarities and differences.
11. Children learn that friendship is more than just being together. They begin to share problems and give each other emotional support. They develop a sense of loyalty.
12. Their eustachian tubes have grown.
13. by learning to do new things and by learning to do them well
14. As children learn to do things well, they become more confident and feel good about themselves.
16. a. Child obeys to avoid punishment.
   b. Child obeys to avoid disapproval or to please others.
   c. Child obeys out of respect for authority.
17. a. act
   b. expectations
   c. rewards; punishments

Health Promotion for the School-age Child and Family
1. a. 6
   b. 2½
   c. 1½
   d. 5
   e. 3
2. 12; 9–10
3. by making children accountable for their actions and by allowing them to experience the consequences of their actions.
4. Positively reinforce for effort; encourage self-discipline and good study habits; ensure adequate sleep; communicate with and support teachers; provide a quiet, well-lighted study area.
5. by knowing laws related to self-care children, by teaching specific strategies for staying safe at home alone, and by working to develop expanded after-school programs in their communities.
6. They can set consistent times for meals and snacks; offer only nutritious food options; model good nutrition and exercise habits; plan physical activities for their child; limit TV and computer game time; avoid fast food restaurants; and not use food as a reward.

Review Questions
1. b  6. b
2. d  7. b
3. a  8. c
4. d  9. d
5. b  10. c

CHAPTER 8: HEALTH PROMOTION FOR THE ADOLESCENT

Matching Key Terms
1. e  7. c
2. d  8. a
3. i  9. h
4. b  10. k
5. f  11. g
6. j

Adolescent Growth and Development
1. menstruation
2. peak height velocity (PHV)
3. breast buds (thelarche)
4. gynecomastia
5. Tanner staging or sexual maturation rating (SMR)
6. testicular enlargement
7. estrogen; testosterone
8. assure confidentiality, be patient, be flexible, remain non-judgmental, assume nothing, use open-ended questions, encourage problem solving and analysis, be an advocate, do not side against parents.
9. period granted to teens as they are experimenting with roles and not yet ready to make permanent commitments.
10. They provide safety and validation as teens emotionally move away from the family and experiment with new roles.
11. early
12. early
13. late
14. middle
15. middle
16. late
17. early, middle
18. middle
Health Promotion for the Adolescent and Family

Review Questions
1. d 2. d 3. c 4. c 5. b 6. d 7. c 8. b

CHAPTER 9: HEREDITARY AND ENVIRONMENTAL INFLUENCES ON DEVELOPMENT

Matching Key Terms
1. c 2. e 3. i 4. d 5. a 6. b 7. h 8. j 9. g 10. f

Hereditary Influences
1. DNA is the basic building block of genes. Specific segments of DNA form a gene, and many genes form a chromosome.
2. an international effort to map all genes contained in the 46 human chromosomes
3. a. Genetic information about an individual has implications for other family members. Should this information be shared with family, health insurance providers, employers?
   b. A person with a genetic problem may feel inferior or guilty about passing it on to children.
   c. A person with a genetic abnormality who is currently asymptomatic may experience long-term anxiety waiting for the disease to occur.
   d. A person with a genetic abnormality may be denied insurance coverage or be forced to pay exorbitant premiums.
4. a. Child must receive a copy of autosomal-recessive gene from both parents; no sex difference.
   b. Child may receive a copy of autosomal-dominant gene from either parent; no sex difference.
   c. Because females are carriers, child receives abnormal gene from mother. Males are affected because they do not have a compensating normal X chromosome. Affected fathers will pass on abnormal genes to their daughters, who become carriers but not to their sons.

Multifactorial Disorders
1. They are present and detectable at birth. They tend to be single, isolated defects.
2. number of affected close relatives, severity of disorder in other family members, sex of affected person, geographic location, season of year

Environmental Influences
1. at least 4 weeks before conceiving 2. the woman’s need for the therapeutic effects of the drug and how the drug will affect the fetus 3. protected by a lead apron 4. Maternal hyperthermia is a teratogen.

Genetic Counseling
1. family 2. nondirective

Nursing Care of Families Concerned About Birth Defects
1. a. Identify women who may benefit from genetic counseling.
   b. Identify women who may benefit from genetic counseling; provide support if they receive abnormal results; support their decisions; teach.
   c. Evaluate family’s perception of the problem; explain diagnostic tests and results; make referrals.
   d. Support family; make referrals.

Review Questions
1. b 2. d 3. b 4. c 5. b

CHAPTER 10: MANAGEMENT OF FERTILITY AND INFERTILITY

Matching Key Terms
1. d 2. c 3. f 4. e 5. g

Key Concepts
1. The typical failure rate reflects the way real people use a contraceptive and includes mistakes or inconsistencies of use. It is most meaningful when counseling clients.
2. Menstrual irregularities, weight gain, headaches, depression, hair loss, and decreased bone density
3. Pregnancy is rare after age 50 or if menstruation has ceased for at least 2 years.
4. Sperm may be in the ductal system, distal to the ligature of the vas deferens, and able to impregnate a woman.
5. They cause thickening of the cervical mucus, which helps prevent penetration by sperm and makes the endometrial lining unfavorable for implantation. It is similar to progestin-only pill.
6. They prevent secretion of follicle-stimulating and luteinizing hormones, thus preventing ovulation; they also make the cervical mucus too thick for sperm to penetrate and the endometrium less hospitable for implantation.
7. They thicken cervical mucus to inhibit sperm penetration and make the endometrium less hospitable.
8. a. Have a back-up method readily available for side effects with discontinuance or missed doses.
b. Take at the same time of day to maintain constant blood levels, maximize effectiveness, and reduce breakthrough bleeding.
c. Stop pills and use a back-up if pregnancy is suspected; get a sensitive pregnancy test.
d. Low-estrogen oral contraceptives do not interfere with nutritional status.
e. Combination pills reduce milk production, and small amounts are transferred to milk; use after lactation is well established.
f. Interactions may alter the effectiveness of each medication; inform health care provider of all medications.
9. Pelvic examination, Pap smear, breast examination, blood pressure check. Evaluate for side effects or adverse reactions.
10. High doses of oral contraceptive within 72 hours of unprotected intercourse, with a second dose 12 hours later; high doses of progestin-only contraceptives; insertion of the copper T 380A intrauterine device within 5 days; mifepristone
11. Pelvic infections associated with the IUD are usually due to STDs. If the woman and her partner are mutually monogamous, the risk of STDs is low, thus reducing the risk of IUD-associated infection.
12. Check for the tail weekly for 4 weeks, then monthly after the menstrual period and if you have signs of expulsion (cramping or unexpected bleeding). See your health care provider if strings are longer or shorter than before. Report signs of infection or pregnancy. Return yearly for a Pap smear and check for anemia.
13. avoidance of systemic hormones, protection from sexually transmissible diseases
14. The spermicide adds a chemical barrier to the mechanical barrier of the condom and lubricates the condom to reduce tearing.
15. Avoid douching for at least 6 hours to avoid washing the protection away.
16. Natural membrane condoms do not protect from sexually transmissible diseases, including human immunodeficiency virus (HIV).
17. It is less effective (typical failure rate of 21%), and many women do not like its appearance.
18. She should have it checked yearly, after a weight gain or loss of more than 10 pounds, or after any pregnancy or abortion.
19. Any error in predicting ovulation or safe times for intercourse may result in pregnancy.
20. Complete this table as you read the text in this chapter.
21. abnormal hormone stimulation, acute or chronic illness, infections of the genital tract, anatomic abnormalities, exposure to toxins, therapeutic treatments for cancer or other illness, excessive alcohol intake, illicit drug ingestion, elevated scrotal temperature, antibodies produced by the man or the woman that alter function
22. disorders of the central or autonomic nervous system, spinal cord disorders, peripheral vascular disease, drugs
23. diabetes, neurologic disorders, surgery that affects sympathetic nerve function, drugs (therapeutic or illicit), some spinal cord injuries, anatomic abnormalities, excessive alcohol intake, psychological factors
24. obstruction, inflammation, or infection in the genital tract
25. cranial tumors, stress, obesity, anorexia, systemic disease, ovarian or endocrine abnormalities
26. cancer chemotherapy, excessive alcohol intake, cigarette smoking
27. infections, endometriosis or surgery that causes adhesions, congenital anomalies
28. polyps or cervical damage from surgical procedures, hormonal imbalances
29. abnormalities in the fetus or placenta; maternal factors
30. Refer to Table 10-4 in your textbook to complete this exercise.
31. The risk for multifetal pregnancies increases because multiple ova may be released and thus fertilized. Ovarian hyperstimulation syndrome may cause exudation of fluid into the woman’s peritoneal and pleural cavities.
32. low sperm count, genetic defect carried by the male, woman’s desire for a biological child without having a male partner
33. A personal and family health history is taken; questions are asked about social habits and personality. Other tests include a physical examination and laboratory studies, including those for genetic defects. Donor sperm is frozen and held for 6 months before use.
34. Refer to text, “Advanced Reproductive Techniques,” to complete this exercise.

Review Questions
1. b 8. d
2. d 9. b
3. a 10. b
4. c 11. d
5. b 12. a
6. a 13. c
7. c 14. b
CHAPTER 11: REPRODUCTIVE ANATOMY AND PHYSIOLOGY

Matching Key Terms
1. a  9. a
2. b  10. h
3. e  11. e
4. c  12. i
5. d  13. f
6. d  14. b
7. c  15. g
8. a

Key Concepts
1. An unknown area of the brain prevents the young child’s hypothalamus from responding to estrogen and testosterone secretion by the ovaries or testes. Without gonadotropin-releasing hormone from the hypothalamus, further estrogen or testosterone secretion ceases.

2. Puberty; 8 to 13; 9 to 17

3. Breast development, growth of the testes and penis

4. 2 to 2½

5. Boys begin puberty slightly later than girls. In addition, testosterone’s effect on closing the epiphyses of the long bones is not as strong as estrogen’s. Thus boys start puberty later (and taller) and continue growing in height longer than girls.

6. a. Longitudinal fibers
   Importance—expel the fetus at birth
   Location—fundus

   b. Interlacing fibers (Fig 11-4)
   Importance—compress blood vessels to prevent hemorrhage after birth
   Location—middle layer

   c. Circular fibers
   Importance—prevent reflux of menstrual blood from the uterus into the tubes, control entry of the embryo into the uterus for implantation, and retain the fetus until proper time for birth
   Location—contraction around fallopian tubes and internal cervical os

7. Fallopian tubes

8. Female ova are produced only during prenatal life. Male spermatozoa are produced continuously after puberty.

9. a. Estrogen and progesterone fall just before menstruation, causing increasing secretion of follicle-stimulating hormone (FSH) and luteinizing hormone (LH) by the anterior pituitary; follicles mature with increasing estrogen secretion until one follicle outgrows all others.

   b. Marked increase in LH secretion, a slight fall in follicular estrogen, and a rise in follicular progesterone secretion; final maturation and release of the most mature ovum.

   c. The corpus luteum secretes progesterone to prepare the endometrium for a fertilized ovum; corpus luteum will persist and continue to secrete progesterone if it receives a signal (human chorionic gonadotropin) from a fertilized ovum. Otherwise, progesterone secretion falls and menstruation occurs.

10. a. Cells of the basal layer of the endometrium multiply; endometrial glands form; spiral arteries and endometrial veins elongate.

   b. Endometrium continues to thicken; substances are secreted to nourish an embryo if one implants.

   c. Vasospasm occurs if the corpus luteum stops producing estrogen and progesterone, causing the endometrium to become necrotic; the necrotic layer separates from the basal layer to produce the menstrual flow.

11. Tight underwear keeps the testes near the body, possibly overheating them and preventing normal sperm formation.

Review Questions
1. b  7. c
2. d  8. d
3. b  9. d
4. b  10. a
5. d  11. b
6. a  12. c

CHAPTER 12: CONCEPTION AND PRENATAL DEVELOPMENT

Matching Key Terms
1. c  6. i
2. a  7. h
3. g  8. j
4. b  9. f
5. d 10. e

Key Concepts
1. Mitosis Meiosis

<table>
<thead>
<tr>
<th>Type of cell</th>
<th>Somatic cell</th>
<th>Gamete involved (reproductive cell)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number and type of chromosomes in each resulting cell</td>
<td>46 Chromosomes (44 autosomes and 2 sex [X and Y or 2 X])</td>
<td>23 Chromosomes (22 autosomes and an X plus either a Y [sperm] or an X [female])</td>
</tr>
</tbody>
</table>

2. See Table 12-1 in your textbook to complete this exercise.

3. The zona pellucida prevents other sperm from entering, and the ovum completes its second meiotic division.

4. Good blood supply, thick uterine lining, and muscles to limit postbirth blood loss.

5. See Table 12-3 in your textbook to complete this exercise.

6. a. 4 weeks
   b. 8 weeks
   c. 10 weeks
   d. 10 weeks
   e. 26 weeks
   f. 6 weeks
   g. 12 weeks
   h. 16 to 24 weeks
   i. 24 weeks
7. a. creamy skin covering to lubricate and protect fetal skin from amniotic fluid
   b. fine, downy hair that helps vernix adhere to the skin
   c. heat-producing fat found in back of the neck, behind sternum, and around kidneys
   d. surface-active lipid substance that helps alveoli remain slightly open between breaths to ease the work of breathing
8. Fertilization age is calculated in weeks from the actual time of conception. Gestational age is calculated from the first day of the woman’s last menstrual period. Gestational age is approximately 2 weeks longer than fertilization age.
9. a. High fetal hemoglobin and hematocrit give the fetus more oxygen-carrying capacity; fetal hemoglobin also can carry 20% to 50% more oxygen than adult hemoglobin.
   b. Fetal carbon dioxide quickly diffuses into the mother’s blood, causing her blood to become more acidic and fetal blood to become more alkaline; this allows fetal blood to combine with oxygen more readily.
10. a. provides the newborn with temporary passive immunity to diseases to which the mother is immune
    b. Maternal blood-type antibodies may cross the placenta and destroy incompatible fetal erythrocytes.
11. a. causes persistence of the corpus luteum to maintain estrogen and progesterone secretion during early pregnancy and causes fetal testes to secrete testosterone to stimulate development of normal male reproductive structures
    b. promotes normal growth and nutrition of the fetus, stimulates maternal breast development, and makes more glucose available to fetus by reducing maternal insulin sensitivity and glucose utilization
    c. causes uterine and breast enlargement, growth of the breasts’ ductal system, and enlargement of fetal external genitalia
    d. changes endometrium into decidua to nourish conceptus before placenta is established, reduces uterine contractions, and stimulates breast growth and development of the breast alveoli and ductal system
12. cushions fetus from impacts; provides stable temperature; promotes normal fetal growth and development (promotes symmetrical development, preventing membrane adherence, and allows fetal movement)
13. a. carries oxygenated blood and nutrients from the placenta to the fetus
    b. carries deoxygenated blood and waste products from the fetus to the placenta
    c. protects the cord vessels from stretching or pressure that would interrupt flow
14. a. As infant breathes, resistance to blood flow to lungs falls and the foramen ovale closes; tissue proliferation causes it to fill in the septum between the right and left atria.
    b. Rising arterial oxygen levels cause constriction; becomes a ligament.
    c. Cessation of umbilical cord blood flow with birth causes it to become nonfunctional; becomes a ligament.
15. | Monozygotic | Dizygotic |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of ova and sperm involved</td>
<td>1 Ovum and 1 sperm</td>
</tr>
<tr>
<td>Genetic component</td>
<td>Identical genes</td>
</tr>
<tr>
<td>Sex</td>
<td>Same sex</td>
</tr>
<tr>
<td>Hereditary tendency</td>
<td>No hereditary influence known</td>
</tr>
<tr>
<td>Number of amnions and chorions</td>
<td>Varies according to time when inner cell mass divides in two, but most often 2 amnions and 1 chorion</td>
</tr>
</tbody>
</table>

Review Questions
1. c 4. b
2. a 5. d
3. c

CHAPTER 13: PHYSIOLOGIC ADAPTATIONS TO PREGNANCY

Matching Key Terms
1. f 4. a
2. b 5. e
3. c 6. d

Key Concepts
1. a. 12 weeks
   b. 16 weeks
   c. 20 weeks
   d. 36 weeks
2. a. bluish color that often extends to the vagina and labia; cause is hyperemia
   b. cervical, uterine, and vaginal softening with increased vascularity and softening of the connective tissue
   c. plug caused by increased secretion of mucus from cervical glands that blocks ascent of bacteria from the vagina
   d. mixture of cervical mucus and a small amount of blood; disruption of mucous plug and small capillaries of cervix
3. a. bluish color (as in Chadwick’s sign), thickening of vaginal mucosa, prominence of rugae, heightened sexual interest
   b. greater pliability and distensibility of vagina
   c. increased acidic vaginal discharge that retards growth of bacteria but favors growth of Candida albicans (yeast)
4. Pregnancy cannot be maintained without progesterone.
5. corpus luteum; placenta
6. The high levels of estrogen and progesterone inhibit follicle-stimulating hormone (FSH) and luteinizing hormone (LH).
7. darkening of the areolae, increased nipple and areolae size, areolae become more erect, Montgomery’s tubercles become prominent
8. Changes in heart sounds begin between 12 and 20 weeks and end 2 to 4 weeks after birth. They may include splitting of the first heart sound and a systolic murmur.
9. See “Cardiovascular System” in your text to complete this chart. See also Appendix A.
10. Lying in the supine position places the heavy uterus over the aorta and inferior vena cava, which temporarily occludes these vessels. Signs and symptoms include faintness, lightheadedness, dizziness, agitation, and sometimes brief unconsciousness. This position can reduce placental blood flow. Prevention/treatment is to position woman on her side or with a pillow under one hip.
11. Increased fibrinogen levels offer protection from excess blood loss but also predispose the woman to thrombus formation.
12. Vasocongestion from estrogen’s effects causes increased vascularity and edema, leading to nasal stuffiness, nose-bleeds, and voice changes. It may also result in ear fullness or earaches.
13. The growing uterus eventually lifts the diaphragm and reduces lung expansion. Because the respiratory center becomes more sensitive to carbon dioxide, the minute volume increases and the partial pressure of carbon dioxide falls.
14. Hypotonia prolongs emptying time and allows bile to become thicker.
15. Although parathyroid hormone usually acts to increase absorption of calcium from the intestine, reduce renal losses, and mobilize bone, estrogen and calcitonin interfere with its effects on bone mobilization during pregnancy.
16. The fetus draws on maternal glucose and amino acids, which reduces the mother’s glucose levels and her ability to synthesize glucose. During the first trimester, the lower maternal blood glucose causes the pancreas to secrete less insulin. During the second trimester, hormones (human placental lactogen, prolactin, progesterone, and cortisol) reduce the maternal tissue sensitivity to insulin. Thus the mother’s blood glucose levels rise to make more available for the fetus. The woman normally responds by increasing insulin production.
17. Edema of the legs and feet is not uncommon. Edema above the waist (face and fingers) may be an indication of pregnancy-induced hypertension and should be reported.
18. Presumptive: some signs are amenorrhea, nausea, vomiting, fatigue, urinary frequency, breast and skin changes. Probable: some signs are abdominal enlargement, cervical softening, ballottement, Braxton-Hicks contractions, pregnancy test. Positive: Fetal heart sounds, fetal movements felt by examiner, visualization of fetus. The difference among the indications is that presumptive indicators are the least reliable because they are often caused by other conditions; probable indicators are stronger evidence but still may have other causes; positive indicators are those caused only by pregnancy.
19. instructions not followed, too early, urine too dilute, ectopic pregnancy
20. a. 10 weeks, b. 18 to 20 weeks
21. a. November 11, b. May 9
22. Later in the pregnancy, risk factors may appear that were not apparent at previous assessments.
23. protein, glucose, ketones
24. a. Uterine size is larger than expected for the length of gestation.
   b. Fetal movements are more numerous, which the woman who has had a previous pregnancy is more likely to notice.
   c. Greater weight gain occurs because of greater uterine growth, increased blood volume and amniotic fluid, and presence of two or more fetuses.
25. a. There is a 500-ml increase in blood volume over a singleton pregnancy.
   b. Cardiac workload is higher due to increased blood volume.
   c. Greater diaphragm elevation increases dyspnea.
   d. Greater compression of aorta and inferior vena cava causes earlier and more pronounced supine hypotension.
   e. Greater ureter compression increases edema and proteinuria.
   f. Pressure on bowels increases constipation.
27. See pp. 274–275 in your text to complete this exercise. Practice how you would actually say this teaching in real life.

Critical Thinking Exercises
1. Spasm of the endometrial spiral arteries, which supply the placenta, narrows them and reduces the blood volume that would otherwise be contained within the placenta. This increases the volume in the rest of the mother’s circulation.

Case Study
1. gravida 5, para 3, abortions; T = 2; P = 1; A = 1; L = 4
2. January 12
3. 19 weeks
4. Katherine’s fundal height at the umbilicus is expected at 20 weeks and her gestation is 19 weeks by dates. It is possible that her pregnancy is more advanced than dates would indicate, she may have hydramnios, or she could be carrying twins again.
5. The demands of her children are a probable cause for the delay in seeking prenatal care. In addition, she may feel that she knows from experience and does not feel the need for earlier prenatal care. She may feel that, because pregnancy is not an illness, it does not demand special care.
6. Hemoglobin and hematocrit (H&H) or complete blood count; blood typing and Rh factor with antibody screen; rubella titer; urinalysis (or just a screen [“dipstick”] for protein, glucose, and ketones). Other tests may be performed, based on Katherine’s ethnicity (such as for sickle cell trait), risk factors, and medical and obstetric history.

Review Questions
1. b  4. b
2. b  5. d
3. d  6. a

CHAPTER 14: PSYCHOSOCIAL ADAPTATIONS TO PREGNANCY

Matching Key Terms
1. a  4. e
2. f  5. d
3. c  6. b

Key Concepts
1. a. anxious to find confirmation of pregnancy, ambivalence, focus on self
   b. physical evidence of pregnancy, focus on fetus, narcissism, introversion, body image, sexual interest
   c. feelings of vulnerability replaced by coming to terms with the situation, fantasies or nightmares, increased dependence, desire to see the baby, dread about labor or being anxious for the pregnancy to end
2. increase in uterine size, weight gain, breast changes, fetal movements (quickening)
3. Sexual interest and activity may be heightened or reduced. The woman may be more responsive because pelvic vasocongestion heightens sensitivity and lubricates the vaginal area. Fear of miscarriage, harming the fetus, or causing discomfort may suppress sexual desire in either partner. The woman may feel less attractive, or her partner may find her less attractive at this time.
4. a. Fetus seems vague and unreal, rather than seeming like a baby to her.
   b. Perceives fetus as real and needing her protection, growing sense of fetus as a separate person.
   c. Wants to see her baby on the outside and as a separate being.
5. It makes the fetus seem much more like a separate being rather than a part of the woman’s body.
6. Grief may be caused by feelings of giving up life as a carefree woman and loss of spontaneity to go places and do things.
7. a. seeking safe passage for herself and baby
   b. securing acceptance of herself and baby
   c. learning to give of herself
   d. developing attachment to the unknown child
8. a. grappling with reality of pregnancy and a new child
   b. struggling for recognition as a parent
   c. desire to be seen as relevant to the childbearing process
   d. struggle for recognition of fetus
9. a. age—including whether they are still working and whether they believe they are “old enough” to be grandparents
   b. other grandchildren—excitement about the first, but less enthusiasm for subsequent grandchildren
   c. perception of their role as grandparents—a source of information and support, or are professionals the experts?
10. a. Make any changes in sleeping areas before the infant arrives; may feel displaced; prepare others for feelings of resentment and jealousy.
   b. May look forward to a brother or sister and how the baby is born and grows but have little perception of how small and helpless the infant will be; need assurance of parents’ love.
   c. Enjoy preparing for the baby, want information about growth and changes in the fetus; enjoy time alone with parents.
   d. May be embarrassed by their parents’ obvious sexuality, preoccupied with their own issues, and/or look forward to the infant; involve them to the extent they are comfortable.
11. a. has difficulty putting aside her own desires for the well-being of an infant; must give of herself before developmentally prepared to do so
   b. may be poor and have late prenatal care; must enlist others to provide support that a partner would provide
   c. may grieve for the exclusive relationship with first child; concern about having enough time and energy to spread around; concern about acceptance of new infant by other child or children
12. a. wearing proper clothing to ensure safe birth; extreme modesty, do not want male health care providers; may consult curanderas
   b. avoid tying knots to prevent complications with umbilical cord; will not eat berries because believe it will cause birth marks
   c. strong belief in fate so may not seek prenatal care
   d. modesty dictates female care providers; need permission from husband for any treatment
   e. rely on folk medicine that includes witchcraft, voodoo, and magic
13. a. Low-income women may not be able to pay for classes. They may enter prenatal care late, or have none, and miss opportunities even for free classes.
   b. Some want education so that they can participate fully in all decisions related to childbearing.
   c. Some want to obtain skills to help them cope with the pain and demands of birth.
14. a. dealing with discomforts common in early pregnancy, what to expect, value of prenatal care, avoiding hazards
   b. body mechanics, working during pregnancy, childbirth choices, postbirth needs of mother and infant
15. a. do warm-up exercise
   b. ensure low-impact activities
   c. avoid excessive heart rate elevation
16. indications, options, surgical procedure, postoperative course
Case Study
1. Inadequate financial resources may have been the chief reason Sara delayed prenatal care, because she has limited income of her own and may be unable to depend on her parents for money. In addition, she has no partner support and apparently feels isolated. Embarrassment and fear of her family’s response, especially because she has five siblings, may also play a part. Because she did not know what to do, she may have simply done nothing.
2. Altered health maintenance and body image disturbance are the priority nursing diagnoses this situation suggests. Other nursing diagnoses might include altered family processes and knowledge deficit, because they contribute to the priority nursing diagnoses.
3. Potential conflicts include Sara’s probable late entry into prenatal care, erratic clinic visits, and noncompliance with professionals’ recommendations.
4. Sara is more likely to be poor because she ended her education early. She is likely to have more children in her lifetime, and her children also have a greater likelihood of ending their education early and being poor. Although Sara has a higher risk for these problems, they do not have to occur.

Review Questions
1. b 5. d
2. c 6. a
3. a 7. c
4. d

CHAPTER 15: NUTRITION FOR CHILDBEARING

Matching Key Terms
1. d 7. a
2. e 8. f
3. b 9. c
4. i 10. h
5. k 11. g
6. j

Key Concepts
1. low birth weight, preterm birth, increased risk of fetal and newborn morbidity and mortality
2. macrosomia, labor abnormalities (often resulting in cesarean birth), and meconium staining of the amniotic fluid
3. a. Gain 25 to 35 pounds.
   b. Gain 28 to 40 pounds.
   c. Gain 15 to 25 pounds.
   d. Gain at least 15 pounds.
4. 3.5; 1.6; just less than 1; 0.44
5. a. 4
   b. 4
   c. 9
6. 340
7. 46; 71
8. A, D, E, and K
9. legumes, nuts, dried fruits, dark-green leafy vegetables, broccoli
10. Excessive amounts of one vitamin or mineral may reduce absorption of others; high doses of some (such as vitamin A) are toxic; a false sense of security may develop that causes the woman to eat a less healthful diet.
11. 8; 8; limit fluids low in nutrients such as carbonated drinks, coffee, tea, and high-sugar “juice” drinks
12. a. 7
   b. 5 vegetables, 4 fruits
   c. 3
   d. 7+ ounces
   e. 2 teaspoons unsaturated fat; consume the rest only sparingly
13. Yin (cold) and yang (hot) applies to foods and conditions in many cultures, influencing what the woman eats during her pregnancy. She will balance a “hot” condition such as pregnancy by eating “cold” foods, and vice versa.
14. a. sour foods, fruits, noodles, and sweets
   b. fish, excessively salty or spicy foods, alcohol, rice, and unfamiliar foods
   c. “hot” foods, such as rice with fish sauce, broth, salty meats, fish, eggs, and hot drinks
   d. may be deficient in calories, calcium, iron, zinc, magnesium, vitamins B₆ and D; high in sodium
   e. Increase in dark-green leafy vegetables increases calcium, iron, magnesium, and folic acid; tofu or broth from vinegar-soaked pork or chicken bones increases calcium and iron; increase in meat or poultry intake increases vitamin B₆ and zinc.
15. a. Pregnancy is considered “hot” and postpartum period is considered “cold,” so diet is adjusted to balance.
   b. Foods include dried beans, rice, beef, pork, chicken, corn, chili peppers, tomatoes, and tortillas.
   c. Diet is high in fiber and complex carbohydrates but also high in fat and calories (overweight is a problem); low in vitamins A and D, iron, and calcium.
16. income lower than 185% of the federal poverty level; eligible throughout pregnancy and for 6 months postpartum if formula feeding or 1 year if breastfeeding
17. vitamins C and A, folic acid, calcium, iron, and zinc
18. Focus only on necessary changes; ask for the teenager’s input; help her make changes that still keep her diet similar to that of her peers.
19. a. Combine vegetable foods that have complementary amino acids or eat small amounts of complete protein foods (such as cheese) with vegetables.
   b. calcium-fortified soy products or supplement
   c. vitamin B₁₂-fortified foods or supplement
20. Have frequent small meals; reduce fatty foods; drink liquids between meals; eat protein snack at bedtime; eat carbohydrate food before getting out of bed in the morning.
21. May begin pregnancy with a nutritional deficit if she has had several pregnancies (usually more than five), especially if they are closely spaced. Meeting nutritional and other needs of her family may take priority over her own needs.
22. She needs to eat enough to supply all the fetuses, as well as meet her own needs. Supplementation with calcium, iron, and folic acid may be needed.

23. a. Obtaining substance is more important than eating well. 
   b. Metabolic rate increases and appetite decreases. 
   c. Deficient use of protein, thiamine, folic acid, and zinc; impaired metabolism; alcohol may replace food in the diet.

24. a. Increases appetite, but women may not take in foods of good quality. 
   b. Interferes with insulin response to glucose and metabolism. 
   c. Appetite suppressant; tendency to drink more alcohol or caffeine-containing beverages. 
   d. Depresses appetite.

25. a. Pregnancy could deplete her own stores; could interfere with the recovery process and establishing a milk supply; she should not take appetite suppressants. 
   b. Adolescents may be deficient in many nutrients; they may lack iron and vitamin A. 
   c. The woman may have inadequate B12, D, or calcium. 
   d. Prolonged lactation may result in removal of calcium from bones; must have adequate intake and/or supplementation.

26. a. Occasional single glass of alcoholic beverage may not be harmful; larger amounts may reduce milk-ejection reflex and be harmful to infant. 
   b. Limit intake to the equivalent of two cups of coffee; excess can make the infant irritable and reduce the iron content of milk. 
   c. Drink 8 to 10 glasses or more according to thirst (excluding caffeinated beverages).

Case Study
1. low hemoglobin (10.5 g/dl)
2. Anemia (hemoglobin of 10 g/dl or less) is a possibility because of Carmen’s low hemoglobin at her initial visit and the close spacing of her children. Inadequate calcium intake is another because she may be lactose intolerant. Excess weight gain may occur because her current weight gain is about 8½ pounds more than would be expected at this point in her pregnancy. Refer to the text for food sources of iron and nondairy calcium.
3. In addition to discussing her likes and dislikes, the nurse should consider common low-cost foods. The nurse should also consider whether Carmen adheres to “hot” and “cold” foods during childbearing. If Carmen does not speak and read English, a fluent Spanish-speaking professional is ideal to help her understand her nutritional needs.

Review Questions
1. c 6. b 
2. b 7. a 
3. a 8. c 
4. d 9. d 
5. c

CHAPTER 16: PRENATAL DIAGNOSTIC TESTS

Matching Key Terms
1. h 5. f 
2. g 6. c 
3. d 7. b 
4. e 8. a

Key Concepts
1. a. confirm pregnancy, its location, and gestational age and determine whether it is multifetal; confirm fetal viability; adjunct to chorionic villus sampling 
   b. determine fetal viability, evaluate fetal anatomy, estimate gestational age, locate placenta, determine fetal presentation, evaluate amniotic fluid volume and fetal movement, adjunct to amniocentesis
2. transabdominal; it elevates the uterus and displaces the gas-filled intestines
3. An accurate gestational age is needed for accurate maternal serum alpha-fetoprotein (AFP) evaluation, to identify intrauterine growth restriction, or if there is a question about the expected date of delivery. It is most accurately assessed by measuring the crown-rump length at 6 weeks of gestation. During the last half of pregnancy, it is assessed by several measurements, including the biparietal diameter, femur length, and abdominal circumference. From 12 to 20 weeks, the biparietal diameter is most accurate (±7 days).
4. a. chromosomal abnormalities 
   b. open defects such as open neural tube defect
5. Triple-marker screening includes maternal serum alpha-fetoprotein, human chorionic gonadotropin, and unconjugated estriol; it increases detection of trisomies 18 and 21. Follow-up may include amniocentesis with karyotyping.
6. 10 
7. pregnancy loss, infection, limb-reduction defects, Rh sensitization
8. a. to detect fetal genetic abnormalities, to detect AFP levels, to evaluate fetal condition with Rh incompatibility 
   b. evaluate fetal lung maturity, identify fetal hemolytic disease
9. ratio of 2:1; diabetes mellitus
10. Presence of these substances in the amniotic fluid confirms fetal lung maturity.
11. 2 or more 
12. VST identifies whether fetal heart rate accelerations occur in response to sound stimulation; it shortens non-stress test (NST) or confirms a nonreactive NST.
13. fetal heart rate; uterine contractions 
14. breast self-stimulation, oxytocin infusion 
15. negative—normal (no late decelerations); positive—abnormal (late decelerations following 50% or more of the contractions); suspicious or equivocal—intermittent late or variable decelerations; equivocal-hyperstimulation—late decelerations with excessive contractions; unsatisfactory—fewer than 3 contractions within 10 minutes or a poor-quality tracing 
16. nonstress test, fetal breathing movements, gross fetal movements, fetal tone, amniotic fluid volume
17. During fetal hypoxemia, blood is shunted away from the kidneys and lungs and toward the brain, resulting in a lower amniotic fluid volume.

**Critical Thinking Exercises**

**Figure 16-9, A:**
- a. 125 to 130 bpm
- b. 10 minutes
- c. 7 total, 4 occurring with marked fetal movement (FM)
- d. none
- e. 25 to 30 bpm; duration 20 to 30 seconds
- f. Probably reactive: In this 10-minute period, there are at least two accelerations of at least 15 bpm that have a duration of at least 15 seconds.

**Figure 16-9, B:**
- a. 140 to 145 bpm
- b. 10 minutes
- c. none
- d. none
- e. no accelerations to analyze
- f. The test is incomplete because less than 20 minutes has elapsed. However, if there are still no accelerations during the next 30 minutes, the test will be nonreactive.

Note that the variability in both strips is only 5 bpm. If this low variability continues throughout the remainder of the testing period, the test illustrated in Figure 16-9, A, will be equivocal. It is also possible that these strips have caught the fetus in a sleep cycle.

**Case Studies**

1. a. Pregnancy-induced hypertension may reduce placental perfusion, and delivery of the baby is its only real cure. The amniocentesis is most likely being performed to assess fetal lung maturity. If the lungs are mature, induction of labor is likely.

   b. Care before amniocentesis: displacement of uterus with a rolled towel under the right hip; assessment of maternal blood pressure and fetal heart rates; ultrasound location of fetus, placenta, and largest pockets of amniotic fluid. Care after amniocentesis: maternal rest for 30 to 60 minutes with electronic fetal monitoring; caution to avoid strenuous activity for a day or two; teach to report uterine contractions, vaginal bleeding, leaking amniotic fluid, fever.

2. a. Diabetes is a disorder involving the blood vessels, and there is a possibility that the placental function is impaired because of this maternal condition.

   b. Findings that suggest normal placental function through the nonstress test include a normal baseline fetal heart rate (FHR) with long-term variability of at least 10 bpm and two or more FHR accelerations of at least 15 bpm for at least 15 seconds within a 20-minute time period.

   c. The test will probably be repeated at least weekly.

**Review Questions**

1. b  
2. d  
3. a  
4. c  
5. b

**CHAPTER 17: GIVING BIRTH**

**Matching Key Terms**

1. h  
2. f  
3. j  
4. b  
5. c  
6. k  
7. e  
8. i  
9. g

**Key Concepts**

1. a. Contractions must be stronger in the upper uterus than in the lower uterus to propel the fetus toward the outside.

   b. Woman cannot consciously cause labor to start or stop. Otherwise, many infants would be born early as the woman became tired of being pregnant, or labor might be suspended when it became intense.

   c. Intervals between contractions allow resumption of blood flow to placenta to supply oxygen and remove wastes for the fetus.

2. The upper uterus contracts actively to push the fetus downward, while the lower uterus is more passive to reduce resistance to fetal passage. Any other pattern would be ineffective at pushing the fetus out.

3. A full bladder increases pain and interferes with fetal descent.

4. Any maternal condition that reduces perfusion of the placenta, such as diabetes or hypertension, or fetal anemia, which reduces oxygen-carrying capacity, can reduce tolerance even for normal labor contractions.

5. In pregnancy, production of fetal lung fluid decreases and absorption into interstitium of the lungs increases. During labor, absorption of lung fluid intensifies and compression of head and thorax causes expulsion of additional fluid. After birth, the remainder is absorbed into pulmonary and lymphatic circulations.

6. uterine contractions—first stage; uterine contractions and maternal pushing—second stage

7. They allow molding to adapt the fetal head to the size and shape of the maternal pelvis.

8. a. Longitudinal (common) or transverse (rare)  
   b. Flexion (common) or extension (uncommon)  
   c. Cephalic (common), breech, or shoulder (rare, less than 0.2%)

9. Refer to Figure 17-9 to complete this exercise. Frank breech is most common.

10. a. Occiput  
    b. Chin (mentum)  
    c. Sacrum

11. They promote relaxation and the ability to work with her body’s efforts rather than working against the natural forces.

12. a. Increased fetal glucocorticoid and androgens reduce placental progesterone production (which relaxes uterus) and increase prostaglandin production (which stimulates uterus).

   b. Higher estrogen levels make the uterus more sensitive to substances that stimulate it to contract, while lower progesterone levels allow it to be stimulated more easily.
13. Braxton Hicks contractions—irregular, mild contractions intensify near term; more noticeable in parous women; lightening—descent of fetus toward pelvic inlet increases pressure on bladder but allows easier breathing; more noticeable in nulliparas; increased vaginal secretions with congestion of vaginal mucosa caused by fetal pressure; bloody show—mixture of cervical mucus and blood as the mucus plug is released; seen earlier and in greater quantity in nulliparas; energy spurt: weight loss of 1 to 3 pounds.

14. Refer to Figure 17-12 to complete this exercise.

15. After the fetal head is born, the fetal shoulders are transverse (crosswise) in the pelvis and must rotate to pass under the pubic arch.

16. Latent phase—up to 3 cm dilation; active phase—4 to 7 cm; transition phase—8 to 10 cm.

17. First stage: nullipara—8 to 10 hours (range 6 to 18 hours); parous woman—6 to 7 hours (range 2 to 10 hours). Second stage: nullipara—50 minutes; parous—20 minutes.

18. Uterus has spherical shape, uterus rises upward in abdomen, cord descends further from vagina, gush of blood.

19. Firm uterine contraction compresses bleeding vessels at the placental site to prevent hemorrhage.

20. Refer to Table 17-1 in your textbook to complete this exercise.

21. condition of the mother and fetus; to establish a therapeutic relationship.

22. Vaginal examination should not be performed if the woman is bleeding actively (not bloody show) because the examination may increase bleeding.

23. time of rupture; whether rupture was spontaneous or artificial; quantity; fetal heart rate (FHR) for at least 1 minute; color (clear, possibly with bits of vernix, is normal; green indicates fetal meconium passage; yellow suggests infection); other characteristics (cloudy appearance suggests infection); odor (foul or strong odor suggests infection)

24. to prevent supine hypotension from aortocaval compression by the heavy uterus.

25. a. Blood pressure higher than 140/90 mm Hg
   b. Temperature of 38° C (100.4° F) or higher.

26. Use soft, indirect lighting. Keep the temperature comfortable with a fan or damp, cool washcloths. Have the woman wear socks for cold feet. Keep the woman reasonably clean by changing her disposable underpad as often as needed. Offer ice chips or a wet washcloth to wet her lips. Remind her to empty her bladder at least every 2 hours. Encourage her to change positions frequently, assuming the position of comfort (except the supine position). Offer a shower, whirlpool, or other water therapy.

27. cardiopulmonary; thermoregulatory; identification bands

28. hemorrhage; discomfort

29. Full bladder interferes with the contraction of the uterus.

Critical Thinking Exercises

2. Cervical dilation is 4 cm; effacement is 75%; presentation is cephalic; membranes are ruptured; fluid is normal. The woman is beginning the active phase of first stage labor.

Case Study

1. Regular contractions that have increased in duration, intensity, and frequency suggest true labor. Irregular contractions and those that do not intensify suggest false labor. In addition, discomfort is usually felt in her back or sweeping around to her lower abdomen. Erin should be instructed to come to the birth center if she thinks her membranes may have ruptured, even if she is not having contractions.

2. Priorities are to (a) assess the fetal heart rate and the color, odor, and character of the amniotic fluid; (b) assess Erin’s vital signs; and (c) determine the nearness to birth by evaluating contractions and cervical dilation.

3. Either the nitrazine paper or the fern test, or both, may be used to evaluate whether the membranes have ruptured.

4. active phase of first stage labor

5. The FHR is normal for a term fetus, and it is reassuring that the FHR accelerates with fetal movement.

6. Except for the greenish color, the amniotic fluid is normal. The amniotic fluid is green because the fetus passed meconium before birth.

7. cephalic; right occiput posterior (ROP)

8. assuming any of several upright positions and leaning forward during contractions; hands and knees; firm sacral pressure.

9. Erin should avoid prolonged breath-holding. She can be taught to take a deep breath and exhale it, then take another deep breath and push for 4 to 6 seconds at a time while exhaling. A final breath at the end of the contraction helps her relax.

10. The exact time to position Erin for birth will depend on how fast she has labored thus far. In general, a woman having her first baby is positioned for the birth when the fetal head crowns and remains visible between contractions.

11. The 1-minute Apgar score will be 9, with 1 point deducted for the baby’s bluish hands and feet.

12. a. Suction to remove excess secretions; position on one side on a flat surface
   b. Dry the baby quickly, particularly the head; place in a prewarmed radiant warmer or in skin-to-skin contact with a parent. Use a cap on the baby’s dry head to reduce heat loss from that area when not in the radiant warmer.

13. The first 1 to 4 hours after the placenta delivers is the fourth stage of labor.

14. Firmness, height, and position of the uterine fundus; vital signs; amount of lochia. Observing and intervening for a full bladder helps prevent hemorrhage caused by the bladder’s interference with uterine contraction.

15. cold packs to the perineal area; analgesics; a warm blanket to limit the common postbirth chill.

Review Questions

1. b

2. d

3. c

4. b

5. b

6. c

7. a

8. a

9. d

10. b

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CHAPTER 18: INTRAPARTUM FETAL SURVEILLANCE

Matching Key Terms
1. e  5. g
2. c  6. f
3. b  7. a
4. d

Key Concepts
1. adequacy of maternal blood volume and flow to the placenta, normal maternal blood oxygen saturation, adequate exchange of oxygen and carbon dioxide in the placenta, open circulatory path between the placenta and fetus through umbilical cord vessels, normal fetal circulatory and oxygen-carrying functions
2. a. Sympathetic stimulation increases the heart rate and strengthens the heart contractions to increase cardiac output by releasing epinephrine and norepinephrine.
   b. Baroreceptors sense blood pressure changes in the carotid arch and major arteries to slow the heart and reduce the blood pressure, thus reducing cardiac output.
   c. Chemoreceptors in the medulla oblongata, aortic arch, and carotid bodies sense changes in oxygen, carbon dioxide, and pH to increase the heart rate.
   d. Adrenal glands secrete epinephrine and norepinephrine in response to stress and release aldosterone to cause retention of sodium and water, thus increasing the blood volume.
   e. The fetal cerebral cortex causes the fetal heart rate to increase during fetal movement and decrease during fetal sleep. The hypothalamus coordinates the branches of the autonomic nervous system. The medulla oblongata maintains balance between forces that speed and slow the fetal heart rate.
3. Refer to text, “Pathologic Influences on Fetal Oxygenation,” to complete this exercise.
4. Refer to text, “Auscultation and Palpation” and “Electronic Fetal Monitoring,” to complete this exercise.
5. The solid intrauterine pressure catheter must be zeroed at the beginning of monitoring and cannot be rezeroed later. Its pressures are also slightly higher than those of the fluid-filled catheter. The fluid-filled catheter is sensitive to height of the catheter tip in relation to the transducer.
6. a. 110 to 160 bpm
   b. rate less than 110 bpm that persists for at least 10 minutes
   c. rate greater than 160 bpm that persists for at least 10 minutes
   d. changes of the fetal heart rate (FHR) from one beat to the next
   e. broader fluctuations in the FHR over 1-minute intervals
7. narcotics or sedatives; fetal sleep; tachycardia; prematurity; decreased central nervous system oxygenation; abnormalities of the central nervous system, heart, or both
8. Variability reflects normal function of the autonomic nervous system, which helps the fetus adapt to the stress of labor.
9. Refer to text, “Periodic Patterns in the Fetal Heart Rate,” and Table 18-1 to complete this exercise.
10. fetal scalp stimulation, vibroacoustic stimulation, fetal scalp blood sampling, fetal oxygen saturation monitoring
11. 7.25; 7.35
12. a. Check blood pressure to identify hypotension or hypertension, contractions to identify uterine hyperactivity, and recent maternal medications to identify sedative effects; perform vaginal examination to identify prolapsed cord; initiate internal monitoring to provide more accuracy.
   b. Change position to displace uterus, decreasing aortocaval compression; discontinue oxytocin and/or administer tocolytics to reduce uterine activity.
   c. Administer oxygen at 8 to 10 L/min through a snug facemask.
   d. Reposition or perform amnioinfusion to reduce umbilical cord compression.
13. Add fluid to create a cushion around the umbilical cord; dilute thick meconium to reduce the effects of possible aspiration at birth.

Review Questions
1. c  5. b
2. b  6. a
3. a  7. d
4. d

CHAPTER 19: PAIN MANAGEMENT FOR CHILDBIRTH

Matching Key Terms
1. e  4. a
2. d  5. f
3. b  6. c

Key Concepts
1. Childbirth pain is a normal process; the woman has several months to prepare; labor pain has a foreseeable end; labor pain is not constant; labor pain ends with the birth.
2. Excessive pain can result in fear and anxiety, which stimulate the sympathetic nervous system to release substances that simultaneously cause vasoconstriction and pooling of maternal blood in her vascular system, plus a higher uterine muscle tone with reduction of effective contractions. The net effect is that blood flow to and from the placenta falls and labor contractions are less effective, thus prolonging labor.
3. The fetal occiput is pushed against the woman’s sacral promontory with each contraction, causing intense back pain. In addition, the fetus must usually rotate into the occiput anterior position to be born, so labor is often longer.
4. relaxation, cutaneous stimulation, mental stimulation, breathing
5. Direct—fetal heart rate (FHR) has a decreased variability. Indirect—maternal hypotension will decrease fetal blood flow.
6. The test dose is given to identify inadvertent subarachnoid or intravascular injection of the drug. Evidence of these
problems includes rapid and intense motor and sensory block (subarachnoid injection) or numbness of the tongue and lips, lightheadedness, dizziness, and tinnitus (intravascular injection).

7. a. Inadvertent dural puncture may allow spinal fluid to leak, causing intense headache that is worse when sitting or standing. A blood patch may give prompt relief. Lying flat and adding hydration helps rebuild the spinal fluid.
b. Prehydration with warmed intravenous solution (500 to 1000 ml or more) and avoiding aortocaval compression reduce hypotensive effects.
c. Regularly assess the bladder and have the woman void at least every 2 hours.
d. Coach the woman to push with contractions if she cannot feel them. Forceps or vacuum extraction may be necessary.

8. The subarachnoid block punctures the dura and arachnoid membranes, entering the space that contains cerebrospinal fluid, which confirms the correct location for injection of the anesthetic drug for this block.

9. Consult your text, “Pharmacologic Pain Management,” to complete this exercise.

10. Bed rest with oral or intravenous hydration; blood patch

11. These drugs have combined opioid agonist-antagonist effects and should not be given to a woman who has had a recent dose of a pure opioid agonist (may reverse effectiveness of first drug) or to a woman who is addicted to opiates such as heroin (may precipitate acute withdrawal).

Case Study

1. The nurse must be careful to avoid assumptions such as that the pregnancy was unplanned, that Alice did not have prenatal care, and that she and her husband cannot learn nonpharmacologic pain management methods. You can probably think of other assumptions that nurses should avoid.

2. Initial interventions are to tell Alice and her husband kindly that her labor pattern is normal right now and show them data that indicate that mother and fetus are doing well. The nurse should speak calmly and in a soothing voice, conveying to Alice and her husband that they can have confidence in their caregivers and that Alice is capable of giving birth.

3. The nurse should teach Alice simple breathing and relaxation techniques between contractions. Say something like, “I’m going to teach you how to breathe so that you can cope with labor better” in a positive manner that conveys the expectation that the techniques will work, rather than doing the teaching in a tentative manner. Give liberal positive feedback when Alice uses the techniques taught and give her husband positive feedback for his coaching.

4. It would be better for Alice to delay taking medication until labor is in the active phase. Administration of analgesics too early can slow labor progress. However, this fact must be balanced against the adverse effects of excessive pain and anxiety.

5. At this point, Alice could probably receive either an opioid analgesic or an epidural block.

6. The nurse must prehydrate Alice with 500 to 1000 ml of warmed intravenous solution, check her blood pressure frequently to detect hypotension, and observe the FHR for signs of reduced placental perfusion that can occur with maternal hypotension. The nurse must also observe for bladder distention related to loss of sensation and high volumes of intravenous fluids. Alice may need coaching to push during the second stage if she cannot feel the urge. In addition, the nurse must be alert for signs of catheter migration.

7. The nurse must continue to observe for bladder distention, which can result in poor uterine contraction and postpartum hemorrhage. Return of sensation must be documented. The nurse must assist Alice to the bathroom at first in case she still has reduced sensation or hypotension that could result in a fall.

Review Questions

1. b 5. b
2. d 6. d
3. c 7. c
4. a

CHAPTER 20: NURSING CARE DURING OBSTETRIC PROCEDURES

Matching Key Terms

1. a 3. d
2. c 4. b

Key Concepts

1. Prolapse of the umbilical cord, infection, and placental abruption
2. Obtain baseline fetal heart rate (FHR) before and compare FHR after procedure; assess temperature every 2 hours; keep woman clean and dry.
3. Have the woman lie flat for 15 to 20 minutes to reduce gel leakage. Observe the FHR for changes that may occur with uterine contractions. Assess for excessive contractions that can reduce fetal oxygen supply (see Chapters 17 and 18).
4. Assess the FHR every 15 minutes during first-stage labor and every 5 minutes during second-stage labor. Problems include tachycardia (>150 to 160 bpm), bradycardia (<110 to 120 bpm), late decelerations, and reduced FHR variability. Assess uterine activity for contractions that are too frequent or too long or a uterus that does not relax for at least 60 seconds between contractions. Blood pressure and pulse identify changes from the baseline; temperature assessment identifies infection that may occur with ruptured membranes. Intake and output, assessment for headache, blurred vision, behavioral changes, increased blood pressure and respirations, decreased pulse, rales, wheezing, and coughing identify possible water intoxication. Postpartum hemorrhage may occur if an overstimulated uterus cannot contract effectively.
5. In addition to identifying the true cause of the nonmeasuring assessments, interventions may include stopping the oxytocin infusion, increasing the rate of the nonadditive infusion, positioning to avoid aortocaval compression, and giving oxygen by facemask. Internal monitoring
may be initiated if not already in place. The physician may also order a tocolytic drug if uterine hyperactivity is the problem.

6. a. A nonstress test evaluates placental function and apparent fetal health to avoid stressing a fetus that may already be compromised.
   b. Ultrasound guides the version and helps monitor the fetal heart rate. It will also confirm fetal age and presentation and adequacy of amniotic fluid.
   c. A tocolytic drug relaxes the uterus to make the version easier to perform.
   d. Administering Rh immune globulin destroys fetal Rh-positive red blood cells (RBCs) that might stimulate anti-Rh antibodies in the Rh-negative woman. These may enter the mother’s bloodstream because of tiny placental disruptions during the version.
   e. FHR monitoring evaluates how the fetus is tolerating the version and when the fetal condition returns to baseline afterward.
   f. Uterine activity monitoring identifies persistent contractions that may herald the onset of labor.

7. Add a catheter to the delivery table to empty the mother’s bladder, making more room for the instrument-assisted birth. Postpartum, observe for trauma, usually lacerations (bright red bleeding with a firm fundus) or hematoma (pain, edema, discoloration). Cold packs to the perineal area limit bruising and edema. Observe for reddening, mild bruising, or small lacerations where forceps were applied. A chignon is typical if a vacuum extractor is used. Explain that these minor problems usually resolve quickly. Facial asymmetry, usually seen when crying, suggests nerve damage that resolves more slowly.

8. Upright position with pushing, delay pushing until the urge is felt, use of open-glottis technique with pushing; daily perineal massage during the last 3 weeks of pregnancy.

9. The infant may be born preterm if a cesarean birth is scheduled. Absorption of lung fluid may be delayed, resulting in transient tachypnea. Injury can occur, such as laceration or bruising.

10. a. To reduce gastric secretions
    b. Wedge under hip avoids aortocaval compression by the heavy uterus.
    c. These tests identify reserve to tolerate blood loss, risk for poor blood clotting to control hemorrhage, blood type for possible transfusion, and prepare blood to be immediately ready if the need for transfusion arises.
    d. Reduces risk for postpartum infection
    e. Keeps bladder out of the way of uterine incision

3. Set up as a secondary infusion, regulated by a pump, start and increase the rate slowly, and add to the primary infusion line at the lowest possible port. This technique ensures that the oxytocin can be quickly stopped if the need arises. The pump controls the infusion precisely. See also Drug Guide 16-1. Observe the FHR and uterine activity for nonreassuring signs or uterine hyperstimulation.

4. Before the amniotomy, obtain baseline information about the fetal heart rate. Place absorbent underpads under Linda’s hips. After the amniotomy, assess the fetal heart rate for at least 1 minute and report nonreassuring signs or significant changes from baseline; observe and chart the quantity, color, clarity, and odor of the amniotic fluid.

5. No change in the oxytocin is needed at this time, although amniotomy may increase contractions enough to allow a dosage reduction.

6. The oxytocin infusion should be stopped because some contractions have only a 30-second resting interval. This could exhaust the fetal oxygen reserve and lead to distress. In addition, labor is now well established and dilation is progressing, so stimulation does not appear to be warranted.

7. Actual care depends on how quickly the surgery must take place. Provide emotional support to reduce anxiety. Keep the partners together as much as possible. Provide preoperative teaching, abbreviated as necessary for the actual situation. Perform preoperative procedures such as indwelling catheter and abdominal shave. Explain who will be present at birth and their responsibilities. Explain recovery room care. Pad bony prominences. Secure legs with a safety strap. Tilt the table or place a wedge under one hip to avoid aortocaval compression. Apply the grounding pad and other monitors. Clean the incision line and apply a sterile dressing.

8. Take vital signs every 15 minutes for 1 to 2 hours. Observe uterus for firmness and position, lochia, urine output, intravenous infusion, abdominal dressing, and pain relief needs. Observe for return of motion and sensation (for regional block anesthesia) or level of consciousness (for general anesthesia or if sedative drugs were given).

### Review Questions

1. b  6. a
2. d  7. c
3. a  8. b
4. c  9. c
5. d  10. d

### Matching Key Terms

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### Answer Key

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Key Concepts

1. a. Stretched uterine muscle fibers contract and gradually regain their former size and contour.
b. Number of uterine muscle cells remains the same, but each cell decreases in size through catabolism.
c. Outer area of endometrium (decidua) is expelled with the placenta. Remaining decidua separates into two layers: the superficial layer is shed in lochia and the basal layer regenerates new endothelium.

2. Lochia rubra contains blood, mucus, and bits of decidua; is red in color; and has a duration of approximately 3 days. Lochia serosa contains serous exudate, erythrocytes, leukocytes, and cervical mucus; it is a pinkish color; and its duration is from the 4th to the 10th day. Lochia alba contains leukocytes, decidual cells, epithelial cells, fat, cervical mucus, and bacteria; it is white or colorless; its duration varies from 11th day until the 3rd to 6th week.

3. Blood volume and cardiac output increase as blood from the uteroplacental unit returns to the central circulation and as excess extracellular fluid enters the vascular compartment for excretion. Because stroke volume increases, pulse decreases.

4. Pregnant and postpartum women have higher fibrinogen levels, which increase the ability to form clots. Factors that lyse clots are decreased, however. Some women have another risk in addition to this baseline risk: those who have varicose veins, a history of thrombophlebitis, or a cesarean birth.

5. Leukocytes can increase up to 30,000/mm³. See textbook website to answer the second question.

6. A full bladder interferes with the ability of the uterus to contract firmly and occlude open vessels at the placental site. This allows them to bleed freely.

7. a. and
b. Estrogen and progesterone prepare the breasts for lactation.
c. Prolactin initiates milk production in the alveoli.
d. Oxytocin causes milk ejection from the alveoli into the lactiferous ducts.

8. Rho(D)—mother is Rh-, newborn is Rh⁺; rubella vaccine—if her prenatal rubella antibody screening showed nonimmune

9. Refer to Procedure 21-1 to complete this exercise.

10. Refer to text, “Focused Assessments After Vaginal Birth,” to complete this exercise.

11. The answer to this exercise should be in your own words and should fit the women you care for in your clinical setting.

12. a. Observe respiratory rate and depth (every 30 minutes to 1 hour if epidural narcotics were used); monitor apnea for epidural narcotic administration; auscultate breath sounds for retained secretions; assist the mother to turn, cough, and deep-breathe; use incentive spirometer.
b. Assess for return of peristalsis by auscultating bowel sounds; observe for abdominal distention; observe surgical dressing for intactness and drainage; observe incision line after dressing removal for signs of infection (REEDA); palpate fundus gently.
c. Monitor IV for rate of flow and site condition; observe urine for amount, color, and clarity.

13. Increase activity progressively, drink adequate fluids (at least 8 glasses of water daily), and add dietary fiber (found in fruits and vegetables, whole grain cereals, bread, and pasta) to prevent constipation. Prunes are a natural laxative.

14. fever; localized area of redness, swelling, or pain in the breasts that is unrelieved by support or analgesics; persistent abdominal tenderness or feelings of pelvic fullness or pelvic pressure; persistent perineal pain; frequency, urgency, or burning when urinating; change in lochia character (increased amount, return to red color, passage of clots, or foul odor); localized tenderness, redness, or warmth of the legs

15. Bonding describes the initial, rapid attraction felt by parents toward their newborn infant. It is a one-way process, from parent to infant. Attachment describes a longer-term, two-way process that binds parent and infant. Attachment is facilitated by positive feedback from the infant and by mutually satisfying experiences.

16. Maternal touch progression is from fingertip-palming to touch to enfolding the infant and bringing him or her close to the body.

17. The mother progresses from calling the infant “it” to referring to the infant as “he” or “she” to using the infant’s given name.


19. “Postpartum blues” describes a mild, transient depression that affects more than 70% of American women. It has an onset within the first week after birth and is characterized by fatigue, weeping, mood instability, and anxiety. The mother may not be able to define why she is upset. The primary nursing care is to give the woman empathy and support and let her know that the condition is usually self-limiting.

20. The nurse should involve the father in infant care teaching and decisions. Fathers may not know what to expect from newborns and benefit from information about growth and development. A review of any prenatal teaching is helpful as well.

21. The nurse should help the parent or parents acknowledge their feelings and deal with them to facilitate their attachment with the child.

22. The nurse should help parents interact with each twin individually rather than interacting with them as a “package.” It is essential to point out essential qualities and characteristics of each infant individually.

23. Avoidance cues include looking away, splaying the fingers, arching the back, and fussiness. These are clues that the infant needs some quiet time.

Case Study

1. Nita’s fundus is not well contracted, probably because of a full bladder because it is positioned to the right of the umbilicus. Her multifetal birth and multiparity increase the risk for postpartum hemorrhage.

2. Massage the uterus to cause it to contract firmly and control bleeding. The next intervention should be to assist Nita to empty her bladder or catheterize her if she is unable to void. Otherwise, the uterus will relax again.
3. You should immediately teach Nita how to assess her uterus for firmness and the relationship between a full bladder, her multiparity, and her multifetal birth to uterine contraction.

4. No interventions are needed. Bradycardia and a slight elevation in temperature are common at this time.

5. The best nursing response is to reassure Nita that the afterpains are typically short-term and that analgesics can ease them. Also teach her that a full bladder will worsen afterpains.

6. Two factors increase afterpains in Nita’s case: multiparity and uterine overdistention with two fetuses.

7. Analgesics taken at least 30 minutes before the expected time of breastfeeding can decrease afterpains. Lying in a prone position with a small pillow or folded blanket under the abdomen often helps.

8. Teach Nita to gradually increase her ambulation, drink additional fluids (at least 8 glasses of water daily), and increase dietary fiber. Prunes are a natural laxative, and she can consult her birth attendant for recommended laxatives if natural remedies do not work.

9. RhoGAM is given to the Rh-negative mother if her infant is Rh positive and if she has not previously built up anti-Rh antibodies. Rubella vaccine is given to the nonimmune postpartum woman because it is highly unlikely that she will get pregnant soon.

10. Nita should be cautioned to avoid another pregnancy for at least 3 months.

11. Nita’s fundus is slightly higher than usual, but this is explained by her multiparity and delivery of twins.

12. Lochia flow should be rubra (possibly changing to serosa), scant, and free of foul odor or clots.

13. Slight reddening is typical of normal healing at this early stage. Close approximation of the edges and lack of drainage confirm that healing seems to be taking place normally. Proper perineal cleansing and pad application should be reinforced. The nurse should also review signs and symptoms of infection to report.

Review Questions

1. a    8. a
2. b    9. c
3. c    10. d
4. d    11. a
5. a    12. d
6. b    13. a
7. d    14. c

Key Concepts

1. a. Decreased blood oxygen level and blood pH and an increased blood carbon dioxide level stimulate the respiratory center in the medulla. Occlusion of the umbilical cord vessels may end the flow of a placental substance that inhibits respirations.

   b. The sudden change in environmental temperature at birth stimulates skin sensors, which then stimulate the brain’s respiratory center.

   c. Fetal chest compression during vaginal birth forces additional lung fluid from the chest. Added stimuli to breathe include suctioning, drying, holding, sounds, and light.

2. Residual air in the lungs allows the alveoli to remain partly expanded after exhalation. This reduces the work necessary to expand the alveoli with subsequent breaths.

3. a. 4 e. 1
   b. 2 f. 3
   c. 8 g. 7
   d. 6 h. 5

4. thin skin; blood vessels near the surface; little insulating subcutaneous fat; heat readily transferred from internal organs to skin; greater ratio of surface area to body mass

5. Evaporation occurs when wet surfaces are exposed to air and dry conditions. Conduction occurs when the infant is exposed to direct contact with a cool surface. Convection refers to heat loss by air currents near the infant. Radiation refers to heat loss when the infant is near a cold surface. All methods except evaporation can also be a source of heat gain, such as contact with warm blankets, warmed air currents near infant, or warm incubator walls.

6. Brown fat is metabolized to generate heat, which is transferred to the blood vessels running through it and then circulated to the rest of the body. Infants who may have inadequate brown fat include preterm infants, those with...
1. Newborns have more erythrocytes for their size, and glucose lower than 40 mg/dl.

7. Heat production requires oxygen for metabolism, which can exceed the infant's capacity to supply the oxygen. Glucose use is accelerated when the metabolic rate rises to produce heat, possibly depleting these stores and resulting in hypoglycemia. Metabolism of glucose and brown fat without adequate oxygen causes increased production of acids. These acids interfere with transport of bilirubin to the liver, where it can be conjugated and excreted, thus causing jaundice.

8. Values for all three are higher in the newborn than in the older infant or adult. The fetus needs these higher levels to supply adequate oxygen to the tissues. Fetal hemoglobin (hemoglobin F) carries more oxygen than adult hemoglobin.

9. Vitamin K is produced in the intestines by the normal intestinal flora. Newborns cannot produce this flora until a few days after starting to eat. Vitamin K is necessary to activate the clotting factors.

10. Refer to the text, “Stools,” to complete this exercise.

11. glucose lower than 40 mg/dl

12. Preterm or small-for-gestational-age infants are at risk because adequate glycogen and possibly fat may not have accumulated. Postterm infants may have used up their stores of glycogen before birth as a result of deteriorating placenta function. Large-for-gestational-age infants may produce excessive insulin that quickly consumes their glucose; this is particularly true if the mother is diabetic. In addition, stress or hypothermia may consume all available glucose.

13. a. Newborns have more erythrocytes for their size, and these break down faster than adult erythrocytes, producing a greater quantity of bilirubin to be excreted.

b. The liver is immature and does not immediately produce enough glucuronyl transferase to conjugate bilirubin as quickly as it is produced.

c. Lack of normal intestinal flora prevents reduction of conjugated bilirubin to urobilinogen for excretion. Large amounts of beta-glucuronidase in the intestines convert conjugated bilirubin back into the unconjugated form.

d. Feeding helps establish normal intestinal flora.

e. Birth trauma may cause added hemolysis of erythrocytes, adding to the bilirubin load.

f. Metabolism of brown fat for heat production and asphyxia, which results in anaerobic metabolism, both produce fatty acids. The fatty acids bind more readily to albumin than to bilirubin, resulting in more unconjugated and unbound bilirubin in the circulation. Prevention of cold stress and asphyxia and the time of first feeding may be altered by nursing interventions.

14. Pathologic jaundice has any of these characteristics: appears before 24 hours of age; direct bilirubin level higher than 2 mg/dl; rate of bilirubin increase greater than 5 mg/dl/day; bilirubin level higher than 12 mg/dl in a term infant or 10 to 14 mg/dl in a preterm infant; jaundice that persists after the second week of life.

15. a. Inadequate intake of colostrum causes retention of meconium, which is high in bilirubin. High levels of beta-glucuronidase in the intestine deconjugate bilirubin in the meconium, adding to the load on the liver. Poor intake reduces the milk supply, worsening the problem. Nursing measures and teaching to stimulate the infant to nurse better and thus increase milk production are appropriate treatment.

b. True breast milk jaundice is characterized by rising bilirubin levels after the first 3 to 5 days of life; levels peak at 5 to 10 mg/dl 2 weeks after birth, and it takes several months to reach normal levels. Treatment may include phototherapy, temporarily discontinuing breastfeeding for 24 to 48 hours, or both.

16. The proportion of extracellular water in newborns is double that of adults.

17. a. A newborn’s kidneys are not well equipped to handle a large load of fluid, possibly resulting in fluid overload.

b. Newborns have half the adult’s ability to concentrate urine, and thus cannot conserve fluid efficiently.

18. Leukocytes respond slowly to the site of infection and are inefficient in destroying invading organisms. The usual inflammatory response and fever are often not present because of the immature hypothalamus.

19. a. IgG is received from the mother to provide passive antibodies to viruses and bacteria to which the mother has immunity. It also protects against bacterial toxins. The infant increases production of his or her own IgG beginning at 3 to 4 weeks of age.

b. IgM is produced by the infant to protect against gram-negative bacteria.

c. IgA is produced by the infant and is received in colostrum and breast milk to protect against infections of the respiratory and gastrointestinal systems.

20. Newborns during the first period of reactivity are wide awake and active. Respirations may be as high as 80 breaths/min, and the heart rate may be as high as 180 bpm. Respiratory assessments show nasal flaring, crackles, retractions, and increased mucous secretions. This is an ideal time to facilitate parent-infant acquaintance because both are highly interested in each other. After the first sleep period following the first period of reactivity, infants are alert, interested in feeding, and often pass meconium. The pulse and respiratory rates may increase, and some infants may have cyanosis or periods of apnea. Mucus secretions increase. The nurse must be alert for respiratory complications during this stage.

21. Refer to text, “Behavioral States,” to complete this exercise.

22. respiratory problems; obvious anomalies

23. Caput: cause—pressure; features—crosses suture line; teaching—disappears within 12 hours to several days. Cephalhematoma: cause—pressure; features—does not cross suture line; teaching—may take weeks to months to resolve, may be higher risk for jaundice.

24. a. associated with other anomalies; assess infant carefully

b. single palmar crease that often occurs in infants who have chromosomal abnormalities such as Down syndrome.
c. may indicate spina bifida occulta or failure of the vertebra to close fully
d. associated with chromosomal disorders
e. indicates facial nerve injury with paralysis during birth

25. Refer to Table 22-1 to complete this exercise.
26. Refer to Procedure 22-1 and Table 22-1 to complete this exercise.
27. tachypnea (sustained); retractions that continue after the first hour; nasal flaring after the first hour; cyanosis involving the lips, tongue, and trunk (central cyanosis); grunting; seesaw respirations; asymmetry of chest expansion
28. jitteriness, poor muscle tone, sweating, respiratory signs (dyspnea, apnea, cyanosis), hypothermia, high-pitched cry, lethargy, seizures, eventually coma; some show no signs of hypoglycemia
29. Female: labia majora darker than surrounding skin and completely cover the clitoris and labia minora; white mucous discharge or pseudomenstruation; hymenal or vaginal tags; patent urinary meatus and vagina. Male: pendulous scrotum that is darker than surrounding skin and covered with rugae; testes palpable in the scrotal sac; meatus centered at the tip of the glans penis; prepuce covering the glans and adherent to it.
30. a. Suggests polycythemia; may contribute to higher bilirubin levels as the excessive erythrocytes break down, so observe for more severe jaundice and emphasize to parents
b. Indicates meconium passage in utero; observe infant for associated respiratory difficulties
c. Erythema toxicum; differentiate from infection; teach parents that rash is self-limiting
d. Mongolian spots; more common in dark-skinned infants; most disappear during early childhood; teach parents who are unfamiliar with these
e. Nevus flammeus (port-wine stain); large or obvious ones can later be removed by laser surgery
f. Café-au-lait spots; more than 6 spots or spots larger than 1.5 cm are associated with neurofibromatosis and should be reported to the physician
31. Bruises on the face or upper body are often present when the infant had a nuchal cord at birth.

Case Studies
1. Total maturity score is 43.
2. The infant’s maturity rating is between 40 and 42 weeks (approximately 41 weeks).
3. Weight is 3005 g; length is 48 cm; head circumference is 33 cm. The infant is appropriate for gestational age (AGA) in all measurements.
4. All measurements fall near the 25th percentile, which means that 75% of infants of this gestational age are larger, and 24% are smaller. The nurse would not anticipate the need for additional care or expanded assessments or care on the basis of the gestational age assessment alone.

Review Questions
1. b 12. c
2. d 13. d
3. a 14. a
4. b 15. d
5. d 16. a
6. a 17. d
7. c 18. b
8. d 19. b
9. b 20. a
10. d 21. d
11. c

CHAPTER 23: THE NORMAL NEWBORN: NURSING CARE

Key Concepts
1. Suction the mouth first and then the nose (if needed). The infant might gasp when the nose is suctioned, drawing any secretions that are in the mouth into the airway.
2. The head is approximately one fourth of the newborn’s total body surface area and is thus a large surface for heat loss. Damp hair presents a continuing source for evaporative heat loss.
3. If the infant’s temperature has dropped significantly, the nurse may wish to confirm it with a rectal temperature. Look for and correct sources of heat loss, such as wet clothing or exposed skin. Wrap the flexed infant snugly in warm blankets. A radiant warmer, regulated by a skin probe, may be needed for very low temperatures. Teach parents about maintaining the infant’s temperature, particularly if their actions have contributed to the low temperature.
4. a. Conduction
   b. Conduction
   c. Radiation
5. Base your answer on the following: when blood glucose levels decrease, permanent brain damage may occur. Feeding the infant will help maintain appropriate glucose levels. Repeating the glucose level screenings will confirm that appropriate blood levels are being maintained in order to prevent brain damage.
6. When the temperature is stable.
7. for bleeding and urination
8. Notify physician if there is no urinary output within 6 to 8 hours, bleeding more than a few drops with first diaper changes, or displacement of the Plastibell. Apply pressure if any bleeding occurs. Report signs of infection, such as redness, edema, tenderness, and discharge (a yellow exudate that dries is normal). Apply petrolatum gauze to the site of a Gomco circumcision.
9. Signs of infection include redness at the cord base, exudate or failure to dry, and odor. Keep the cord area dry by keeping the diaper low.
10. Identification is accomplished by matching the imprinted numbers on the adult’s wristband with the infant’s identification band. The numbers should be matched every time
CHAPTER 24: NEWBORN FEEDING

Matching Key Terms
1. c  3. b
2. d  4. a

Key Concepts
1. 8 lb × 45–50 kcal/day = 360–400 calories per day; 20 kcal/oz = 18–20 oz per day; 18–20 oz × 30 ml = 540–600 ml of fluid per day
2. Colostrum, which is produced during the first week, is a thick, yellow substance rich in immunoglobulins, especially IgA. It has laxative effects and is high in protein, fat-soluble vitamins, and minerals. It is lower in calories, fat, and lactose. Transitional milk begins 7 to 10 days after lactation begins; immunoglobulins and proteins decrease; lactose, fat, and calories increase. Mature milk begins 2 weeks after onset of lactation; it has a bluish color and provides 20 calories per ounce.
3. Refer to text, “Breast Milk and Formula Composition,” to complete this exercise.
4. Prolactin stimulates the breasts to produce milk. It is enhanced by suckling and removal of milk from the breasts, and it is inhibited by estrogen, progesterone, and placental lactogen during pregnancy and by inadequate removal of milk after nursing begins. Oxytocin stimulates the milk-ejection reflex. It is enhanced by comfort, thinking about

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Case Study
1. A good initial action would be to help Margaret calm her fussy baby so that the infant will be more likely to nurse. This action accomplishes two goals: (1) it helps Margaret learn the skill of comforting her infant, and (2) it increases
the likelihood that the infant will nurse well when positioned well at the breast.

2. After the infant is calmer, suggest positions that Margaret might use to begin nursing. Support her arm in the chosen position with pillows or blankets. Explain the basics of helping her infant latch on to the breast: stimulating the infant’s mouth until it opens wide, then drawing the infant close; inserting the nipple and areola well back into the mouth; checking to see that the lips are flared on the breast tissue. Describe and have Margaret observe for typical patterns that indicate nutritive suckling; smooth rhythmic suckling, interrupted by swallowing with a soft “ka” or “ah” sound.

3. Teach Margaret that the milk-ejection reflex may take as long as 5 minutes to occur and that nursing periods that are too short will provide only the foremilk, which has a lower fat content, is less satisfying, and does not promote the infant’s growth. If the infant receives only the foremilk regularly, she will want to nurse often and will be less satisfied. Engorgement is also more likely. Teach her to break the suction before removing the infant from the breast. Positioning the infant to avoid pulling on the nipple and making sure that the areola is well into the infant’s mouth will help reduce nipple soreness, although it will not totally prevent it.

4. Infants usually feed every 2 to 3 hours and should not sleep longer than 5 hours without nursing. Teach the mother to plan on nursing 8 to 12 times in each 24-hour period. Duration is generally about 10 to 15 minutes on each breast. The infant should nurse on the first breast until nonnutritive suckling begins; then the mother should change to the other breast. Switching back and forth between breasts several times during feedings reduces the amount of hindmilk secreted.

5. Wear a well-fitting bra day and night. Avoid creams, ointments, or soaps on the breasts. Clean with plain water. Express colostrum and rub it into the breasts. Wear absorbent pads in the bra if breasts are leaking, but do not allow the wet pad to have prolonged contact with the breast. Leave bra flaps down after nursing. See also Nursing Care Plan 24-3 and “Mothers Want to Know: Solutions to Common Breastfeeding Problems” in your textbook.


Review Questions

1. b 4. a
2. a 5. c
3. d 6. b

CHAPTER 25: THE CHILDBEARING FAMILY WITH SPECIAL NEEDS

Matching Key Terms

1. e 4. f
2. a 5. d
3. c 6. b

Key Concepts

1. a. Development of independence from parents is interrupted. The teenage girl usually becomes more dependent on them, rather than becoming more independent of her family home.
b. Education is often interrupted and may never be completed. Overall educational level is lower.
c. Reliance on welfare system is more likely because of incomplete education and limited job skills.

2. pregnancy-induced hypertension, anemia and nutritional deficiencies, urinary tract infections (UTIs), depression, and high incidence of sexually transmissible diseases

3. a. There is a higher incidence of chromosome abnormalities such as Down syndrome.
b. Older women are more likely to have underlying chronic medical conditions that complicate pregnancy, such as diabetes or hypertension.
c. There is a higher incidence of multifetal gestation, preterm labor, dysfunctional labor, vaginal bleeding, preeclampsia, gestational diabetes, and cesarean birth. Infants are more likely to be small for gestational age.

4. a. She may have less energy to cope with the demands of an infant plus the day-to-day activities of living.
b. She may have less peer support because most other women her age have teenagers or young adults.

5. Most substances ingested by the mother cross the placenta and enter the fetal circulation. The fetus cannot metabolize the substance as quickly, so the substance lingers for a prolonged time in the fetal body.

6. Refer to textbook, Table 25-1, to complete this exercise.

7. Cocaine directly stimulates uterine contractions. Preterm labor contractions are rarely abrupt and intense at their onset. The fetus or neonate may have problems related to the maternal cocaine, such as abruptio placentae, premature rupture of the membranes, precipitous birth, stillbirth, tachycardia, irritability, muscular rigidity, hypertension, and an exaggerated startle reflex.

8. Withdrawal of heroin can be fatal for the fetus. The mother can be put on methadone during the pregnancy, but the neonate will need to withdraw from that medication after birth.

9. a. late prenatal care, failing to keep appointments, and not following recommendations
b. poor grooming, inadequate weight gain, weight gain pattern that does not conform to that expected for the gestational age
c. spontaneous abortions, premature births, abruptio placentae, stillbirths
d. anger or apathy toward pregnancy, particularly if these are evident at a time when the normal ambivalence of early pregnancy should be resolved

10. a. profuse sweating, hypertension, irregular respirations, lethargic response to labor, lack of interest in interventions, dilated pupils, increased body temperature, sudden onset of severely painful contractions, emotional lability and paranoia, fetal tachycardia, and fetal hyperactivity
b. withdrawal symptoms such as yawning, diaphoresis, rhinorrhea, restlessness, and excessive tearing

11. Facial abnormalities cause parental concerns about how others will accept their child because the defect is obvious. Genital defects cause ambiguity and anxiety about the child’s identity—is the baby a boy or a girl? How should the baby be dressed?

12. Parents must grieve for the expected normal child before they can detach from this fantasy and move on to accepting the child they have.

13. The father, as well as the mother, must be assisted to deal with the shock and sadness, rather than all attention being focused on the mother’s grief. Only when the father deals with his emotions can he support his partner and explain the loss to the couple’s family and friends.

14. Woman: multiple injury sites; late entry into prenatal care; increased risk for low maternal weight gain and anemia; more substance abuse. Fetus: prematurity, low birth weight, and neonatal death.

15. Tension-building: when threats and angry behaviors escalate; increased use of alcohol and drugs; the woman tries to avoid or placate her abuser.

Battering: with hitting, burning, beating, or raping the woman. The woman often simply endures the abuse.

Honeymoon phase: when the abuser is overly solicitous and tries to make up with his partner. He often insists on having intercourse to prove that she forgives him. The woman wants to believe that he will never abuse her again.

Review Questions
1. c  4. c
2. d  5. a
3. b

CHAPTER 26: THE PREGNANT WOMAN WITH COMPLICATIONS

Matching Key Terms
1. e  5. b
2. d  6. g
3. c  7. a
4. f

Key Concepts
1. termination of a pregnancy without action taken by the woman or any other person
2. Refer to text, “Spontaneous Abortion,” to complete this exercise.
3. fibrinogen and platelets—decreased; prothrombin, partial thromboplastin time—prolonged; fibrin degradation products—increased
4. The nurse can explain that most spontaneous abortions occur because of factors or abnormalities that could not be avoided. Also, allow the client the opportunity to express her feelings.

5. Abrupt onset of shoulder pain may occur with a ruptured ectopic pregnancy because blood accumulated in the abdomen irritates the diaphragm.

6. Explain the side effects, such as nausea and vomiting. Teach the woman to refrain from drinking alcohol, ingesting vitamins containing folic acid, or having sexual intercourse until human chorionic gonadotropin (hCG) is not detectable in the serum (usually 2 to 4 weeks).

7. elevated hCG; vaginal bleeding that varies in amount and color; uterine enlargement greater than expected for the gestation; nondetectable fetal heart activity; excessive nausea and vomiting; early onset of pregnancy-induced hypertension

8. Most molar tissue is benign, but choriocarcinoma is a possibility. Serum hCG will be evaluated every 1 to 2 weeks. Pregnancy must be avoided until normal prepregnancy levels of hCG are attained.

9. Foods high in iron should be emphasized to aid in restoring hemoglobin levels. These include liver, red meat, spinach, egg yolks, carrots, and raisins. She should also include vitamin C foods, which increase the utilization of iron. Use the information in the text to formulate your explanation.

10. Refer to the text, “Hemorrhagic Conditions of Late Pregnancy,” to complete this chart.

11. The woman and her family should be taught to assess the vaginal discharge, fetal movement counts, and uterine activity. She should be given guidelines for what to report. Curtailment of sexual intercourse should be discussed.

12. Cocaine is a vasoconstrictor, including constriction of the uterine endometrial arteries, which leads to premature placental separation.

13. Much or all of the blood may be trapped by the placenta, which may remain attached at the edges.

14. Early signs: tachycardia, diminished peripheral pulses, normal or slightly decreased blood pressure, tachypnea, pallor and coolness of the skin and mucous membranes. Late signs: falling blood pressure, pallor, skin that is cold and clammy, urine output less than 30 ml/hr, restlessness, agitation, decreased mentation.

15. lateral positioning with the head flat to increase cardiac return and enhance circulation to the placenta and vital organs; restricted maternal movement to reduce demand for oxygen; provide explanations, reassurance, and emotional support to reduce anxiety that would increase demand for oxygen

16. a. Reduced blood flow causes a reduced glomerular filtration rate, which causes a rise in blood urea nitrogen (BUN), creatinine, and uric acid. Glomerular damage resulting from reduced perfusion allows protein to leak across the glomerular membrane, resulting in interstitial fluid accumulation, hypovolemia, and increased blood viscosity and hematocrit (hemocentrination). Angiotensin II and aldosterone are secreted in response to hypovolemia, further increasing the blood pressure.

b. Reduced perfusion decreases liver function. Hepatic edema and subcapsular hemorrhage may occur. Serum may have elevated liver enzymes.

Answer Key
c. Vasoconstriction leads to pressure-induced rupture of small capillaries, resulting in small cerebral hemorrhages. Symptoms such as headache and visual disturbances may result.
d. Reduced osmotic pressure may result in pulmonary edema.
e. Reduced perfusion may cause infarctions or abruptio placentae. The risk of disseminated intravascular coagulation (DIC) is also higher. The fetus may have growth restriction and persistent hypoxemia.
17. Edema of preeclampsia typically occurs above the waist: face and fingers. A sudden weight gain often precedes visible edema.
18. Epigastric pain occurs with liver capsule distention, which often heralds an imminent convulsion.
19. Central nervous system depression results in diminished deep tendon reflexes and respiratory depression. Reduced urinary output can cause magnesium to accumulate to unsafe levels.
20. calcium gluconate
21. Chronic hypertension is present before 20 weeks of gestation.
22. a. The woman must have Rh-negative blood because she will not make anti-Rh antibodies if she is also Rh positive.
b. The newborn must have Rh-positive blood because Rh-negative blood cannot induce development of anti-Rh antibodies in the woman.
c. Indirect Coombs’ test should be negative, indicating that the woman has not made anti-Rh antibodies (become sensitized) to Rh-positive blood during the pregnancy.
d. The direct Coombs’ test identifies maternal antibodies in the newborn’s blood and should be negative.
23. ABO incompatibility may occur if a type O mother has a fetus who is type A, B, or AB, because these blood types contain an antigen that is not present on type O erythrocytes. Many type O people have developed high levels of antibodies to blood types A, B, or AB, and the antibodies can cross the placenta and damage fetal erythrocytes that are one of these types. The effects are usually less severe than Rh incompatibility.
24. a. polydipsia (excess thirst)
b. polyuria (excess urine output)
c. polyphagia (excess appetite)
d. weight loss
25. Hypoglycemia and hyperglycemia are associated with more spontaneous abortions and congenital malformations.
26. With no vascular impairment, hyperglycemia can lead to macrosomia. Vascular impairment limits glucose and oxygen transport to the fetus and may result in intrapartum growth restriction.
27. a. They decrease in the first trimester because of reduced maternal food intake and uptake of glucose by embryo/fetus.
b. They increase in the second and third trimesters because of maternal insulin resistance and greater food intake.
c. They usually decrease during labor because of exertion and lack of food intake. Euglycemia is maintained with IV infusion of insulin and glucose.
d. They decrease in the postpartum period because of loss of hormones from placenta that caused insulin resistance.
28. If her glucose challenge test (a screening test) is 140 mg/dl or higher, she needs the diagnostic 3-hour oral glucose tolerance test.
29. to increase her sense of control and the likelihood that she will adhere to the therapeutic recommendations
30. releasing tissue after needle insertion; injection over 2 to 4 seconds; quick needle withdrawal
31. These sugars raise blood glucose levels quickly to high levels and alter glucose control for many hours.
32. rales, dyspnea on exertion, cough, hemoptysis, progressive edema, and tachycardia
33. class III
34. Heparin is the anticoagulant of choice because it does not cross the placenta.
35. Each labor contraction causes up to 500 ml of blood to be shifted from the uterus and placenta to the central circulation. Approximately 500 ml of blood returns to the central circulation when the placenta delivers. The added blood volume increases the diseased heart’s workload and can result in congestive heart failure.
36. Her excess weight gain may be caused by excess food, fluid retention from cardiac decompensation or excess salt intake, or preeclampsia (see Chapter 25). Thus you must assess her diet and assess for other signs and symptoms of cardiac decompensation and preeclampsia.
37. Folic acid is needed for cell duplication and the growth of the fetus and placenta. Folic acid deficiency is associated with a higher incidence of neural tube defects. It is difficult to get the required pregnancy amount by diet alone, and folic acid is often destroyed by cooking.
38. Placental infarctions occur that decrease the exchange surface of the placenta.
39. pain (abdomen, chest, vertebrae, joints, extremities); pallor; signs of cardiac failure
40. fetal loss, prematurity, preeclampsia, renal complications
41. Many anticonvulsants are associated with significant fetal abnormalities. Yet, without the drugs, grand mal seizures are more likely to occur, which can cause fetal hypoxia, acidosis, and death.
42. early, acute stage—flu-like symptoms for a few weeks, followed by seroconversion a few weeks or months later middle, asymptomatic period—low-level viral replication and loss of CD4 cells transitional period—symptomatic disease late, crisis period—symptomatic disease
43. Use the information in the text pp. 651–658 to complete this table.
44. Acquired immune deficiency syndrome (AIDS) is said to occur when the immune system does not protect the person and opportunistic infections occur.
45. Zidovudine (recommended for pregnant women); protease inhibitors such as saquinavir (Invirase)
46. Support grieving and retention of client control; promote wellness (nutrition, rest, activity, avoidance of crowds and poor sanitary conditions, skin care); teach that breastfeeding is contraindicated; reinforce medication information.

47. Use the information in the text pp. 657–658 to complete this table.

Case Studies

1. The main objective of the nurse’s assessment is to identify why Patricia had a sudden excessive weight gain. Pregnancy-induced hypertension is a likely suspect, but the nurse must assess for other possible causes, such as a substantially increased food intake.

2. The staff must determine whether Patricia’s weight gain is the result of pregnancy-induced hypertension (PIH) and take steps to treat it.

3. The nurse should assess for other signs and symptoms of PIH: hypertension; urine protein; edema, particularly of the face and fingers; epigastric pain; visual disturbances such as spots or blurring; severe and unrelenting headache; dyspnea.

4. A dipstick test to identify proteinuria would be done to identify excessive levels in the urine. Reduced kidney perfusion causes glomerular damage, causing the protein to be lost.

5. The nurse needs Patricia’s past pattern of weight gain and her previous vital signs to evaluate today’s information more accurately.

6. The nurse should ask Patricia whether her rings are tight (finger edema), whether she sees spots in front of her eyes or has blurring of vision, or whether she has had severe headaches (cerebral edema), whether she has upper abdominal pain or nausea (distended liver capsule), and whether she has difficulty breathing (pulmonary edema).

7. Refer to Table 26-4 to complete this exercise.

8. Patricia’s PIH is mild and the fetal signs are favorable. Because the fetus is 34 weeks, delay of birth would be good unless the PIH worsens. In that case, poor placental perfusion is likely to cause the fetus more problems, including possible fetal demise, than preterm delivery.

9. Teaching involves activity restrictions, including how to achieve them, and assessment of fetal activity, maternal blood pressure, weight, and urine protein. The woman and family must be taught what signs and symptoms to report and when to return for fetal surveillance studies and regular prenatal visits.

10. During early pregnancy, fetal demand for glucose tends to cause maternal hypoglycemia. Debra is near the beginning of the second trimester, so increasing resistance to insulin in her cells and more rapid breakdown of insulin occur to make more glucose available to her fetus.

11. Debra will probably need increasing amounts of insulin as her pregnancy progresses. In addition, the goal is to keep her blood glucose level as near to normal as possible, so she will need to test her blood glucose as many as five to seven times each day and may take more frequent insulin doses (regular and intermediate-acting). Her diet should have approximately 2200 to 2400 calories per day distributed among three meals and two to four snacks.

12. Routine prenatal visit testing includes vital signs and fetal heart rate; assessment of her blood glucose levels (including her daily logs); and urinalysis for protein, glucose, and ketones. Glycosylated hemoglobin testing is done as needed.

13. Tests needed as pregnancy progresses are designed to evaluate placental function and fetal health and maturity. These include maternal serum alpha-fetoprotein, ultrasound, fetal echocardiography, “kick counts,” nonstress or contraction stress test, biophysical profile, amniotic fluid index, or amniocentesis to evaluate fetal lung maturity. Doppler velocimetry may be performed.

14. Possible fetal effects include congenital defects, large or small fetal size, and persistent fetal hypoxia.

15. Labor may be induced or cesarean delivery performed if the fetus shows signs of decreased placental perfusion with hypoxia. While in labor, Debra will have hourly blood glucose evaluations to determine her need for insulin. Tight glucose control during labor minimizes newborn hypoglycemia.

16. The neonatal nurse should anticipate possible newborn hypoglycemia if the newborn was exposed to high maternal blood glucose in utero, with high fetal insulin secretion to metabolize the glucose. After birth, the glucose supply is cut off while the pancreas continues to secrete large quantities of insulin temporarily.

17. The newborn will need frequent blood glucose monitoring for the first few hours after birth. See Chapter 30 for more information about caring for the infant of a diabetic mother.

Review Questions

1. b 13. b
2. d 14. a
3. a 15. d
4. d 16. a
5. c 17. c
6. b 18. d
7. d 19. a
8. b 20. b
9. a 21. d
10. d 22. c
11. c 23. b
12. b

CHAPTER 27: THE WOMAN WITH AN INTRAPARTUM COMPLICATION

Matching Key Terms

1. b 4. a
2. c 5. e
3. d
1. Uterine contractions must be coordinated, strong enough, and numerous enough to propel the fetus through the woman’s pelvis.
2. Use Table 27-1 in the text to complete this exercise.
3. Amniotomy and oxytocin augmentation
4. All nursing actions center on helping the woman make each push most effective.
5. They add the force of gravity to maternal pushes.
6. a. Help the woman understand that her tissues can distend to accommodate the fetus; apply warm compresses to the perineum.
b. Teach the woman to push only when she feels the urge or with every other contraction; administer fluids as ordered; offer reassurance.
7. Upright positions favor fetal descent (gravity), and with that descent, fetal head rotation.
8. Uterine overdistention with hypotonic dysfunction, abnormal fetal presentation(s), fetal hypoxia, postpartum hemorrhage resulting from uterine overdistention
9. a. Dilation at least 1.2 cm/hr; descent at least 1.0 cm/hr
b. Dilation at least 1.5 cm/hr; descent at least 2.0 cm/hr
10. For mother: Promotion of comfort, conservation of energy, emotional support, position changes that favor normal progress, and assessments for infection. For fetus: Observation for signs of intruterine infection and for compromised fetal oxygenation.
11. a. Place her in a side-lying position, administer oxygen, maintain blood volume with nonoxystacin IV fluids, stop oxytocin if in use, administer terbutaline or other tocolytic drug that may be ordered.
b. Help woman focus on non-pharmacologic pain control methods if analgesia is not possible; remain with the woman.
12. Urinary incontinence, increased vaginal discharge, loss of the mucous plug
13. Points to include are avoid sexual activity, take temperature four times a day and report if higher than 100°F (37.8°C), report contractions.
14. Side effects of beta-adrenergic drugs include maternal and fetal tachycardia, decreased blood pressure, wide pulse pressure, dysrhythmias, myocardial ischemia, chest pain, pulmonary edema, hyperglycemia and hypokalemia, tremors, and restlessness. Propranolol (Inderal), a beta-blocking drug, should be available to reverse the effects.
15. a. Prostaglandin synthesis inhibitors block the action of prostaglandins, which stimulate uterine contractions; an example is indomethacin.
b. Calcium antagonists block the action of calcium, which is necessary for muscle contraction; an example is nifedipine.
16. In addition to the text, refer also to a drug reference manual.
   a. Observe maternal blood pressure, pulse, and respirations and fetal heart rate to identify tachycardia or hypotension; assess lung sounds; assess for presence of dyspnea or chest pain to identify pulmonary edema or myocardial ischemia; obtain ordered glucose and potassium levels; have propranolol available.
   b. Observe for urine output of at least 30 ml/hr, presence of deep tendon reflexes, and respirations of at least 12 breaths/min; assess heart and lung sounds; observe bowel sounds and assess for constipation; have calcium gluconate available.
   c. Observe for nausea, vomiting, and abnormal bleeding; check fundal height; have woman do kick counts to identify fetal movements.
   d. Teach about flushing of the skin and headache; observe maternal pulse (report if more than 110 bpm) and fetal heart rates and maternal blood pressure; warn of postural hypotension, and teach to assume a sitting or standing position gradually after lying down.
   e. Assess lung sounds; teach woman to report chest pain or heaviness or any difficulty breathing.
17. Complete: Cord visible at vaginal opening. Occult prolapsed cord cannot be seen or felt on vaginal examination but is suspected based on fetal heart rate. The cord may slip into the vagina, where it can be felt as a pulsating mass. It may slip outside the vagina, where it is visible.
18. Relieve pressure on the cord with position changes; increase oxygen delivery to the placenta.
19. Complete rupture—open communication between the uterine and peritoneal cavities; incomplete rupture—rupture into the peritoneum or broad ligament but not into the peritoneal cavity; dehiscence—partial separation of a previous uterine scar
20. Pushing on an uncontracted uterus to expel clots after birth may result in uterine inversion. Massage the uterus until it is firm before expelling clots with fundal pressure.
21. Amniotic fluid is rich in thromboplastin, initiating uncontrolled clotting that consumes normal clotting factors.
22. If the mother’s condition deteriorates, the fetal condition will inevitably deteriorate also because the fetus is totally dependent on the woman for oxygen, nutrients, and waste removal.
23. Despite stable maternal and fetal vital signs, an enlarging uterus following trauma suggests possible abruptio placenta. Notify the physician promptly.

Case Studies
1. The nurse must (a) attempt to verify whether Ann’s membranes have ruptured, but without performing a vaginal examination; (b) determine when they ruptured; (c) assess maternal vital signs and fetal heart rate, looking specifically for signs of infection; (d) assess for contractions that may indicate preterm labor as well as preterm premature rupture of membranes (PROM).
2. Fluid draining from the vagina; positive nitrazine and fern tests; cloudy fluid; fetal tachycardia; occasional contraction
3. The vaginal fluid drainage and the positive nitrazine and fern tests suggest that Ann’s membranes have ruptured. Infection is suggested by the cloudy fluid and fetal tachycardia. Contractions suggest possible preterm labor.
4. A vaginal examination is not advised because the vaginal discharge is typical of amniotic fluid (meaning that membranes are truly ruptured), there already appears to be an

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infection, Ann’s gestation is preterm, and she is already having contractions. Little information is likely to be gained from the examination, and it might introduce more microorganisms into the uterus.

5. Starting intravenous fluids should be the top priority because (a) hydration with fluids may stop preterm labor contractions and (b) venous access may be needed quickly for emergency procedures.

6. A side-lying position with the head of the bed low increases placental blood flow and reduces pressure of the fetal presenting part on the cervix. Bed rest may reduce uterine activity.

7. Urine output of at least 30 ml/hr, presence of deep tendon reflexes, and respiratory rate of at least 12 breaths/min suggest that the magnesium is within safe limits. Serum drug levels will also be ordered (see Chapter 26 for additional information).

8. Teach her the importance of maintaining even spacing of the drug; set her alarm clock to take terbutaline during the night; expect side effects such as palpitations, tremors, restlessness, weakness, or headache. Report heart rate higher than 110bpm, chest pain, or dizziness.

9. Explain the activity restrictions her doctor recommends, and explore with her how she can maintain them. Teach signs and symptoms of recurrent preterm labor, and tell her to return to the hospital if they occur. Teach her the relationship of hydration and uterine irritability, and tell her to drink at least 8 full glasses of water each day. Teach her signs of urinary tract infection to report—urgency, increased frequency, and pain.

Review Questions
1. c  8. b
2. b  9. d
3. d 10. b
4. a 11. c
5. c 12. d
6. a 13. a
7. d

CHAPTER 28: THE WOMAN WITH A POSTPARTUM COMPLICATION

Matching Key Terms
1. c  4. d
2. b  5. f
3. e  6. a

Key Concepts
1. Early postpartum hemorrhage occurs within 24 hours of birth; late hemorrhage occurs after this time. More than 500 ml of blood after vaginal birth or more than 1000 ml of blood after cesarean birth constitutes postpartum hemorrhage.

2. Uterine atony occurs when the figure-eight muscle fibers of the uterus do not contract firmly to compress bleeding endometrial vessels at the placental site.

3. The uterus is difficult to locate, and when found it is soft rather than firm and higher than the expected level near the umbilicus. It may become firm with massage but fails to remain firm. Lochia is excessive, more than one saturated pad per hour.

4. Support the lower uterus with one hand while gently but firmly massaging the fundus until it contracts. Push on the fundus after the uterus is firm to express clots that have accumulated in the uterine cavity and could interfere with continued uterine contraction. Check for a distended bladder, often indicated when the uterus is displaced to one side (usually the right). Have her urinate or catheterize her if necessary. Drugs such as oxytocin or methylergonovine may be needed to maintain uterine contraction. Maintain intravenous access.

5. Excess, usually brighter red, bleeding in the presence of a firmly contracted uterus that is in the expected location suggests a laceration.

6. Pain is the greatest distinction because confined bleeding exerts pressure on sensory nerves. The uterus is firm, excluding uterine atony as the cause. Lochia is normal because the bleeding is concealed, excluding a bleeding laceration. A rising pulse and respiratory rate and falling blood pressure are signs of hypovolemia that may occur with any type of hemorrhage.

7. a. Stimulation of baroreceptors and release of catecholamines result in vasoconstriction of peripheral blood vessels and rising heart rate and blood pressure. Gradual tachycardia is typically the earliest sign of hypovolemia. Respirations increase as the woman attempts to increase her intake of oxygen. The skin is pale and cool, and capillary refill is prolonged.

   b. Inadequate perfusion results in buildup of lactic acid and metabolic acidosis, resulting in vasodilation, which accelerates blood loss. The skin becomes cold and clammy. Urine output falls or even stops as circulation to the kidneys is reduced. When blood volume is inadequate to perfuse the brain and heart, death results.

8. Women should be told the normal sequence, amount, and duration of lochia. They should be taught assessment and expected descent of the fundus. Guidelines should be provided for reporting deviations from normal.

9. They have higher levels of clotting factors (fibrinogen, factors III, VIII, and X) and suppression of factors that prevent clot formation (plasminogen activator and antithrombin III). In addition, venous stasis occurs and possibly blood vessel injuries.

10. Refer to “Thromboembolic Disorders” in the text to complete this chart.


12. Teach heparin injection technique to client and a family member, as appropriate. Teach client to report unusual bruising or petechiae, nosebleeds, bloody urine, bleeding gums, or increased vaginal bleeding; use a soft toothbrush; and do not go barefoot. Teach side effects of the specific anticoagulant. Caution about drugs or alcohol, which...
Postpartum depression symptoms include:

1. Bipolar disorder is characterized by both manic episodes (with irritability, hyperactivity, euphoria, grandiosity, little sleep, and poor judgment) and depressive episodes (characterized by tearfulness, preoccupations of guilt, feelings of worthlessness, sleep and appetite disturbances, and inordinate concern with the baby’s health or delusions about the baby’s being dead or defective). Major depression has only the depression features, not the manic features.

2. The nurse needs more information about the pain: location, intensity on a 1 to 10 scale (comparing its present level with the level before she took the analgesic), character, and whether anything worsens or improves it. In addition, the nurse must look at Jana’s perineal area for evidence of a hematoma.

3. If Jana still has not voided, the nurse should carefully assess her bladder and place her on the bedpan to void. However, Jana’s symptoms suggest a concealed hemorrhage with early hypovolemia: unrelieved pain and a rising pulse in the presence of a firm fundus and normal lochia. Unrelieved pain is not typical of a full bladder, although it may worsen the pain of a hematoma. Therefore, Jana should not ambulate to the bathroom because of the higher risk of fainting. If she does not void promptly, it would be appropriate to catheterize her (assuming there is an order), both to see whether emptying her bladder relieves the pain and to determine her urine output, which is a significant indicator of fluid volume status. The physician or nurse-midwife should be promptly notified of all assessments and interventions.

Review Questions

1. a. born before the 38th week of gestation begins
2. a. birth weight less than expected for duration of gestation
3. b or c
4. d
5. b or c
6. a
7. c
8. d
9. a
10. b or c
11. c
12. a
13. c
14. b or c
15. c
16. a or c
17. b or c
18. a
19. c
20. a
21. b
22. b
23. d
24. b or c

Key Concepts

1. a. born before the 38th week of gestation begins
2. b. birth weight 2500 g (5 pounds, 8 ounces) or less
3. c. birth weight 1500 g (3 pounds, 5 ounces) or less
4. d. birth weight 1000 g (2 pounds, 3 ounces) or less
5. e. birth weight less than expected for duration of gestation

Matching Key Terms

1. d
2. e
3. c
4. b
5. a
6. a
7. b or c
8. b or c
9. b or c
10. a
11. c
12. a
13. c
14. b or c
3. The prone position is associated with an increased incidence of sudden infant death syndrome (SIDS). However, the prone position allows the immature preterm infant to use respiratory muscles more efficiently, reduces respiratory effort, and increases oxygenation and lung compliance.

4. Hydration keeps secretions thin, so they are more easily removed.

5. a. thin skin with little insulating fat
   b. less heat-producing brown fat accumulation
   c. poor flexion to reduce exposed body surfaces
   d. immature temperature control center in the brain

6. radiant warmers, incubators, warmed oxygen, measures to reduce air currents, transparent plastic blanket over the radiant warmer bed, keeping portholes of incubators closed as much as possible, heated blankets and hats when out of the incubator or radiant warmer, padding surfaces with warmed blankets when procedures are performed.

7. greater water loss through the thin, permeable skin; nonflexed positioning that increases insensible losses; drying effects of outside heat sources; rapid respiratory rate and use of oxygen; poor ability of kidneys to concentrate or dilute urine before 35 weeks of gestation; and poor ability of kidneys to regulate electrolytes.

8. weighing diapers to determine the difference between the dry weight and the wet weight; collecting urine with cotton balls at the perineum to check specific gravity; weighing the unclothed infant daily or twice daily on the same scale at the same time of day.

9. Dehydration: decreased urine output; increased weight loss; increased urine specific gravity; dry skin or mucous membranes; sunken fontanel; poor tissue turgor; increased blood sodium, protein, and hematocrit. Overhydration: increased urine output with below-normal specific gravity; edema; too-rapid weight gain; bulging fontanel; decreased blood sodium, protein, and hematocrit.

10. Maternal infection, incomplete passive antibody transfer from the mother during the third trimester, immature immune response, therapeutic procedures that are often invasive and damage their delicate skin.

11. poor suck, swallow, and breathing coordination; immature gag reflex; high expenditure of energy for sucking related to the nutrients ingested.

12. a. Aspirate for residual from previous feeding.
   b. Measure abdominal circumference to identify distention.
   c. Test stool for reducing substance with Clinitest tablet.
   d. Test for occult blood in stool.

13. association of the comfort of fullness with sucking; preparation for nipple feeding.

14. Breast milk has immunologic benefits; it is more easily digested; it provides enzymes, hormones, and growth factors; it causes less stress because the baby can better regulate respirations and suckling; the mother’s body keeps the baby warm.

15. tachypnea, nasal flaring, retractions, cyanosis, grunting on expiration, decreased or wet breath sounds, acidosis with hypoxemia; chest x-ray film showing “ground-glass” appearance or atelectasis.

16. bronchopulmonary dysplasia and retinopathy of prematurity.

17. placental deterioration with chronic hypoxia, weight loss, oligohydramnios, and meconium passage into the amniotic fluid; continued placental function, with continued growth that increases the risk for birth injury or cesarean birth.

18. a. poor glycogen stores at birth
   b. little insulating subcutaneous fat
   c. polycythemia secondary to intrauterine hypoxemia, with more erythrocyte breakdown after birth

19. Symmetrical: infant is smaller than normal for gestation but head, chest, length, and weight are proportionate; problem began early in pregnancy. Asymmetrical: head, chest, and length are normal but weight is decreased; problem began during second half of pregnancy. Infants who have symmetrical growth retardation are more likely to have long-term consequences.

20. fractures of the clavicle, damage to brachial plexus or facial nerve, cephalhematoma, and bruising.

Case Study

1. The most likely nursing diagnoses are ineffective infant feeding pattern related to fatigue when nursing; risk for ineffective thermoregulation related to immaturity of temperature regulation and minimal body fat; and knowledge deficit (parents) related to special needs of the preterm infant.

2. Point out how Kaylee has begun to gain weight. Emphasize the benefits of the mother’s breast milk for a preterm infant, even if some must be given by gavage. Encourage the parents to hold and stroke Kaylee to the limits of her tolerance, and point out when she responds positively to them. Involve the parents in her care. Gradually have the parents take over more of her care while observing unobtrusively. Place her name on the incubator to personalize it. Note her individual responses to care, such as likes and dislikes or amusing habits. Provide visual stimulation (as tolerated) as you would for other newborns. Give parents the telephone number to the nursery, and encourage them to call at any time. If available, refer them to a parental support group.

Review Questions

1. b
2. c
3. a
4. d
5. b
6. a
7. c

CHAPTER 30: THE HIGH-RISK NEWBORN: ACQUIRED AND CONGENITAL CONDITIONS

Matching Key Terms

1. c
2. a
3. e
Key Concepts

1. In primary apnea, the infant may respond to stimulation when respirations cease. In secondary apnea, the infant does not respond to stimulation and loses consciousness. Secondary apnea is more ominous because stimulation is not enough to reverse it, blood oxygen levels decrease further, and the infant loses consciousness.

2. Refer to text, under each of the titles, to complete this exercise.

3. Bilirubin is the waste product of excess erythrocyte breakdown after birth. Jaundice is the staining of the skin and sclerae by bilirubin. Kernicterus occurs when the bilirubin levels are high enough to stain the brain tissue. Bilirubin encephalopathy is an extension of kernicterus to include damage to brain tissue by the bilirubin staining.

4. Bilirubin encephalopathy is more likely to occur at lower bilirubin levels in the preterm infant than in the term infant.

5. Refer to text, Nursing Care Plan 30-1, to formulate your explanation.

6. Exchange transfusion replaces the infant’s blood that has high levels of bilirubin, low erythrocytes, and many sensitized erythrocytes with blood that has normal levels of these components. In addition, the blood that replaces the infant’s blood is not sensitive to the circulating antibodies from the mother that have destroyed the infant’s own erythrocytes.

7. a. hepatitis B, rubella
   b. candidiasis, which may also occur in the infant with acquired immune deficiency syndrome (AIDS)
   c. cytomegalovirus, herpes (with disseminated infection), rubella, toxoplasmosis
   d. group B streptococcal infection
   e. gonorrhea, chlamydia
   f. human immunodeficiency virus/AIDS

8. immune system immaturity, with a slower reaction to invading organisms; poor localization of infection that allows more extensive spread of infection; less effective blood-brain barrier

9. Early-onset sepsis is related to prolonged rupture of membranes, prolonged labor, or chorioamnionitis; it begins within 24 hours of birth and progresses more rapidly. Mortality is 5% to 20%. It often involves the respiratory system or central nervous system. Late-onset sepsis develops after 1 week and is caused by exposure to organisms after birth. It usually involves the central nervous system. Mortality is 5%, often with long-term effects.

10. Signs of infection are often subtle. They include temperature instability, respiratory problems, and changes in feeding habits or behavior. Septic shock can develop quickly.

11. Blood is analyzed at the highest (peak) and lowest (tough) levels to provide a basis for any needed changes in dosage and to prevent toxic effects on body tissues.

12. If the diabetic woman has vascular changes, placental blood flow may be reduced, interfering with fetal growth. If the diabetic woman does not have vascular changes and her glucose levels are poorly controlled, she transfers large amounts of nutrients to the fetus. The fetus secretes large amounts of insulin to metabolize these nutrients, resulting in macrosomia.

13. a. High fetal insulin levels interfere with surfactant production.
   b. Maternal glucose supply ends, but the infant temporarily continues a high level of insulin production.
   c. Parathyroid hormone production is reduced.
   d. Poor oxygenation requires that the fetus make more erythrocytes.

14. Length and head circumference are usually normal for the gestational age. The face is round and red, the body is obese, and muscle tone is poor. The infant is irritable and may have tremors when disturbed.

15. Signs include jitteriness, tremors, diaphoresis, rapid respirations, low temperature, and poor muscle tone.

16. to prevent sluggish blood flow and ischemia to vital organs

17. infants appear hungry, but suck and swallow are poorly coordinated; frequent regurgitation, vomiting, and diarrhea; signs typical of hypoglycemia but with a normal blood glucose level; restlessness; failure to gain weight

18. The infant has poor coordination of suck and swallow, reducing actual milk intake. At the same time, energy expenditure is high because of excess activity.

19. intellectual disability

Case Study

1. The positive Coombs’ test performed on cord blood obtained at birth indicates that antibodies from the mother have attached to the infant’s red blood cells.

2. Monitoring of Steven’s bilirubin level and skin color for jaundice are essential related assessments.

3. Phototherapy is the appropriate treatment at this time. The light causes bilirubin in the skin to change into a water-soluble form that can be excreted.

4. Nursing interventions related to phototherapy include the following:
   - Cover the infant’s closed eyes with patches to prevent light damage. Check placement of the patches hourly.
   - Cover the reproductive organs with a diaper or other covering.
   - Change the infant’s position every 2 hours to distribute light exposure evenly over the skin surface. Check the fiberoptic blanket at the same intervals to ensure maximum exposure of the skin surface.
   - Check the infant’s temperature every 2 to 4 hours. Place a skin probe on the infant if he or she is in an incubator.
   - Monitor intake and output. Weighing diapers is the most accurate output measurement.
   - Remove the infant from the lights as little as possible, such as for feeding or other care. This will not be necessary if a phototherapy blanket is used.

5. Side effects may include frequent loose, green stools; a tanned appearance in dark-skinned infants; skin rash; or temporary lactose intolerance.

6. High bilirubin levels may cause kernicterus, with possible bilirubin encephalopathy as bilirubin deposits cause staining of the brain. Bilirubin encephalopathy has a high
mortality, and survivors may suffer cerebral palsy, mental retardation, hearing loss, or other neurologic and developmental problems.

7. Steven should have an exchange transfusion to replace blood that has a high bilirubin level because of massive erythrocyte destruction with blood that is not affected by maternal antibodies in Steven’s system. It is essential to prevent kernicterus and possible encephalopathy.

8. Type O Rh-negative blood that is crossmatched to be compatible with the mother’s is transfused. The transfused blood is not affected by the maternal antibodies circulating in Steven’s system.

9. The exchange transfusion is performed by removing 5 to 10 ml of Steven’s blood and replacing it with an equal amount of donor blood. This process is continued until approximately twice his blood volume has been exchanged.

10. The expected results are that approximately 85% of Steven’s erythrocytes will be replaced and the bilirubin will be reduced to approximately 45% of the pre-exchange level.

11. Complications of exchange transfusion may include infection, hypervolemia, hypovolemia, cardiac dysrhythmias, and hypocalcemia.

12. The nurse’s role in the procedure is to prepare equipment and the blood, assess the infant during and after the procedure, and keep accurate records of blood withdrawn and infused. The transfusion is done under a radiant warmer with a cardiac monitor in place.

Review Questions
1. b  5. b
2. d  6. b
3. a  7. d
4. d

CHAPTER 31: WOMEN’S HEALTH CARE

Matching Key Terms
1. h  5. e
2. a  6. c
3. b  7. f
4. g  8. d

Key Concepts
1. obesity, inactivity, and smoking
2. monthly by all women older than 20 years; 1 week after the menstrual period begins or on a specific day of the month if she is not menstruating
3. Yearly starting with women at the age of 40. Earlier screenings may be recommended for women at high risk for breast cancer.
4. monthly for women older than age 18 and by those younger than age 18 if sexually active
5. Schedule the examination approximately 2 weeks after her menstrual period; do not douche or have sexual intercourse for at least 48 hours before the examination; do not use vaginal medications, sprays, or deodorants.
6. a. firm, hard, freely movable nodules that may or may not be tender and do not change during the menstrual cycle; observation with possible excision and pathologic analysis
b. thickening or multiple smooth, well-delineated nodules; tenderness and pain noticeable during the latter half of the menstrual cycle; fine needle aspiration with possible open biopsy if fluid is bloody; drugs not usually prescribed
c. firm, irregular mass with enlarged axillary nodes and nipple retraction and discharge; surgical biopsy; no treatment if ductal ectasia is confirmed
d. serous or serosanguineous discharge from the nipple; excision of mass and duct with analysis of discharge to rule out malignancy

7. Surgical therapy removes part or all of the breast. Adjuvant therapy may include radiation, chemotherapy, immunotherapy, and hormone therapy. Breast reconstruction assists in the psychologic recovery.

8. a. Absence of menses by the normal age of menstruation if the girl has breast or pubic hair development. Causes: Turner’s syndrome (single X chromosome), exposure to diethylstilbestrol, abnormal reproductive tract development, hormonal imbalances, systemic disease, hypothalamic-pituitary abnormalities, excessive exercising, or eating disorders.
b. Cessation of menses for 6 months in a woman who has established menstruation. Causes: systemic disease, hormonal imbalances, strenuous aerobic exercise, poor nutrition, oral contraceptives, and ovarian tumors; pregnancy is a normal cause.

9. pregnancy complications, anatomic lesions (benign or malignant), drug-induced bleeding, systemic disorders, failure to ovulate

10. Urge the woman to seek medical help. Help the woman record bleeding episodes and associated symptoms. Teach about needed lifestyle changes.

11. a. mild analgesics and reassurance about the cause of the discomfort
b. oral contraceptives and prostaglandin-inhibiting drugs such as nonsteroidal antiinflammatory drugs (NSAIDs)
c. medications to suppress endometrial tissue proliferation; medication to suppress ovarian hormones; hysterectomy with bilateral salpingo-oophorectomy; lysis of adhesions and laser vaporization of the lesions

12. Urge the woman to seek a thorough examination to diagnose her problem properly. Teach dietary changes, exercises, stress management, and techniques to promote sleep and rest (refer to “Women Want to Know: How to Relieve Symptoms of PMS”).

13. Refer to “Medical Termination of Pregnancy” in your textbook to complete this exercise.


15. Estrogen alone would cause endometrial hyperplasia if the woman has her uterus.

16. breast cancer, heart disease
17. Initially, no signs occur. When they appear, they include loss of height, back pain, the “dowager’s hump,” disappearance of the waistline, and abdominal protrusion. Fractures of the hip, vertebrae, and wrist are the most common osteoporosis-associated breaks.

18. periodic pelvic examinations, Pap tests, ultrasonography, and tests for tumor markers

19. Refer to “Infectious Disorders of the Reproductive Tract” in your textbook to complete this exercise.

20. Bacteria, often Chlamydia trachomatis and Neisseria gonorrhoeae, ascend through the cervix into the upper reproductive tract and pelvic cavity. Here the organisms cause a chronic inflammatory response that causes scarring of the fallopian tubes and adhesions near the tubes. Infertility is a common result.

**Review Questions**

1. c  6. a
2. d  7. d
3. a  8. d
4. c  9. c
5. b

**CHAPTER 32: COMMUNICATING WITH CHILDREN AND FAMILIES**

**Matching Key Terms**

1. c  5. a
2. f  6. b
3. e  7. h
4. d  8. g

**Components of Effective Communication**

1. T  7. F
2. F  8. T
3. T  9. T
4. F  10. T
5. T  11. T
6. T  12. F

**Family-Centered Communication**

1. by creating partnerships with families by recognizing that families have the right to participate fully in planning, implementing, and evaluating the child’s care
2. Establish rapport with the family, encourage questions, empower parents to care for their children through education and support, manage conflict with families effectively, solicit feedback from families.
3. Understand the parents’ perspective; determine a mutually agreed upon goal; look for win-win solutions; listen actively; express feelings openly; avoid blaming; summarize the discussion.

**Transcultural Communication**

1. decision making practices; child-rearing practices; extent of family support; communication practices; health and illness practices

**Therapeutic Relationships: Developing and Maintaining Trust**

1. buying gifts; giving out home phone number; accepting invitations to family gatherings; visiting child on days off; lending or borrowing money; sharing personal information; making decisions for the family

**Nursing Care: Communicating with Children and Families**

1. T  4. F
2. T  5. F
3. F  6. T

**Communicating with Children who have Special Needs**

1. Assess child’s self-help skills; orient the child to landmarks in the room and typical environmental sounds; encourage parents to stay with child; keep objects in the immediate environment in the same place; explain all procedures.
2. Assess child’s self-help skills; identify how the family communicates; encourage parents to stay with child; develop a communication board; always face the child when speaking; don’t exaggerate speech; be aware of your body language and nonverbal communication.

**Review Questions**

1. b  5. a
2. b  6. d
3. d  7. c
4. b

**CHAPTER 33: PHYSICAL ASSESSMENT OF CHILDREN**

**Matching Key Terms**

1. g  8. e
2. d  9. h
3. i  10. k
4. l  11. c
5. j  12. f
6. a  13. b
7. m

**General Approaches to Physical Assessment**

1. T  4. F
2. T  5. T
3. F  6. T

**Techniques for Physical Examination**

1. indirect
2. fingertips
3. back of the hand
4. dull
5. bell
6. b
7. a
8. c
9. T
10. T
11. F
12. T
13. T
14. Use a measuring board or use a tape measure with the child lying down.
15. It provides some indication of nutritional status and may detect tumor growth or an abnormal rate of development.
16. balanced
17. nipple line
18. muscle mass; fat
19. 22 (120.5 × 703/3844)
20. a. age; sex
   b. horizontal
   c. vertical
   d. intersect
   e. percentile
21. non–insulin dependent diabetes mellitus
22. abdomen; upper arm
23. alopecia; hirsutism
24. hair
25. 1 to 2
26. V (trigeminal); VII (facial)
27. allergies
28. notch between the nose and upper lip
29. Ask the child to stick out the tongue as though licking a lollipop.
30. X
31. b
32. e
33. d
34. a
35. f
36. c
37. F
38. T
39. F
40. T
41. F
42. T
43. F
44. when they have reached menarche
45. 5 minutes
46. At a site away from the tenderness, place hand perpendicular to the abdomen, press down slowly, then lift hand.
47. Explain procedures, be honest and direct, and use a matter-of-fact approach.
48. to screen for testicular cancer, which has a high incidence in young men
49. b
50. a
51. d
52. e
53. c
54. T
55. F
56. T
57. F
58. T
59. T
60. T
61. F

Review Questions
1. d
2. c
3. b
4. a
5. b
6. d
7. d
8. a
9. b
10. a

CHAPTER 34: EMERGENCY CARE OF THE CHILD

Matching Key Terms
1. j
2. b
3. e
4. i
5. c
6. d
7. f
8. m
9. h
10. a
11. k
12. l
13. g

General Guidelines for Emergency Nursing Care
1. Communicate an attitude of calm confidence; establish a trusting relationship with the child and family; try to avoid separating the child and parents; designate one staff member as caretaker of the child and liaison to the parents; tell the truth; provide incentives and rewards; and assess the child’s unspoken thoughts and feelings.
2. Encourage the family members to move to a quiet place; encourage them to talk about their feelings; use reflective statements; avoid defensiveness and justification of your own or others’ behaviors; speak in simple sentences.
3. f
4. b
5. d
6. g
7. c
8. a
9. e

Growth and Development Issues in Emergency Care
1. c
2. b
3. e
4. a
5. d

The Family of a Child in Emergency Care
1. Fear; anxiety
2. fear that their child will die

Emergency Assessment of Infants and Children
1. The triage nurse performs the initial observation in the emergency setting and decides the level of care needed for the child.
2. respiratory rate and effort, skin color, response to the environment
3. A: airway assessment; B: breathing assessment; C: cardiovascular assessment; D: disability (neurologic assessment); E: exposure
4. T
5. T
6. F
7. T
8. F
9. F: full set of vital signs; G: give comfort/assess for pain; H: history and head-to-toe assessment; I: inspect back and isolate
10. respiratory rate, pulse, temperature, blood pressure
11. S: signs and symptoms; A: allergies; M: medications taken/immunization history; P: prior illness or injuries; L: last meal/eating habits; E: events leading up to this illness or injury
12. complete blood count with differential count, serum electrolytes, glucose, and urinalysis
13. All medication dosages and fluid amounts are calculated according to the child’s weight in kilograms.

**Cardiopulmonary Resuscitation of the Child**

1. shock and respiratory failure
2. 12 to 20 per minute; 3 to 5
3. Perform the Heimlich maneuver.
4. Perform abdominal thrusts. The lay rescuer should use CPR.
5. A blind finger sweep is not performed because of the risk of forcing the object farther down into the airway.
6. Place infant in downward-slanting position and administer five back blows, alternating with five chest thrusts.
7. brachial artery; carotid artery
8. 100 compressions per minute
9. 5

**The Child in Shock**

1. H
2. C
3. D
4. D
5. C
6. C
7. H
8. F
9. F
10. F
11. F
12. T
13. What substance was ingested? How much was ingested? What was the approximate time of ingestion? Has the child's condition changed from the time of ingestion? What treatment was administered at home?

**Pediatric Trauma**

1. T
2. T
3. F
4. F
5. T
6. Assess and manage life-threatening injuries.
7. A: assessment and management of airway; B: breathing; C: circulation; D: disability (neurologic deficits)
8. Assess for pain; inspect and document any and all signs of injury by performing a head-to-toe assessment; and obtain a history of the injury.
9. Motor vehicle: Was child wearing a seatbelt or sitting in a child’s car safety seat? What type of seatbelt? What was the speed of the vehicle? With what did the vehicle collide? At what point on the motor vehicle was the location of impact? Where was the victim seated in the vehicle? How much damage was done to the vehicle? Fall: How far did the child fall? How did the child land? On what type of ground did the child land? Did any objects “break” the child’s fall? Penetrating injury: How long and wide was the blade of the knife? How far away was the gun when it was fired? What type of gun was used? What was the caliber of the gun?
10. Indicators: history inconsistent with physical findings; activity leading to the trauma inconsistent with the child’s age and condition; delay in seeking treatment for the trauma; history of other emergency visits. Physical findings: bruises and fractures in various stages of healing, injuries that are unusual for children, patterns of injury indicating a specific object caused the injury
11. continuous assessment of the child’s respiratory, circulatory, and neurologic status

**Ingestions and Poisonings**

1. oral ingestion
2. a. removing the toxic substance
   b. diluting the toxin
   c. performing gastric lavage
   d. administering activated charcoal
   e. giving specific antidote for the toxic substance
3. It does not completely remove the toxin; vomiting is uncomfortable for the child; it may interfere with subsequent interventions; it can be misused by others in the household.
4. F
5. T
6. T
7. T
8. T
9. F
10. F
11. F
12. T
13. What substance was ingested? How much was ingested? What was the approximate time of ingestion? Has the child’s condition changed from the time of ingestion? What treatment was administered at home?

**Environmental Emergencies**

1. bite marks that look like fangs, burning at the site, ecchymosis and erythema, pain or numbness, and edema
2. wound irrigation and débridement; tetanus prophylaxis if not current; antibiotics if there is a high probability of infection; rabies treatment may be necessary

**Submersion Injuries**

1. hypoxia
2. The diving reflex is stimulated when the face is submerged in cold water. As a result, blood is shunted away from the periphery, which increases the blood flow to the brain and heart.
3. neurologic system
Heat-Related Emergencies
1. Move the child to a cool place, and start additional cooling measures.
2. Move the child to a cool place; start additional cooling measures such as loosening/removing wet clothes, and applying cool, dry clothes. Offer oral fluids if there is no alteration in mental status or vomiting.
3. hot, dry, red skin; change in level of consciousness or coma; rapid, weak pulse; rapid, shallow breathing; elevated core body temperature (>105°F)

Dental Emergencies
1. F
2. T

Review Questions
1. c  9. a
2. c 10. a
3. d 11. c
4. a 12. a
5. b 13. c
6. c 14. c
7. d 15. a
8. d

CHAPTER 35: THE ILL CHILD IN THE HOSPITAL AND OTHER CARE SETTINGS

Matching Key Terms
1. e 4. c
2. d 5. a
3. f 6. b

Settings of Care
1. a. hospital (including 24-hour observation, emergency hospitalization, outpatient/day facilities, medical-surgical units, intensive care units, and rehabilitative care)
   b. school-based clinics
   c. community clinics
   d. home care
2. T
3. T
4. F
5. F
6. T
7. T
8. T
9. T

Stressors Associated with Illness and Hospitalization
1. child’s age, cognitive development, preparation, coping skills, culture, previous experiences with the health care system, parents’ reactions to the illness
2. infant; toddler
3. Protest: Child is agitated, resists caregivers, cries, and is inconsolable.

Factors Affecting a Child’s Response to Illness and Hospitalization
1. child’s age; level of cognitive development; parents’ response to illness or hospitalization; child’s preparation for the experience; child’s coping skills
2. Blowing bubbles or singing to promote relaxed breathing; using imagery for the older child; using distraction techniques such as singing, playing games, or listening to music. Teaching coping mechanisms and having the child practice them before undergoing a procedure can help a child feel more in control and more relaxed.
3. increased self-confidence; mastery of self-care skills; learning new information and new coping skills

Playrooms in Health Care Settings
1. Therapeutic play is guided by health team members to help meet the physical and psychological needs of the child.
2. During emotional outlet, or dramatic, play, the child acts out or dramatizes real-life stressors.
3. The playroom should have no association with unpleasant experiences, so the child should not receive any treatments (including medications) in the playroom.
4. A reward system can be used in which the child receives a reward when a previously set goal is met. Rewards can be stickers, trading cards, small toys, and the like. Another example is allowing the child to blow bubbles as a fun way to do deep-breathing exercises.

Admitting the Child to a Hospital Setting
1. Admission should not be a series of questions directed at the child and family but a time of collaboration between nurse and family. The nurse should be aware of the child’s and family’s needs and should structure the admission process to meet those needs.
2. the immediate physiological needs of the child; the emotional needs of the child and family

The Ill Child's Family
1. Even parents who believe they are in control of their child before admission find themselves in an unfamiliar environment in the hospital. Parents may be confused about what they can and cannot do.
2. Siblings may experience jealousy, insecurity, resentment, confusion, and anxiety.

Developmental Approaches to the Hospitalized Child
1. c  5. e
2. f  6. b
3. d  7. a
4. d

Review Questions
1. b  6. c
2. c  7. d
3. d  8. c
4. d
5. a  10. d

CHAPTER 36: THE CHILD WITH A CHRONIC CONDITION OR TERMINAL ILLNESS

Matching key terms
1. e
2. g
3. h
4. d
5. c
6. a
7. b
8. f
9. Children with chronic illness are living longer. Advances in medicine have led to children living with illnesses that were previously fatal. Both quality of life and longevity have been enhanced by improvements in diagnostic testing and treatment.
10. Children with special health care needs are those who have, or are at risk for, a chronic physical, developmental, behavioral, or emotional condition and who also require health care and related services of a type and amount beyond that generally required for children.

The Family of the Child with Special Health Care Needs
1. A situational crisis is an unexpected crisis for which the family’s usual problem-solving abilities are not adequate.
2. family cohesiveness
3. establishing and accessing internal and external sources of support; reframing a situation to highlight positive rather than negative aspects; successfully coping; maintaining high-quality communication patterns; being flexible; maintaining social ties; preserving family boundaries
4. F
5. T

The Grieving Process
1. not only the child but the entire family
2. a. denial
   b. anger and resentment
   c. bargaining
   d. sadness or depression
   e. acceptance
3. F
4. T

The Child with Special Health Care Needs
1. age at the onset of the condition; growth and development
2. self-esteem; autonomy
3. T
4. F

The Child with a Chronic Illness
1. to achieve and maintain the highest level of physical, emotional, and psychosocial health and function possible
2. to remain intact; to achieve and maintain normalization; to maximize function
3. the child’s physical condition
4. Increase parents’ confidence; acknowledge the parent as a person and as the expert on the child; provide the parent with information about the child’s condition and how to manage it; provide the parent with easy ways to access the child’s health care providers for when questions and problems arise; in words and actions, demonstrate that you see the child as valuable and unique; help the parents recognize the child’s potential and abilities; help the parents understand and meet the child’s growth and development needs.
5. F
6. T
7. T
8. F

The Terminally Ill or Dying Child
1. c  5. T
2. a  6. T
3. b  7. T
4. d

Caring for the Dying Child
1. a. meeting with the agency’s pastoral care team or personal spiritual counselor
   b. attending nursing support groups mediated by a pastor, social worker, or counselor
   c. participating in patient care conferences or ethics committee meetings
2. whether or not to inform the child of the prognosis
3. T
4. F
5. T
6. F
7. T
8. F
9. F
10. T
11. T
12. F

Review Questions
1. a
2. b
3. a
4. a
5. b
6. c
7. d
8. a

CHAPTER 37: PRINCIPLES AND PROCEDURES FOR NURSING CARE OF CHILDREN

Matching Key Terms
1. c
2. f
3. b
4. d
5. a
6. e

Preparing Children for Procedures
1. child’s age, developmental level, personality, present level of knowledge and understanding, past experiences, coping skills, family situation
2. T
3. T
4. T
5. F
6. F
7. T
8. F

Transporting Infants and Children
1. a. age and development of the child
   b. physical condition
   c. destination
   d. safety
2. T
3. T
4. T
5. F
6. F
7. T
8. F

Using Restraints
1. T
2. T

Infection Control
1. a. blood
   b. all body fluids, secretions, and excretions except sweat
   c. nonintact skin
   d. mucous membranes
2. transmission-based precautions
3. ● If hands are contaminated with blood or body fluids or are visibly soiled, clean hands with soap and water.
   ● If hands are clean, use an alcohol-based hand rub before and after touching potentially contaminated surfaces near the patient, before and after patient contact, before putting on gloves for a procedure, and after removing gloves.
   ● Put alcohol-based hand rub on the hands, rub over all surfaces of hands and fingers, and allow to thoroughly dry (total time, approximately 20 seconds).

Bathing Infants and Children
1. 100°F
2. testing the water temperature on the inside of the wrist or elbow
3. 3
4. Inhalation of powder into the lungs can cause severe respiratory consequences. If powder gets moist, it provides a growth medium for microorganisms.

Oral Hygiene
1. T
2. F
3. F

Feeding
1. There is a risk of aspiration when an infant drinks from a propped bottle.
   a. Allow the child to sit at a table.
   b. Allow him to feed himself.
   c. Have parents bring his own utensils from home.

Vital Signs
1. Take an axillary temperature if the child is younger than 4 to 6 years of age or if the child has had oral surgery or is uncooperative, immunosuppressed, or neurologically impaired.
2. The measurement may be inaccurate if liquids were consumed within 30 minutes of measurement, if the child is crying, or if the child is undergoing oxygen therapy or nebulization treatments.
3. F
4. F
5. T
6. T
7. F
8. F
9. T

Fever-Reducing Measures
1. removing blankets and heavy clothing, lowering the room temperature, using a mechanical cooling blanket
2. acetaminophen; ibuprofen

Specimen Collection
1. Standard
2. nasal washing
3. latex sensitivity
4. posterior iliac crest

Gavage and Gastrostomy
1. Tube placement is verified when the tube is inserted, any time the feeding is interrupted, before each bolus feeding, and every 4 to 8 hours during continuous feedings.
2. aspiration of enteral fluid and pH measurement of the aspirate (should have a pH of 5 or lower)
3. F
4. F
5. T
6. F

Enemas
1. 360 to 480 ml; 3 inches

Care of Ostomies
1. T
2. T

Oxygen Therapy
1. An oxygen hood can be used for infants, and toddlers and preschoolers can use a nasal cannula, blow-by, or facemask. Older children prefer nonrebreather masks.

Assessing Oxygenation
1. adequate oxygen saturation
2. Report it to the physician, because the child may require oxygen therapy.

Chest Physiotherapy
1. Percussion is rhythmic clapping with a cupped hand over the affected part of the lung or the simulation of this movement with a percussion cup or mechanical percussor.
2. Postural drainage is positioning of the patient to promote gravity-assisted drainage of the lungs.
3. before meals or 1 to 1½ hours after meals

Tracheostomy Care
1. a. assessing the stoma area for signs of infection and skin breakdown
   b. changing tracheostomy ties
   c. cleaning the tracheostomy site and inner cannula
   d. changing the tracheostomy tube
   e. suctioning
2. at least every 8 hours
3. 5 seconds
4. turned off

Surgical Procedures
1. 2 hours before the time of arrival at the hospital
2. Auscultate lungs to identify any abnormal breath sounds or areas of diminished or absent sounds. Encourage early ambulation, deep breathing, and coughing. Incentive spirometers can increase respiratory movement. To facilitate air exchange, the nurse can engage the child in games such as blowing cotton, a windmill, or bubbles.
3. a. anxiety and fear related to separation from family, as well as unfamiliar environment and personnel
   b. acute pain related to surgical incision
   c. deficient knowledge related to unfamiliarity with procedures and expected outcomes
   d. interrupted family processes related to surgical procedure
   e. risk for deficient fluid volume related to NPO status before and after surgery, as well as nausea and vomiting

Review Questions
1. b  7. a
2. a  8. d
3. b  9. c
4. b  10. a
5. c  11. d
6. b  12. b

CHAPTER 38: MEDICATING INFANTS AND CHILDREN

Matching Key Terms
1. c  4. f
2. b  5. e
3. d  6. a

Pharmacokinetics in Children
1. a. gastric acidity
   b. gastric emptying
   c. gastrointestinal motility
   d. enzyme activity
2. T
3. F
4. F
5. The renal system is immature at birth. The newborn’s glomerular filtration rate is approximately 30% to 50% that of an adult, and the renal tubules function less efficiently. Infants and young children cannot concentrate urine as well as older children or adults can. Because of renal immaturity, medications may not be excreted.
6. When certain medications are used, peak and trough serum levels are measured to monitor medication concentration.
7. trough

Psychological and Developmental Differences
1. a. Nurses should ask parents about medication allergies, child’s ability to take medications (e.g., liquid versus solid), and special techniques they use to give medicines.
   b. Allow parents to administer certain medications (e.g., oral, otic, ophthalmic) if the child will cooperate.
   c. Ask parents to report if a medication does not seem to be effective.
2. Toddler: Give explanations through play; allow the child to see and handle the equipment first; allow him to help squirt liquid preparations into his mouth. Allow the parent to give the medication if the child prefers. Use as little restraint as possible because the child will resist restraint. Offer praise when the child takes the medication. Rewards, such as stickers, are useful.
   Preschooler: Offer a choice about what to drink after taking oral medication (limit to two choices). Offer a Band-Aid (preferably a colorful one) after an injection.
School-age child: Offer a choice of drinks when possible (as with preschooler). The child may need a source of distraction to cooperate with painful procedures such as venipuncture or injection. Praise for cooperation and use rewards such as stickers.

**Calculating Dosages**
1. F
2. F
3. F

**Medication Administration Procedures**
1. a. Use the six rights of medication administration.
   b. Double-check medication calculations before administering; double-check pharmacy calculations of unit dose medications before administering.
   c. Have two nurses check the following medications: insulin, oral hypoglycemics, sedatives, narcotics, chemotherapy, digoxin, anticoagulants, K+ and Ca2+ salts, and dextrose solutions >20% dextrose.
2. When admitting children to a hospital unit, the nurse obtains a list of all prescription and over-the-counter medications or herbal preparations a child is taking at home and assesses parents’ knowledge of the medications. This includes the name of the medication, the dose, number of times a day the child is taking the medication, the parent’s knowledge of side effects, any allergic reactions the child might have experienced, and the time the medication was last administered. To ensure patient safety, the nurse compares the listed medications and allergies with medications the admitting physician has ordered.
3. The nurse can check to see whether the medication is available as a liquid. If not, the medications (except those that are enteric-coated or sustained-release) can be crushed and mixed with a nonessential food such as applesauce.
4. Because medications can alter the flavor of the food, the child may associate that food with the undesirable flavor and refuse it in the future, even without the medication added. Thus, only foods not essential to the child’s diet should be used for mixing with medications.
5. F
6. F
7. T
8. T
9. The nurse places the child on his or her lap with the child’s right arm behind the nurse’s back and with the nurse’s left hand holding the child’s left hand. The nurse supports the child’s head with the nurse’s left arm and secures it between his or her arm and body. The nurse secures the child’s legs between the nurse’s legs. (Reverse sides if the nurse is left-handed.)
10. Notify the physician and report what medication was vomited and how much time has elapsed since administration.
11. Verify that the tube is properly positioned before administering medication. Flush the tube with water after the medication is administered.

**Administering Injections**
1. Explanations should be tailored to the child’s level. Explain the reason for the injection and describe the sensations that the child can expect to feel. The child may need to be assured that the injection is not a punishment for any misbehavior.
2. Ice can be applied to the injection site for several minutes before the injection to numb the area. Children can be taught how to use guided imagery, deep breathing, or distraction to cope with the discomfort. Topical anesthetics such as EMLA cream are effective in reducing injection pain.
3. b
4. c
5. d
6. a
7. T
8. F
9. T
10. F

**Administering Subcutaneous Injections**
1. circulation
2. fat pads above the iliac crests, hips, lateral upper arms, and anterior thighs
3. T
4. F
5. F

**Intradermal Injections**
1. testing (such as allergy testing or purified protein derivative (PPD))
2. inner aspect of the forearm or upper back
3. Insert needle bevel up at a 15-degree angle. The needle will barely penetrate the skin, and when the medication is injected, it will form a wheal.

**Rectal and Vaginal Administration**
1. T
2. F
3. T

**Ophthalmic and Otic Administration**
1. F
2. T
3. F

**Inhalation Therapy**
1. spacer
2. whistle
3. 10 seconds

**Intravenous Therapy**
1. Consider the rate and type of fluid to be administered, the projected length of time the IV will be needed, availability of veins, and the child’s developmental level. The child’s dominant hand should be avoided as a site for injection.
2. Use guided imagery—for example, putting on a “magic” glove. Try distraction with music, toys, seek-and-find books.
3. Clean the area well and place a liberal amount of EMLA cream on the site. Cover with a transparent occlusive dressing and leave in place for 1 to 2 hours to anesthetize the area.
4. to prevent inadvertent fluid overload
5. at least every hour
6. Assess for signs of infiltration (edema, erythema, pain, blanching, and coolness) and phlebitis (streaking on the skin above the vein). Discontinue IV if any of these signs are present.
7. 0 to 10 kg: 100 ml/kg; 10 to 20 kg: 1000 ml plus 50 ml/kg/day for each kg between 10 and 20 kg; more than 20 kg: 1500 ml plus 20 ml/kg/day for each kg more than 20 kg
8. 1800 ml; 1300 ml
9. These medications are not diluted and are injected (pushed) directly into the IV catheter using the port closest to the patient.
10. The needle is placed into the injection port nearest the child, and the medication is injected away from the child into the tubing above the port.
11. to complete the delivery of the medication from the IV tubing into the patient
12. every 6 to 12 hours (to maintain patency)
13. to administer medications, blood products, IV fluids, and parenteral nutrition long term to chronically ill children
14. An implanted venous access device consists of a catheter that is connected to a port or reservoir. The catheter tip rests at the junction of the superior vena cava and right atrium. The port is under the skin and is accessed with a noncoring needle placed through the skin into the port.
15. phlebitis, infection, and thrombosis

Administration of Blood or Blood Products
1. F
2. T
3. T
4. T
5. F

Child and Family Education
1. name of the medication, reason it is to be given, action of the medication, expected side effects and what to do if they should occur, when to notify the health care provider, any dietary restrictions, how to take the medication, how to measure the dosage correctly, how to use droppers or syringes

Review Questions
1. a
2. c
3. a
4. d
5. c
6. b
7. c
8. d

CHAPTER 39: PAIN MANAGEMENT FOR CHILDREN

Matching Key Terms
1. d
2. h
3. f
4. a
5. e
6. c
7. g
8. b
9. i

Definitions and Theories of Pain
1. whatever the experiencing person says it is, existing whenever the person says it does
2. an unpleasant sensational and emotional experience associated with actual or potential damage
3. T
4. F
5. F
6. T
7. T

Research on Pain in Children
1. F
2. F

Myths About Pain and Pain Management in Children
1. T
2. F
3. T
4. T

Assessment of Pain in Children
1. behavioral; physiologic
2. more purposeful
3. hunger, discomfort, and stress
4. restlessness
5. punishment
6. They fear bodily harm and have an awareness of death.
7. They may not report pain, believing that the nurse must already be aware of it.
8. to provide an objective measure of the pain experience; to provide children with an effective communicate about their pain
9. 3
10. the Oucher

Non-pharmacologic and Pharmacologic Pain Interventions
1. They provide a focus for distraction, and they produce relaxation.
2. Children who are distracted may be able to ignore or “forget” the pain, but the pain still exists.
3. relaxation; focused concentration; rhythmic breathing
4. a technique that allows a person to notice body states not usually noticed and to bring them under control
5. relaxation, decreased anxiety, decreased pain
6. a form of focused or narrowed attention, an altered state of consciousness accompanied by relaxation
7. transmission of pain signals
8. naloxone (Narcan)
9. cardiac arrest
10. F
11. T
12. T
13. T
14. F
15. T
16. T
17. T

Review Questions
1. a 6. c
2. d 7. e
3. b 8. b
4. d 9. d
5. a 10. d

CHAPTER 40: THE CHILD WITH AN INFECTIOUS DISEASE

Matching Key Terms
1. l
2. e
3. c
4. i
5. f
6. b
7. k
8. g
9. j
10. a
11. h
12. d
13. Epidemiology is the study of the distribution of health and illness within a population and the factors that determine the population’s health status. Recently, epidemiologic efforts have focused on identifying health-promoting factors, not just disease prevention.

Review of Disease Transmission
1. d 4. c
2. e 5. a
3. b

Infection and Host Defenses
1. skin; intact mucous membranes

Immunity
1. c 4. d
2. e 5. b
3. a

Viral Infections
1. f
2. c
3. i
4. h
5. a
6. e
7. b
8. j
9. g
10. d
11. k
12. The oral polio vaccine (OPV) can cause vaccine-associated poliomyelitis (VAPP) because it is a live vaccine.

Bacterial, Rickettsial, Borrelia, Helminth, and Fungal Infections
1. T 5. T
2. T 6. F
3. T 7. F
4. T 8. T

Sexually Transmitted Diseases (STDs)
1. d, h 7. e
2. f 8. T
3. b, h 9. T
4. a 10. F
5. g 11. T
6. a, c

CHAPTER 41: THE CHILD WITH AN IMMUNOLOGIC ALTERATION

Matching Key Terms
1. d 8. e
2. f 9. a
3. j 10. g
4. i 11. m
5. b 12. c
6. k 13. l
7. h

Review of the Immune System
1. c 8. e
2. f 9. a
3. i 10. F
4. d 11. F
5. g 12. T
6. b 13. F
7. h

Human Immunodeficiency Virus (HIV) Infection
1. a. via the placenta
   b. during delivery
   c. through breastfeeding

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2. zidovudine (ZDV)
3. administration of trimethoprim-sulfamethoxazole to infants exposed to HIV from approximately 4 to 6 months of age to 12 months, or when the infant is found to be HIV negative
4. a. maximize viral suppression
   b. preserve immune function
   c. decrease disease progression
   d. delay medication resistance

Corticosteroid Therapy
1. They decrease monocyte and macrophage differentiation and lymphokine production, leading to T cell inhibition.
2. The child may develop acute adrenal insufficiency.
3. Adrenocorticotropic hormone (ACTH)
4. every other day
5. To minimize risk for gastrointestinal (GI) bleeding, give corticosteroids with food or milk. To deal with increased appetite, offer low-calorie, low-salt snacks throughout the day.

Immune Complex and Autoimmune Disorders
1. a. Kawasaki disease
   b. post-streptococcal glomerulonephritis
2. antibodies that act against the body’s own cells, tissues, and organs
3. T
4. F
5. T
6. T
7. T
8. F

Allergic Reactions and Anaphylaxis
1. an immune response to an antigen (allergen) that causes a hypersensitivity reaction in various body systems
2. b
3. a
4. d
5. c
6. laryngospasm, edema, cyanosis, shock, vascular collapse, cardiac arrest
7. a pre-loaded, automatic delivery system of injectable epinephrine available in 0.3-mg (EpiPen) and 0.15-mg (EpiPen Jr.) doses
8. A biphasic reaction is a reaction that follows an initial anaphylactic reaction. Manifestations can be as severe as the initial reaction and can occur within hours or days of the first episode. Prompt treatment of the initial reaction with epinephrine seems to decrease the risk of biphasic reactions.
9. food allergies

Review Questions
1. b
2. c
3. a
4. d
5. b
6. c
7. b
8. a

CHAPTER 42: THE CHILD WITH A FLUID AND ELECTROLYTE ALTERATION

Matching Key Terms
1. a
2. c
3. e
4. g
5. b
6. f
7. d
8. h
9. i
10. k
11. j

Review of Fluid and Electrolyte Imbalances in Children
1. F
2. T
3. F
4. F
5. T
6. extracellular
7. water; solutes
8. sodium; potassium; magnesium
9. 7.35; 7.45
10. a. chemical and cellular buffers
    b. respiratory system
    c. the kidneys
11. bicarbonate; proteins
12. increase
13. hydrogen ions; bicarbonate
14. b
15. f
16. a
17. e
18. c
19. d
20. a
21. d
22. e
23. b

Dehydration
1. T
2. F
3. T
4. T
5. F
6. T
7. F

Diarrhea
1. an increase in the frequency, fluidity, and volume of stools
2. gastroenteritis
3. food intolerance, medications, malabsorption, colon disease, obstruction, irritable bowel syndrome, stress, infectious diseases elsewhere in the body
4. The high carbohydrate content of these drinks may worsen diarrhea. In addition, they do not replace the electrolytes lost through diarrhea.
5. to prevent dehydration, to reduce stool frequency and volume, and to reduce duration of diarrhea
6. Choose from complex carbohydrates (rice, bread, cereals, noodles, potatoes, and crackers), yogurt, cooked vegetables, and lean meats. Avoid fatty foods and simple sugars.
7. Change diaper immediately after each bowel movement, wash skin with mild soap and pat dry, apply “barrier” ointment (e.g., A & D), and avoid using commercial baby wipes. Reposition at least every 2 hours.

Vomiting
1. T 3. F
2. T 4. F

Review Questions
1. d 6. a
2. b 7. b
3. b 8. c
4. d 9. b
5. a 10. a

CHAPTER 43: THE CHILD WITH A GASTROINTESTINAL ALTERATION

Matching Key Terms
1. f 8. k
2. j 9. c
3. a 10. m
4. l 11. e
5. g 12. i
6. d 13. b
7. h 14. n

Review of the Gastrointestinal System
1. to ingest food and fluids, begin digestion, and propel food to intestines
2. to digest and absorb nutrients, detoxify and eliminate waste, and maintain fluid and electrolyte balance
3. phagocytosis, bile production, detoxification, glycogen storage and breakdown, vitamin storage
4. via the placenta

Disorders of Prenatal Development
1. T
2. T
3. F
4. T
5. T
6. Polyhydramnios
7. aspiration
8. coughing, cyanosis, choking with feedings
9. parenterally
10. Cover stoma with gauze, change gauze often, clean daily with half-strength hydrogen peroxide, use skin barriers.
11. c
12. e
13. b
14. a
15. d
16. f

Motility Disorders
1. Small, frequent feedings of predigested formulas, such as Pregestimil or Nutramigen, will reduce the amount of formula in the stomach, decrease distention, and minimize reflux. More frequent feedings with frequent burping are usually the first line of treatment.
2. a. H₂-receptor antagonists, such as cimetidine and ranitidine
   b. prokinetic agents, such as metoclopramide
   c. mucosal protectants, such as sucralfate
   d. proton pump inhibitors, such as omeprazole
3. Over time, the rectum en enlarges because of chronic retention of stool. This can result in failure to control the external sphincter, leading to encopresis.
4. Stress
5. diffuse abdominal pain, alternating constipation and diarrhea, undigested food and mucus in stool, normal growth

Inflammatory and Infectious Diseases
1. F
2. F
3. T
4. T
5. T
6. T
7. F
8. T
9. F
10. Crohn’s disease can affect any area of the gastrointestinal (GI) tract and all of its layers. It has periods of remission and exacerbations. Surgery may be required for complications but it is not curative. Ulcerative colitis affects only the colon and the mucosa and submucosa. It can be cured by a colectomy. See Table 43-4 in your text.

Obstructive Disorders
1. progressive, projectile, non-bilious
2. stools with bloody mucus, sausage-shaped abdominal mass
3. with a barium or air enema or with an ultrasound-guided water enema
4. Volvulus
5. delayed passage or absence of meconium stool
6. enterocolitis

Malabsorption Disorders
1. T 2. F
3. F 4. T

Hepatic Disorders
1. fecal-oral route, contaminated food and water
2. blood, secretions, sexual contact, breast milk
3. blood and blood products
4. blood
5. fecal-oral route
6. parenteral transmission, sexual contact
7. a. anorexia, nausea and vomiting, right upper quadrant (RUQ) pain, fever, malaise, irritability, depression
   b. jaundice, urticaria, dark urine, light-colored stools
   c. bleeding, encephalopathy, ascites, acute hepatic failure
8. hepatitis A (HAV); hepatitis B (HBV)
9. T
10. F
11. F
12. F
13. T
14. T
15. T
16. ascites; varices; encephalopathy
17. Liver transplantation

Review Questions
1. d  8. a
2. b  9. b
3. b  10. a
4. d  11. b
5. b  12. b
6. c  13. d
7. d  14. c

CHAPTER 44: THE CHILD WITH A GENITOURINARY ALTERATION

Matching Key Terms
1. f  6. b
2. d  7. h
3. i  8. g
4. e  9. c
5. j 10. a

Review of the Genitourinary System
1. abdominal
2. urinary tract infections
3. nephron
4. 10
5. 4.6; 8.0

Enuresis
1. F  4. T
2. T  5. T
3. F

Urinary Tract Infections (UTIs)
1. b
2. c
3. d
4. a
5. urine culture
6. suprapubic aspiration
7. vesicoureteral reflux, bladder emptying problems, and urethral problems
8. intravenous
9. pyelonephritis
10. Keep foreskin in boys clean; cleanse the perineal area in girls from front to back; encourage children to urinate at least four times/day; offer fluids throughout the day; avoid bubble baths. Use cotton, not synthetic, underwear.

Cryptorchidism
1. T  3. T
2. F  4. T

Hypospadias and Epispadias
1. circumcised
2. epispadias; hypospadias
3. Chordee
4. urethral stents

Miscellaneous Disorders and Anomalies of the Genitourinary Tract
1. c  4. d
2. a  5. b
3. e

Acute Post-streptococcal Glomerulonephritis
1. hematuria, proteinuria (0 to 2+), edema, renal insufficiency, hypertension
2. They travel through the circulation and get trapped in glomeruli, creating an inflammatory response and damaging the glomeruli. This decreases the glomerular filtration rate, which leads to renal insufficiency.
3. increase
4. Diuresis

Nephrotic Syndrome
1. proteinuria (3+ to 4+), hypoalbuminemia, edema, anorexia, fatigue, respiratory infection, weight gain, hyperlipidemia
2. prednisone
3. when urine protein level is zero to trace for 5 to 7 consecutive days

Acute Renal Failure
1. b  7. c
2. b  8. T
3. a  9. F
4. b  10. T
5. a 11. F
6. c

Chronic Renal Failure and End-Stage Renal Disease (ESRD)
1. waste products; excess body fluids; electrolytes; minerals
2. arteriovenous fistula or graft
3. infection of the peritoneal cavity
4. fluid and electrolyte imbalances, acid-base imbalances, osteodystrophy; anemia, poor growth, hypertension, fatigue, decreased appetite, nausea and vomiting, and neurologic changes
5. kidney transplantation
6. Rejection
7. the need to take immunosuppressive drugs
Review Questions
1. b  6. b
2. d  7. c
3. b  8. a
4. a  9. b
5. d  10. d

CHAPTER 45: THE CHILD WITH A RESPIRATORY ALTERATION

Matching Key Terms
1. h 10. e
2. m 11. q
3. p 12. g
4. k 13. a
5. b 14. j
6. f 15. c
7. l 16. d
8. o 17. i
9. n

Review of the Respiratory System and Diagnostic Tests
1. T  4. T
2. F  5. F
3. T  6. T

Allergic Rhinitis
1. 2 years
2. rhinorrhea; itching eyes, nose, ears, and palate; paroxysmal sneezing; dark circles under eyes; rubbing nose upward with palm of hand
3. They can add ¼ teaspoon of table salt to 1 cup of warm water.

Sinusitis
1. upper respiratory infection
2. acute otitis media with effusion
3. acetaminophen; warm, moist compresses

Otitis Media
1. T
2. F
3. T

Pharyngitis and Tonsillitis
1. F
2. T
3. F

Laryngomalacia
1. inspiratory stridor with or without retractions

Croup
1. a  5. T
2. c  6. F
3. b  7. T
4. d  8. F

Epiglottitis
1. sudden-onset high fever, sitting in tripod position, nasal flaring, retracting, tachycardia, drooling, dysphagia, and dysphonia
2. tongue depressor

Bronchitis
1. virus
2. rest; humidification; increased fluid intake

Bronchiolitis
1. 50
2. It can live on the skin for up to 1 hour and on nonporous surfaces for up to 6 hours.
3. to prevent nosocomial transmission of the virus to other patients
4. respiratory syncytial virus (RSV) monoclonal antibody (Synagis)

Pneumonia
1. chest physiotherapy before meals and before bed; change position every 2 hours; elevate head of bed; assist older children to cough and deep-breathe
2. 95

Foreign Body Aspiration
1. nuts, grapes, hard candy, popcorn, hot dogs, raw carrots, large chunks of food
2. aphonia; apnea

Pulmonary Noninfectious Irritation
1. aspiration, trauma, drug ingestion, shock, massive transfusions
2. Passive smoking
3. Carbon monoxide

Apnea
1. b
2. a
3. c
4. time and duration of episode, skin color, heart rate, O₂ saturation, precipitating trigger, any actions taken to stimulate breathing
5. monitor use; cardiopulmonary resuscitation (CPR)

Sudden Infant Death Syndrome (SIDS)
1. T  3. T
2. F  4. T

Asthma
1. increased
2. expiration
3. lowers
4. dilate airway and/or relieve bronchospasm
5. status asthmaticus
6. swimming
7. decrease inflammation
8. peak flow meters
9. exposure to triggers
10. belly breathing; pursed-lip breathing

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Bronchopulmonary Dysplasia (BPD)/Chronic Lung Disease of Infancy (CID)
1. T  3. F
2. T  4. F

Cystic Fibrosis (CF)
1. F  5. T
2. T  6. T
3. F  7. F
4. T  8. T

Tuberculosis (TB)
1. a  5. T
2. c  6. F
3. b  7. F
4. T

Review Questions
1. b  7. b
2. a  8. c
3. b  9. c
4. b 10. b
5. c 11. c
6. c 12. a

CHAPTER 46: THE CHILD WITH A CARDIOVASCULAR ALTERATION

Matching Key Terms
1. f  7. i
2. h  8. l
3. c  9. e
4. k 10. b
5. g 11. a
6. j 12. d

More Definitions
1. T  5. T
2. F  6. F
3. T  7. F
4. T  8. T

Review of the Cardiovascular System
1. placenta
2. foramen ovale
3. ductus arteriosus
4. decreases; increases

Cardiovascular Assessment
1. T  5. T
2. F  6. F
3. T  7. F
4. T  8. T

Physiologic Consequences of Congenital Heart Disease
1. resting tachycardia and difficulty feeding
2. e
3. b
4. a
5. d
6. c
7. weighing daily
8. the apical heart rate; the dose with another nurse; for signs of digoxin toxicity
9. chronic hypoxia
10. calming the child; placing the child in knee-chest position; administering oxygen and, if necessary, morphine; and phenylephrine, a potent vasoconstrictor, may be necessary

Left-to-Right Shunting Lesions and Obstructive Lesions
1. Patent ductus arteriosus
2. coarctation of the aorta
3. Ventricular septal defect; atrial septal defect
4. atrioventricular septal defect
5. pulmonary stenosis
6. aortic stenosis

Cyanotic Lesions with Altered Pulmonary Blood Flow
1. g  5. a
2. f  6. d
3. e  7. b
4. c

Acquired Heart Disease
1. T  6. T
2. T  7. T
3. T  8. T
4. T  9. F
5. F 10. F

Cardiomyopathies
1. hypertrophic cardiomyopathy
2. dilated cardiomyopathy
3. beta blockers; calcium channel

Dysrhythmias
1. supraventricular tachycardia
2. hypoxia
3. asystole
4. vagal
5. epinephrine

High Cholesterol in Children and Adolescents
1. tobacco use; increased low-density lipoprotein (LDL) and cholesterol; hypertension; decreased physical activity; obesity
2. 110 to 129; 130

Review Questions
1. a  7. c
2. b  8. d
3. a  9. b
4. c 10. d
5. d 11. a
6. d 12. a
CHAPTER 47: THE CHILD WITH A HEMATOLOGIC ALTERATION

Matching Key Terms
1. i  7. d
2. k  8. e
3. f  9. c
4. a 10. g
5. j  11. b
6. h

Review of the Hematologic System
1. a. to transport oxygen to the tissues
   b. to destroy foreign cells
   c. to prevent blood loss
2. a. decrease in number of red blood cells (RBCs) or their hemoglobin content
   b. increase in number of RBCs
   c. decrease in production of white blood cells (WBCs)
   d. source of platelets

Iron-Deficiency Anemia (IDA)
1. Cow’s milk, which is not iron-fortified, replaces formula, which is. It may also irritate the immature bowel, which can lead to gastrointestinal (GI) blood loss.
2. They have compromised tissue oxygenation resulting from decreased hemoglobin.
3. adolescent growth spurt; poor dietary intake; menstruation in females
4. cow’s milk, formula, cereal

Sickle Cell Disease (SCD)
1. a. low oxygen concentrations
   b. acidosis
   c. dehydratation
2. pain, tissue ischemia, infarcts, organ damage
3. g
4. f
5. d
6. a
7. e
8. c
9. b

Beta-thalassemia
1. autosomal-recessive
2. hemosiderosis
3. iron
4. deferoxamine (Desferal)

Hemophilia
1. Her father has hemophilia; her mother is a carrier.
2. factor VIII; factor IX
3. swelling, pain, and stiffness
4. X

Von Willebrand’s Disease (VWD)
1. F  3. F
2. T  4. T

Immune Thrombocytopenic Purpura (ITP)
1. T  4. F
2. T  5. T
3. T

Disseminated Intravascular Coagulation (DIC)
1. T
2. T
3. F

Aplastic Anemia
1. granulocytes; erythrocytes; megakaryocytes
2. petechiae, ecchymosis, pallor, epistaxis, fatigue, tachycardia, anorexia, infection
3. colony-stimulating factor

ABO Incompatibility and Hemolytic Diseases of the Newborn
1. A; B
2. negative; positive
3. delivery, miscarriages, and abortions

Hyperbilirubinemia
1. T  4. T
2. F  5. F
3. F

Review Questions
1. c  6. d
2. b  7. d
3. c  8. d
4. c  9. b
5. c  10. b

CHAPTER 48: THE CHILD WITH CANCER

Matching Key Terms
1. f  6. c
2. a  7. i
3. h  8. d
4. g  9. b
5. j  10. e

Review of Cancer
1. neoplasm
2. invasion; metastasis
3. Staging describes the extent of disease locally, regionally, and systemically and guides the therapy for most solid tumors. Each tumor has its own specific system of staging, which assists in determining treatment and prognosis.
4. T
5. F
6. F
7. T
8. The child should be positioned prone with a small pillow under the hips to facilitate access to the posterior iliac crest.
The Child with Cancer

1. a. chemotherapy
   b. radiation therapy
   c. surgery
2. antineoplastic drugs
3. a. hematopoietic system
   b. gastrointestinal tract
   c. integumentary system
4. Nadir is the time of the greatest bone marrow suppression when blood counts will be the lowest—usually occurs 7 to 10 days after chemotherapy administration. The greatest concern during the period of bone marrow suppression is infection.
5. Neutropenia
6. R
7. B
8. C
9. B
10. C
11. B
12. 5-HT3 serotonin antagonists
13. to obtain a small piece of the tumor for microscopic examination to confirm the tumor type and guide therapy decisions
14. to provide easy IV access so that the child does not have to undergo frequent venipunctures for IV access
15. dose; treatment site
16. 7 to 10
17. Erythema where the skin has been irradiated
18. Bone marrow transplant (BMT) uses bone marrow to reconstitute the immunologic function. Hematopoietic stem cell transplant (HSCT) uses a unique immature cell present in the peripheral circulation to restore immunologic function in a similar manner.
19. any type of blood cell
20. h
21. f
22. d
23. a
24. b
25. c
26. g
27. e

Leukemia

1. immature white blood cells (WBCs)
2. fever, pallor, excessive bruising, bone or joint pain, malaise, lymphadenopathy, enlarged liver and spleen, abnormal (either high or low) WBC counts, anemia, thrombocytopenia
3. bone marrow aspiration and biopsy
4. combination chemotherapy
5. when immature blast cells in the bone marrow are reduced to less than 5%
6. As WBCs break down in reaction to chemotherapy, they release uric acid, which is poorly water soluble, into the serum, which can compromise kidney function. Allopurinol and IV fluids with sodium bicarbonate are given to decrease the serum uric acid level and alkalinize the urine.
7. a. central nervous system
   b. the testes
8. A rectal thermometer can damage delicate rectal tissues and cause abscesses.
9. 500 cells/mm³
10. Use a soft-bristled toothbrush or Toothettes. Perform oral hygiene four times a day. If the platelet count is low, use a cotton-tipped applicator, finger cot, or washcloth wrapped around a finger instead of a toothbrush. Do not use mouthwash containing alcohol. Notify physician at first sign of mouth ulcers.
11. Give the child varicella-zoster immune globulin within 96 hours.
12. Limit any activity that could result in head injury. Encourage the child to participate in quiet activities. No contact sports. Use soft-bristled toothbrushes, or Toothettes, or gauze swab to clean the teeth. Give stool softeners to prevent straining with stools but do not use suppositories. Check urine and stools for blood. Avoid sharp foods such as pretzels and chips. Teach the child how to control nosebleeds and blow the nose gently. Evaluate menstrual flow in adolescent girls.

Brain Tumors

1. tumor location; child’s age and stage of development
2. headache and vomiting in the morning after getting out of bed
3. magnetic resonance imaging (MRI)
4. surgery and chemotherapy

Other Childhood Cancers

1. F
2. F
3. F
4. T
5. T

Review Questions

1. a
2. d
3. c
4. b
5. d
6. a
7. c
8. b
9. c
10. b
11. a
12. a
13. a
14. b

CHAPTER 49: THE CHILD WITH AN INTEGUMENTARY ALTERATION

Matching Key Terms

1. k
2. d
3. i
4. h
5. e
6. b
Review of the Integumentary System

1. a. protects deeper tissues from injury, drying, and foreign matter invasion
   b. regulates temperature
   c. aids in excretion of wastes
   d. produces vitamin D
   e. initiates the sensations of touch, pain, heat, and cold

2. T
3. F
4. T
5. F

Impetigo

1. bacterial
2. *Staphylococcus aureus*; group A beta-hemolytic streptococcus
3. Bullous impetigo presents as small vesicles, which can progress to bullae. The lesions are initially filled with serous fluid and later become pustule-like, which ruptures to become an erosion with an overlay of honey-colored crust. When crusts are removed, the erosion bleeds easily.
4. Impetigo is treated with topical and oral antibiotics. Wash lesions three times a day with a warm, soapy washcloth. Then apply topical antibiotics. Severe cases are treated with oral antibiotics.
5. acute glomerulonephritis
6. Wash hands often and well, keep the child’s nails short, do not share linens and eating utensils used by the child, have the child sleep alone, and complete the full course of antibiotics.
7. community-acquired methicillin-resistant *S. aureus* (MRSA)

Cellulitis

1. Cellulitis is a bacterial infection of the subcutaneous tissues and dermis.
2. lower extremities, buccal and periorbital regions
3. Affected areas will appear red, hot, swollen, and painful; lymphangitis will occur with red streaking of the surrounding area; edema and purple discoloration of eyelids appear with decreased eye movement if the periorbital area is affected; lymph node enlargement, fever, malaise, and headache occur.
4. Administer an initial intramuscular or intravenous dose of an antibiotic, then complete a 10-day course of antibiotics and warm compresses. Hospitalization and intravenous antibiotics are required if cellulitis affects a joint or face. Incision and drainage of the affected area may be necessary.
5. Have the child rest in bed with the affected leg elevated. Warm moist soaks should be applied every 4 hours. Administer antibiotics as ordered. Acetaminophen can be given for fever or pain. Assess for signs of sepsis or spread of infection. In addition, of course, practice frequent handwashing!

Candidiasis

1. *Candida albicans*
2. white, curd-like plaques on the tongue, gums, or buccal membranes that are difficult to remove
3. Does she have vaginal itching or discharge? Does she have any tenderness or redness of the nipples? Ask about her methods of cleaning bottles, nipples, and pacifiers and about the infant’s prior feeding patterns.
4. nystatin oral suspension
5. Swab 1 ml of oral nystatin suspension onto the infant’s gums and tongue every 6 hours until 1 to 2 weeks after symptoms have disappeared.

Tinea Infections

1. a. scalp
   b. trunk, face, and extremities
   c. feet
2. a. griseofulvin orally for 6 to 8 weeks
   b. antifungal preparations such as clotrimazole (Lotrimin) or miconazole (Monistat) topically three times a day to affected area until lesions are gone for 1 week
   c. topical antifungal preparation applied twice daily to lesions and at least 1 inch beyond lesion borders
   d. topical antifungal agent such as clotrimazole (Lotrimin), miconazole (Monistat), or oxiconazole (Oxistat) applied twice daily until lesions have been cleared for 1 week
3. T
4. F
5. F

Herpes Simplex Virus (HSV) Infection

1. HSV 1 infection of the fingers that is transmitted during oral or tracheal care of a child with herpes infection
2. oral or topical acyclovir (Zovirax)
3. The mother can try to feed the child frozen ice pops, noncitrus juices, milk, or flat soda. Small, frequent meals of soft, bland foods may be tolerated.

Lice Infestations

1. F
2. F
3. Nits are visible silvery, grayish-white specks resembling dandruff that are firmly attached to the hair shafts near the scalp. Nits resemble dandruff but are more difficult to remove from the hair. They are commonly found ¼ to ½ inch from the scalp surface behind the ears and at the nape of the neck. An adult louse is a small gray speck that crawls quickly and is difficult to see.
4. Treatment involves an over-the-counter antilice product such as permethrin 1% (Nix) cream rinse, which kills both lice and eggs with one application.
5. After the hair is treated with a pediculicide, all nits must be removed from the hair. The child should be rechecked in 7 to 10 days for infestation. Parents should be advised to wash clothing, bedding, and linens in hot water and to dry at a hot dryer setting. Items that cannot be washed can be dry-cleaned or sealed in plastic bags for 3 weeks. Combs and brushes must be cleaned through boiling or soaking in antilice shampoo or hot water for 15 minutes.
Mite Infestation (Scabies)
1. by close personal contact with infected individuals
2. intense itching, especially at night; papules, vesicles, and nodules on the wrists, finger webs, elbows, umbilicus, axillae, groin, and buttocks; presence of burrows (fine, grayish, threadlike lines) that are difficult to see because of inflammation and excoriation from scratching
3. A topical application is applied to the body and head, avoiding the eyes and mouth. Lotion is kept on the body for the recommended period of time (usually 8 to 14 hours), and then the child is bathed.

Atopic Dermatitis
1. High levels of histamine trigger an inflammatory response resulting in erythema, edema, and intense pruritus. Scratching increases itching, leading to an “itch-scratch-itch” cycle.
2. It is scaly on the flexor surfaces of the wrists, ankles, knees, elbows, neck creases, eyelids, and dorsal of hands and feet. Chronic lichenification results from persistent scratching. Areas may be weeping and possibly infected.
3. Avoid trigger factors such as overheating, soaps, wool clothing, or any skin irritant. Apply moisturizer while the skin is damp to hydrate the skin. Use corticosteroid creams for inflamed or lichenified areas. Oral antihistamines can be used to break the itch-scratch-itch cycle, particularly at night.

Seborrheic Dermatitis
1. cradle cap
2. a. nonpruritic oily yellow scales on the scalp, forehead, and eyebrows and behind the ears
   b. confluent erythema in the diaper area and intertriginous areas and around the umbilicus
3. Remove scales daily by shampooing with a mild baby shampoo or an over-the-counter antiseborrheic shampoo containing sulfur and salicylic acid, selenium, or tar. Massage the scalp with warm mineral oil before shampooing to loosen the scales. Use a fine-toothed comb or clean soft-bristled toothbrush to loosen the scales.

Contact Dermatitis
1. an inflammatory reaction to irritants resulting from prolonged contact with irritants or as a result of a delayed hypersensitivity response to an allergen
2. cool compresses, antipruritic lotions, Aveeno baths, topical steroid creams, oral antihistamines
3. Rinse the child’s skin with cool water immediately and wash clothing in hot, soapy water.
4. T
5. T
6. T

Acne Vulgaris
1. sebaceous hair follicles on the face, neck, back, shoulders, and upper chest
2. When the sebaceous or sweat glands become blocked, a blackhead or a pimple is formed. If these rupture under the skin, inflammation occurs.
3. a. Use sunscreen to reduce photosensitivity; do not apply together with benzoyl peroxide.
   b. Avoid exposure to sunlight.
   c. If sexually active, use contraception because of drug’s teratogenic effect on the fetus.
4. Wash the face twice a day with an antibacterial soap, and shampoo hair daily. Avoid vigorous scrubbing and picking or squeezing pimples. Use only water-based cosmetics. Get adequate rest and exercise, and eat a balanced diet.

Miscellaneous Skin Disorders
1. Wear identification describing the allergy and stating the treatment. Keep an EpiPen with child at all times when outdoors.
2. If the stinger is in the skin, it can be removed by carefully scraping it out horizontally. Do not squeeze the area, because more venom will be released. Wash with soap and water. A meat tenderizer paste applied to the area may be soothing.
3. because of the risk for toxic encephalopathy
4. Cover affected areas immediately with warm hands and clothing. Do not massage the area. Rewarm by immersion in a warm water bath (90°F to 106°F) until all parts are thawed and skin appears flushed.
5. Child should wear warm, layered clothing; hat; gloves; and two pairs of socks (one wool, one cotton). Teach children to warm their hands and feet when they begin to sting. Do not allow young children to play in extremely cold temperatures.
6. Remove with tweezers as close to the skin as possible, taking care to remove the head. If mouth parts remain, remove with sterile needle. Wash area with soap and water.
7. d
8. a
9. b
10. c

Burn Injuries
1. b
2. a
3. b
4. c
5. c
6. a
7. b
8. c
9. Avoid sun exposure, especially between 10 A.M. and 3 P.M. during the summer. Apply ultraviolet A and ultraviolet B protective sunscreens with SPF >15 to the child’s skin. Apply frequently. Use a waterproof sunscreen if children are in and out of water. Wear a hat and a shirt. Sunscreen is contraindicated for infants younger than age 6 months. Infants should be kept in the shade away from reflecting sun rays.
10. a. silver nitrate solution
   b. mafenide acetate cream
   c. silver sulfadiazine cream
11. a hypovolemic condition that develops after burn injury affecting more than 15% to 20% of total body surface area
12. a. cardiac arrest or dysrhythmia
   b. tissue damage
   c. myoglobinuria
   d. metabolic acidosis

Review Questions
1. b  7. d
2. a  8. b
3. c  9. b
4. c  10. c
5. d 11. d
6. b 12. a

CHAPTER 50: THE CHILD WITH A MUSCULOSKELETAL ALTERATION

Matching Key Terms
1. e
2. c
3. h
4. o
5. l
6. n
7. f
8. m
9. d
10. a
11. k
12. g
13. j
14. b
15. i
16. a. adduction
   b. inversion
   c. external rotation
   d. internal fixation
17. T
18. F
19. F
20. T
21. F
22. T
23. T
24. F

Casts and Traction
1. a. pain
   b. paresthesia
   c. pallor
   d. pulselessness
   e. paralysis
2. Osteomyelitis
3. muscle and nerve irritation of the shoulder and upper arm
4. Skeletal
5. extensive tissue damage
6. Skin
7. Russell
8. separated

Limb Defects and Clubfoot
1. T 6. T
2. T 7. T
3. F 8. F
4. T 9. F
5. F

Developmental Dysplasia of the HIP
1. a. femoral head that can be displaced with manipulation
   b. asymmetric gluteal skin folds, limited abduction, and shorter-appearing femur on affected side
   c. gait variation with lurching toward affected side
2. a. abduction
   b. flexion
   c. external rotation
3. avascular necrosis
4. mobility, transportation, skin integrity, toileting, constipation, clothing, comfort, safety, keeping cast clean and dry, inactivity, isolation

Legg-Calvé-Perthes Disease (LCP)
1. T 3. F
2. T 4. F

Slipped Capital Femoral Epiphysis (SCFE)
1. above
2. knee, groin, or thigh
3. epiphyseal
4. epiphyseal (growth) plate

Fractures
1. a fracture in which skin, tissue, or muscle has been damaged
2. Compartment syndrome is a serious complication occurring when swelling causes pressure to rise within the closed space of an extremity. The increased pressure compromises circulation to muscles and nerves, causing paralysis and necrosis.
3. blood loss
4. retention
5. internal fixation
6. nonaccidental
7. ulna; clavicle; tibia; femur

Review of the Musculoskeletal System
1. a. immovable joints
   b. slightly movable joints
   c. freely movable joints
2. a. in internal organs
   b. along the skeleton
   c. in the heart

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8. epiphyseal plate
9. crush; long

**Soft Tissue Injuries**
1. d  3. b
2. c  4. a

**Osgood-Schlatter Disease**
1. repetitive stress from sports, overuse of immature muscles and tendons, imbalance in strength of quadriceps muscle
2. a. insidious onset of knee pain
   b. swelling of the tibial tubercle
   c. difficulty with weight bearing

**Osteogenesis Imperfecta**
1. an inherited disorder characterized by connective tissue and bone defects
2. osteoporosis, bone fragility and fractures, blue sclerae, discolored teeth, deafness by age 20 to 30 years, shorter-than-average adult height

**Osteomyelitis**
1. T  4. T
2. T  5. F
3. F

**Juvenile Arthritis (JA)**
1. an autoimmune inflammatory multisystem disease that affects the body’s connective tissue
2. inflammation of the eye structure in the uveal tract
3. when children with severe juvenile arthritis do not respond well to nonsteroidal antiinflammatory drugs (NSAIDs)
4. blindness and disability

**Muscular Dystrophies**
1. a group of degenerative, inherited disorders that affect the muscle cells of specific muscle groups, causing weakness and atrophy
2. Duchenne
3. cardiopulmonary complications

**Scoliosis, Kyphosis, and Lordosis**
1. F  5. F
2. T  6. F
3. F  7. F
4. T  8. T

**Review Questions**
1. c  8. b
2. d  9. c
3. a  10. a
4. b  11. d
5. a  12. d
6. c  13. a
7. a  14. d

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**CHAPTER 51: THE CHILD WITH AN ENDOCRINE OR METABOLIC ALTERATION**

**Matching Key Terms**
1. b  5. h
2. e  6. g
3. a  7. c
4. f  8. d

**Review of the Endocrine System**
1. b  5. b
2. a  6. a
3. a  7. a
4. a

**Diagnostic Tests and Procedures**
1. laboratory testing
2. height; weight

**Neonatal Hypoglycemia**
1. 40 mg/dl
2. premature; small for gestational age
3. jitteriness; poor feeding; seizures; hypotonia; high-pitched cry; bradycardia; cyanosis; temperature instability; and respiratory alterations, including apnea
4. Feed the infant formula, breast milk, or D,W. Monitor response by doing glucose checks.
5. gestational age assessment; infant’s weight, length, and head circumference plotted on growth curve; blood glucose level by 2 hours of age
6. infiltration of IV can cause severe extravasation

**Hypocalcemia**
1. 7.0 mg/dl
3. Oral supplements are given with feedings because they can cause gastric irritation.

**Phenylketonuria and Inborn Errors of Metabolism**
1. autosomal recessive
2. central nervous system
3. Testing should be done after the infant is 48 hours old.
4. special diet that restricts phenylalanine intake (low-phenylalanine diet)
5. F
6. T
7. F

**Congenital Adrenal Hyperplasia**
1. glucocorticoid; androgens
2. ambiguous genitalia
3. glucocorticoid therapy

**Congenital and Acquired Hypothyroidism**
1. F
2. T
3. T
Growth Hormone (GH) Deficiency

1. T
2. T
3. T
4. T

Diabetes Mellitus

1. glucose
2. glycogen
3. to regulate blood glucose by controlling the rate of glucose uptake by cells
4. an autoimmune process that results in destruction of the insulin-secreting cells of the pancreas
5. When glucose is unable to move into the intercellular space, hyperglycemia occurs.
6. Glucose spills into the urine via osmotic diuresis, causing increased urination.
7. Excess fluid is lost through polyuria, causing thirst.
8. Cellular starvation from lack of glucose causes hunger.
10. 126 mg/dl; 200 mg/dl
11. F
12. F
13. T
14. T
15. T
16. F
17. F
18. T
19. 4 ounces of fruit juice; 6 ounces of regular cola; 6 lifesavers; or a commercial glucose product
20. Hypoglycemia could result from a missed or delayed meal, too much insulin, or an unusual amount of exercise without increasing carbohydrate intake.
21. Place the unconscious child in a side-lying position. Rub a small amount of glucose gel on the child’s inner cheek and gums, or inject glucagon subcutaneously or intramuscularly. If the child weighs more than 50 lb (22.75 kg), inject 1 ml. If the child weighs less than 50 lb (22.75 kg), inject 20 to 30 mcg/kg. The onset of action for glucagon is 10 to 15 minutes. When the child regains consciousness, replace lost glycogen stores with a large snack.
22. It is necessary to replace fluids lost from diuresis resulting from hyperglycemia. Fluids are essential in flushing ketones.
23. regular insulin administered intravenously
24. blood glucose is elevated; urinary ketones are present; arterial pH <7.25
25. type 2 diabetes
26. the presence of diabetes, obesity, and a poor lipid profile
27. Acanthosis nigricans is a velvety darkening of the skin around the neck that may also be found on the inguinal folds, axillae, antecubital fossa, knees, or dorsum of the hand. It is a marker for hyperinsulinism.
28. at least 60 minutes a day

Review Questions

1. c
2. c
3. d
4. b
5. d
6. a
7. d
8. b
9. c
10. b
11. c
12. b
13. a
14. a
15. d

Hyperthyroidism (Graves’ Disease)

1. antithyroid therapy with propylthiouracil or methimazole
2. a. neutropenia
   b. hepatotoxicity
   c. hypothyroidism
3. to determine whether the child has gone into remission

Diabetes Insipidus

1. vasopressin or antidiuretic hormone (ADH)
2. a. increased urination (polyuria)
   b. excessive thirst (polydipsia)
3. The normal response to a water deprivation test is decreased urine output with high specific gravity and no change in serum sodium. In diabetes insipidus, when fluid is restricted, the child continues to produce large amounts of dilute urine, and the serum sodium may increase.
4. synthetic vasopressin (DDAVP)
5. intranasally or by subcutaneous injection

Syndrome of Inappropriate Antidiuretic Hormone (SIADH)

1. The kidneys reabsorb too much free water.
2. a. decreased
   b. increased
   c. decreased
   d. increased
3. seizures

Precocious Puberty

1. premature appearance of secondary sexual characteristics, accelerated growth rate, and advanced bone maturation
2. rapid bone growth, which causes early fusion and ultimately results in short adult stature
3. administration of a gonadotropin-releasing hormone (GnRH) agonist or blocker
4. It inhibits binding of GnRH to the pituitary gland, causing a decrease in hormone production. This stops sexual development from progressing and slows down bone age advancement.

Give one daily oral dose. Dissolve in a small amount of water and give by syringe or place into the nipple of a baby bottle with a small amount of formula. Do not put in a full bottle because the infant must drink all of the formula to receive a full dose. If the infant vomits within 1 hour, give it again. Parents must observe infant for both hypothyroidism and hyperthyroidism, so teach parents about signs and symptoms.

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2. a. neutropenia
   b. hepatotoxicity
   c. hypothyroidism
3. to determine whether the child has gone into remission

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Growth Hormone (GH) Deficiency

1. F
2. T
3. T
4. T

Diabetes Mellitus

1. glucose
2. glycogen
3. to regulate blood glucose by controlling the rate of glucose uptake by cells
4. an autoimmune process that results in destruction of the insulin-secreting cells of the pancreas
5. When glucose is unable to move into the intercellular space, hyperglycemia occurs.
6. Glucose spills into the urine via osmotic diuresis, causing increased urination.
7. Excess fluid is lost through polyuria, causing thirst.
8. Cellular starvation from lack of glucose causes hunger.
10. 126 mg/dl; 200 mg/dl
11. F
12. F
13. T
14. T
15. T
16. F
17. F
18. T
19. 4 ounces of fruit juice; 6 ounces of regular cola; 6 lifesavers; or a commercial glucose product
20. Hypoglycemia could result from a missed or delayed meal, too much insulin, or an unusual amount of exercise without increasing carbohydrate intake.
21. Place the unconscious child in a side-lying position. Rub a small amount of glucose gel on the child’s inner cheek and gums, or inject glucagon subcutaneously or intramuscularly. If the child weighs more than 50 lb (22.75 kg), inject 1 ml. If the child weighs less than 50 lb (22.75 kg), inject 20 to 30 mcg/kg. The onset of action for glucagon is 10 to 15 minutes. When the child regains consciousness, replace lost glycogen stores with a large snack.
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28. at least 60 minutes a day

Review Questions

1. c
2. c
3. d
4. b
5. d
6. a
7. d
8. b
9. c
10. b
11. c
12. b
13. a
14. a
15. d

Answer Key
CHAPTER 52: THE CHILD WITH A NEUROLOGIC ALTERATION

Matching Key Terms
1. c 5. a
2. d 6. f
3. g 7. b
4. e

Review of the Central Nervous System
1. a. 4th week
   b. 15 to 20 weeks
   c. 30 weeks
   d. 16 weeks
2. a. cerebrum
   b. cerebellum
   c. brainstem
3. The cerebrospinal fluid (CSF) acts as a watery cushion surrounding and absorbing any shock to the brain, spinal cord, and meninges.
4. b
5. d
6. e
7. f
8. a
9. c
10. d

Increased Intracranial Pressure (ICP)
1. It compensates with decreased CSF production, increased CSF absorption, and reduction in cerebral mass because of fluid displacement.
2. a. bulging fontanel, high-pitched cry, poor feeding, vomiting, irritability, restlessness, distended scalp veins, eyes deviated downward, increased head circumference, separation of cranial sutures
   b. headache, diplopia, mood swings, slurred speech, nausea and vomiting (especially in the morning), altered level of consciousness, papilledema (after 48 hours)
3. a. decorticate (flexion)
   b. decerebrate (extension)
4. a. eye opening
   b. verbal response
   c. motor response
5. b
6. d
7. c
8. f
9. a
10. e
11. T
12. F
13. F
14. T

Spina Bifida
1. failure of the neural tube to close, resulting in incomplete closure of vertebrae
2. a. sac-like protrusion filled with spinal fluid and meninges
   b. sac filled with spinal fluid, meninges, nerve roots, and spinal cord
   c. failure of the vertebrae to fuse
3. T
4. T
5. F
6. T
7. T
8. T

Hydrocephalus
1. surgical placement of a ventriculoperitoneal shunt
2. Position the child off the shunt site so that no weight is on the valve for the first 2 days.
3. poor feeding, nausea or vomiting, elevated temperature, redness or tenderness along the shunt tract
4. a
5. c
6. b
7. b
8. a
9. c
10. d

Cerebral Palsy
1. F
2. T
3. T
4. T
5. F
6. Equipment includes suction, oxygen, bag = valve = mask device, and padding of side rails. Pillows should not be used to pad the side rails because they may cause suffocation.

Head Injury
1. evaluation of airway, breathing, and circulation (ABC’s)
2. Notify the physician if bleeding does not stop after 10 minutes of holding pressure; if the wound requires sutures; if the child is younger than 1 year of age; if the child has a seizure after head injury; if the child is unconscious or confused; or if the child has any of the following: severe headache, vomiting, slurred speech, blurred vision, difficulty walking or crawling, blood or watery drainage from nose or ear, unequal pupils or crossed eyes.
3. c
4. a
5. e
6. b
7. d
8. f
9. The child may become more easily upset and more irritable when tired or stressed as an aftereffect of a head injury

Spinal Cord Injury
1. T
2. T
3. T
4. T
5. T
6. T
Seizure Disorders
1. a
2. f
3. c
4. e
5. d
6. b
7. A seizure occurs when there is an excessive disorderly discharge of neuronal activity in the brain. Epilepsy refers to recurrent seizure activity that does not occur in association with an acute illness.
8. height; rapidity
9. precipitating events, behavior before and immediately after the seizure, detailed description of how the seizure progressed, and the duration of the seizure
10. Pad side rails, keep the bed in a low position, suction airway at child’s bedside, remove sharp objects or furniture from the area, do not put anything in the child’s mouth, place child on his or her side, do not restrain the child, place on a soft surface if not in bed, and loosen clothing around the neck.
11. Gums may become swollen and tender, brush and floss teeth after every meal using a soft toothbrush, have a dental examination every 3 to 6 months, and have blood levels monitored regularly.
12. prolonged seizure activity that may be a single seizure lasting 10 minutes or recurrent seizures lasting more than 30 minutes with no return to consciousness between seizures
13. perinatal asphyxia

Meningitis
1. lumbar puncture
2. pain with extension of leg and knee
3. Flexion of head causes flexion of hips and knees.
4. intravenous antibiotic therapy
5. T
6. F
7. T
8. F

Guillain-Barré Syndrome (GBS)
1. Inflammation is caused by infiltration of lymphocytes into the peripheral nerves.
2. bag-valve-mask device, oxygen, suction equipment, endotracheal tubes, laryngoscope
3. There is bilateral ascending muscle weakness or paralysis that progresses from the feet to the head, which reverses as healing occurs.

Headaches
1. Migraine headaches may be preceded by an aura. The most common symptoms include throbbing pain, often on both sides of the head; nausea and vomiting; irritability; abdominal pain; photophobia; and phonophobia. In tension-type headaches, the pain is more generalized than in migraines; pain is described as a band-like tightness or pressure. Other symptoms include tight neck muscles, soreness of the scalp, fatigue, and dizziness; nausea is rare.

Review Questions
1. b
2. d
3. a
4. c
5. d
6. c
7. a
8. a
9. d
10. a
11. b
12. c
13. d
14. c
15. c

CHAPTER 53: THE CHILD WITH A PSYCHOSOCIAL DISORDER
Definitions
1. addiction
2. co-morbidity
3. bulimia
4. abuse
5. violence
6. suicide
7. threat

Overview of Childhood Psychopathology
1. F
2. T
3. T

Anxiety and Mood Disorders
1. b
2. f
3. c
4. d
5. e
6. a
7. i
8. h
9. j
10. g
11. F
12. T
13. T
14. F
15. selective serotonin reuptake inhibitors (SSRIs)

Suicide
1. using cryptic verbal messages; giving away personal items; changes in expected patterns of behaviors; specific statements about suicide or self-harm; preoccupation with death; frequent risk-taking or self-abusive behaviors; use of drugs or alcohol to cope; overwhelming sense of guilt or shame; obsessional self-doubt; open signs of mental illness; history of physical or sexual abuse; homosexuality; significant change or life event that is internally disruptive
2. Have you ever thought of trying to hurt yourself? How might you do this? Have you ever thought of trying to kill yourself? How might you do this? Have you ever told anyone about wanting to kill yourself? How do you feel right now? Do you
have access to firearms? Knives? (For more, see Box 53-1, “Questions to Assess Suicide Potential.”)
3. Communicate with the adolescent in an empathetic and non-judgmental way to decrease his or her sense of isolation and rejection. Use clear, direct, and supportive tone of voice and demeanor. Be physically and emotionally present, and offer opportunities for him or her to discuss feelings and thoughts. Remove any potentially harmful objects.

Eating Disorders: Anorexia Nervosa and Bulimia Nervosa
1. a. deliberate refusal to maintain adequate body weight
   b. distorted body image
   c. amenorrhea
2. recurrent episodes of binge eating; a sense of lack of control over eating binges; self-induced vomiting or excessive use of laxatives, diuretics, and/or emetics to prevent weight gain; excessive exercise to prevent weight gain; a persistent overconcern with body image
3. T
4. T
5. F
6. F
7. T

Attention-Deficit/Hyperactivity Disorder (ADHD)
1. a. attention and concentration
   b. impulse control
   c. overactivity
2. based on reports by the child, parent(s), and teacher(s)
3. teach the family about the disorder
4. T
5. T
6. F

Substance Abuse
1. increase in antisocial behavior, poor school performance, irregular school attendance, aggressive or rebellious behavior, excessive influence by peers, deterioration of relationships with family or former friends, history of lack of parental support and supervision, rapid or extreme changes in mood, loss of interest in hobbies, changes in eating or sleeping patterns as manipulative behaviors increase
2. T
3. F
4. T

Childhood Physical and Emotional Abuse and Neglect
1. isolation from community and social groups; intense competition for emotional resources within family; low levels of differentiation among family members; distrust of outsiders and family members; unpredictable and unstable family environment (For more, see Box 53-3, “Characteristics of Abusive Family.”)
2. vigorous shaking while the infant is being held by the extremities or shoulders, causes whiplash-induced intracranial or intraocular bleeding
3. It is a form of physical abuse in which the caretaker (usually the mother) falsifies or produces illness in the child and then takes the child in for medical care, claiming no knowledge of how the child became ill.
4. Have a nonjudgmental and supportive attitude, answer questions directly and specifically, and act as an advocate for the child and the family. Provide an accepting environment, use role modeling as a method of parent teaching, focus on child’s positive attributes, encourage parents to participate in child’s care and to reinforce positive behavior.
5. T
6. T
7. T
8. T

Review Questions
1. d 5. b
2. a 6. d
3. c 7. c
4. a 8. b

CHAPTER 54: THE CHILD WITH AN INTELLECTUAL OR DEVELOPMENTAL DISABILITY

Matching Key Terms
1. c 3. d
2. b 4. a

Intellectual and Developmental Disorders
1. intellectual; adaptive
2. The term is limited to conditions that originate before age 18, with significant evidence of intellectual functioning that is below average, as well as deficits in at least two areas, such as communication, home living, community use, health and safety, leisure, self-care, social skills, self-direction, functional academics, or work abilities.
3. intellectual disability
4. descriptive term that denotes a significant limitation in intellectual and functional capacity
5. Severe and chronic disability that is attributable to mental or physical impairment or a combination of both that must be present before the individual turns 22 years old and is likely to continue. There must be substantial functional limitations in three or more areas, such as self-care, receptive and expressive language, learning, mobility, self-direction, capacity for independent living, or economic self-sufficiency.
6. Each child with a disability must have a written individualized education program (IEP) that outlines specialized instruction and services the school system must provide. It is designed by the child’s parents and school personnel after an educational assessment.
Intellectual and Developmental Disorders
1. intense stress experienced by families of disabled children, parental isolation, unrealistic expectations for the child’s performance due to a lack of knowledge about normal growth and development
2. delayed achievement of developmental milestones
3. a. Down syndrome
   b. fragile X syndrome
4. T
5. T
6. F
7. T

Down Syndrome
1. trisomy 21
2. characteristic appearance
3. the child’s typical coping patterns, daily routines, understanding of language, learning abilities, social and motor skills
4. T
5. F
6. F
7. T

Fragile X Syndrome
1. T
2. F
3. F

Fetal Alcohol Syndrome (FAS)
1. persistent symmetric growth retardation, malformations of the face and skull, skeletal and cardiac malformations, central nervous system (CNS) deficits, intellectual and developmental disabilities
2. maternal alcohol consumption during pregnancy

Autism Spectrum Disorders (ASDs)
1. Child has difficulty developing and maintaining social relationships; impaired communication ability; and the presence of stereotyped, repetitive, and fixated interests and behaviors.
2. understand social cues; act according to social norms
3. F
4. F
5. F
6. F
7. a child with autism who has a highly developed intellectual skill in one particular area but otherwise has severe intellectual disabilities
8. In both instances, an initial period of normal development is followed by the emergence of autism symptoms, and development stops.

Failure to Thrive
1. an underlying physical condition
2. poverty; maternal depression; poor social support systems; poor bonding or maladaptive interactions between the child and mother; an irritable, resistant-to-touch infant
3. maladaptive parent-infant relationship

Review Questions
1. d 5. c
2. c 6. b
3. d 7. b
4. a 8. a

CHAPTER 55: THE CHILD WITH A SENSORY ALTERATION

Definitions
1. nystagmus
2. astigmatism
3. hyphema
4. central
5. amblyopia
6. mixed
7. mild
8. exotropia

Review of the Eye and the Ear
1. f
2. g
3. a
4. c
5. d
6. h
7. b
8. e
9. i
10. 22 to 50 days of gestation
11. 4 to 6 weeks of gestation
12. 6 months
13. 5 years

Disorders of the Eye
1. d
2. b
3. h
4. f
5. i
6. e
7. a
8. c
9. g
10. squinting, head tilting, holding a book close to the eyes, decreased attention span, and poor school performance
11. Correction to 20/200 or less in the better eye or a visual field of 20 degrees or less
12. amblyopia—decreased vision in the deviated eye
13. It strengthens the weak eye while the good eye is patched.
14. excessive tearing, light sensitivity, muscle spasm causing involuntary closing of the eyelid, corneal enlargement, and haziness
15. surgery
16. pain, nausea and vomiting, and increased inflammation
17. Elevate the head of the bed slightly and avoid any position in which the affected eye is dependent, because this would cause edema and pressure on the eye.
18. itching, burning, light sensitivity, scratchy eyelids, redness, edema, discharge
19. chemical irritation from eye prophylaxis
20. Practice good handwashing habits, do not share the child’s linens or eye medication with other family members, and do not allow child to return to school or daycare until he or she has received eyedrops for 24 hours.
21. excessive tearing and crusting of eyelids on awakening; a small mass just below the inner aspect of the eye
22. It reduces the risk of rebleeding between 3 and 5 days following injury.
23. wearing protective eyewear, such as goggles and facemasks
24. rebleeding, change in the size of the area, presence of bright red blood, signs of increased intraocular pressure (pain, nausea and vomiting, increased inflammation), and side effects from medications
25. Irrigate immediately with water or saline solution. For a mild burn, use at least 2L of fluid for 30 minutes; for a severe burn, use at least 10L for 2 to 4 hours.
26. F
27. T
28. F
29. F
30. F
31. T
32. T
33. T
34. T

**Hearing Loss in Children**

1. b
2. d
3. a
4. c

5. excessive cerumen, foreign bodies, perforated tympanic membrane, otitis media
6. infection, heredity, exposure to loud noises, ototoxic medications, prematurity
7. auditory brainstem response; evoked otoacoustic emissions test
8. audiometry
9. Have child use hearing aid if he or she has one, look at the child when speaking, speak clearly and slightly slower, eliminate background noise, and use visual aids.

**Language Disorders**

1. a
2. b
3. c
4. a. pitch and intonation  
   b. articulation  
   c. fluency
5. Describe any activities to the child; expand on what the child says; add new information; build the child’s vocabulary; and repeat the child’s words using adult pronunciations.
6. T
7. F
8. T
9. T

**Review Questions**

1. b
2. a
3. c
4. b
5. c
6. a
7. b
8. c
9. d
10. d
11. d