Chapter 1: Nurse's Role in Care of the Child: Hospital, Community, and Home

Recall 3-year-old Manny, at the beginning of the chapter, who has a seizure disorder. He receives his care in a mobile van sent to his community by the local children’s hospital. Manny has a regular source of care because his family income qualifies him for the state’s Child Health Insurance Program (CHIP).

1. Explain the standards of pediatric nursing care as they relate to caring for Manny and his family.

Answer: The nurse is responsible for collecting patient health data, analyzing assessment data to develop nursing diagnoses, identifying expected outcome for Manny and his family, developing a plan of care that will help the Manny and his family achieve the expected outcomes, and implementing the nursing interventions listed in the care plan in a safe manner in collaboration with the family. The nurse should also maintain current knowledge in the care of children with seizures, and to evaluate the quality and effectiveness of care provided.

2. Identify at least 4 different settings in which a child with a seizure disorder could receive health care.

Answer: The child may receive care in a physician’s office, community health center, a hospital pediatric outpatient clinic, or school health center. The child may also receive care in the hospital, usually when being treated for a different condition other than seizures.

3. List three specific injury prevention messages for a child of Manny’s age that should be provided to Manny’s parents to reduce his risk for morbidity and mortality.

Answer: Manny is a 3 year-old boy. The education to the parents to decrease the risk for morbidity and mortality should include, but may not be limited to the following: Morbidity: unintentional injury and disease prevention, specifically injuries related to children with a seizure disorder. The child with a seizure disorder is at increased risk for drowning. The child should not be left unattended in a bathtub, wading pool or while swimming. The caregivers need education to know how to protect the child during the seizure event. The care givers should be aware of the need to ease the child to the floor, move away hard objects that the child could strike during the tonic and clonic movements of seizure, and provide a general safe environment during the seizure activity. Other considerations for children of all ages should include information on wearing helmet with tricycle, bicycle, or skating; car seat safety, general safety concerns in the home such as baby locks for cabinets, drawers; safety equipment such as gates to prevent falls down stairs; and other home safety tools such as smoke detectors and family plans for evacuation in the event of a fire.

4. List specific steps that should be used in the healthcare setting to ensure that an error is avoided when prescribing Manny's seizure medication.

Answer: The healthcare setting should have specific guidelines for administration of pediatric medications because of the complexity in calculating dosages and the different formulations of medications (e.g., tablets, liquids, drops). The nurse must take steps to ensure that the child receives the correct medication in the right dosage at the right time, and by the right route of administration. Do not rely on memory; verify medication dosages and medication dosage calculations. Every prescription should include the child’s weight and age, as well as the calculated dose and mg/kg dose. A zero should not be used after a decimal. The administration
rate for all IV medication should be specified. Drug interactions and patient allergies cause adverse reactions and should be checked prior to administration of medications.

Chapter 2: Family-Centered Care and Cultural Considerations

Think about Casey and his family from the beginning of the chapter. Casey’s family is coping with his initial survival of a serious brain injury, and facing a long rehabilitation process. The family is just now recognizing that life as they have known it is changing. Casey is totally dependent for care including bathing, toileting, feeding, and mobilizing. Although he is expected to regain self-care abilities, the impact of the injury on his cognitive ability and future functioning is unknown.

Casey’s extended family has provided support to the family during the past 12 days, but the level of support in the future weeks will decrease because of other family obligations. Casey’s mother has already initiated a leave of absence from work so she can care for him when he returns home; however, this will mean the family has reduced income during that time period. Casey’s younger brothers have been able to visit him, and they are very anxious because casey cannot talk with them. They have been trying to avoid bothering their mother and father during this time, but they are wondering when life will be more normal and they can again participate in their usual afterschool activities.

1. What information about the family strengths, needs, and resilience can be identified from the chapter-opening scenario, the ecomap, and the previous information?

Answer: Family strengths include the extended family, the mom's ability to take leave of absence from work, and two adults in the blended family. The needs start with monetary issues from one adult being out of work, decreasing family support as time passes, and assistance for the care of other children. The siblings in the family need consideration and support along with the parents. Other issues to take into consideration are the 'blended-family' and the stress that may occur because the child is biological to one parent and adopted by the other.

2. What additional information would be helpful to know about family strengths and needs prior to developing a nursing care plan?

Answer: Additional information that would be of assistance is the family's insurance and supplemental insurance benefits. Other financial information to assist in providing care, especially long-term care and rehabilitation, is necessary for planning. Information about the community support system, for the parents and the children, as well as connection with other parts the community, would also be helpful. The family's problem-solving ability and coping skills should also be taken into consideration. The family's cultural background and wishes should be integrated into planning.

3. Based on your assessment of the family and challenges facing them, list at least one nursing diagnosis (additional to those listed in the chapter) that addresses issues important for planning nursing care for Casey and his family.

Answer: Spiritual Distress (parents) related to the child's acquired disability. Risk for Impaired Parenting related to role strain.

4. Describe the use of family-centered care principles in planning Casey’s nursing care in collaboration with the family.

Answer: Family-centered care is based on the idea that the family is the constant in the child's life. Based on this, the family should be fully informed and actively participate in all treatment decisions, and the nursing care and management for Casey.
Chapter 3: Genetic and Genomic Influences
Recall 17-year-old Sarah from the chapter-opening scenario. While at the sports clinic for a routine physical, she questions the nurse about the likelihood that she will acquire Huntington disease. Huntington disease is a progressive disorder of motor, cognitive, and psychiatric disturbances. Symptoms typically present between age 35 and 44 years, with a median survival time of 15 to 18 years after onset.
Sarah’s mother, Diane, is of western European Caucasian descent. Sarah’s knowledge about her father is limited. She knows that he is a third-generation Filipino American but has no medical information on him or his extended family.
Sarah’s grandmother on her mother’s side has three sisters and two brothers. The two brothers died of myocardial infarctions at the ages of 37 and 55 years, respectively. Sarah’s maternal grandfather had no brothers but two sisters. Her maternal grandfather died at age 62 years of Huntington disease. The sisters are alive and well and have no medical problems.
Diane has two brothers and two sisters. She is the youngest of the siblings. Her oldest brother, Ken, was diagnosed 10 years ago with Huntington disease at age 41 years. Ken has two daughters ages 21 and 25 years. Sarah is very close to these cousins and she knows that they have no medical problems beyond seasonal allergies and migraine headaches. Diane’s other brother, Brian (age 38 years), has recently had bouts of depression and has noticed slight difficulties in coordination and involuntary movements. Brian and his wife Sally adopted a son, Dave, with Down syndrome, and he is 19 years old. Sarah’s brother is age 12 years and does not have any medical problems.

1. What further data would you gather from Sarah before referring her to a genetic specialist?
Answer: The nurse should construct a three generation genogram, and collect any personal/developmental health assessment and history information re the family members, and also examine the information looking for risk factors. Additionally, the nurse would assess Sarah’s knowledge and perceptions about Huntington disease.

2. What are the signs and symptoms of Huntington disease? The prognosis? Is it linked to any ethnic group?
Answer: The earliest symptoms are a general lack of coordination and an unsteady gait. As the disease advances, uncoordinated, jerky body movements become more apparent, along with a decline in mental abilities and behavioral and psychiatric problems. Physical abilities are gradually impeded until coordinated movement becomes very difficult, and mental abilities generally decline into dementia. Although the disorder itself is not fatal, complications such as pneumonia and heart disease, and physical injury from falls reduce life expectancy to around twenty years after symptoms begin. There is no cure for HD, and full-time care is often required in the later stages of the disease, but there are emerging treatments to relieve some of its symptoms. It is much more common in people of Western Europe descent than in those from Asia or Africa.

3. Create a family pedigree for Sarah based on the family information she has provided. What does the pedigree reveal, and what nursing actions would you plan for Sarah?
Answer: See sample pedigree created and Family Health Portrait—Chart Report for a sample pedigree for Sarah. The pedigree reveals that she has relatives with Huntington disease: maternal uncle, maternal grandfather and one other maternal uncle who may be having symptoms.
4. Should Sarah be tested at this time? Give a rationale for your answer.
Legally, she needs to be 18 to consent for the test. However, the nurse may advocate for this
testing to occur if it is determined after additional assessment and information is provided to her.
Ideally, the nurse would work with the mother and Sarah to obtain consent. She is a mature
teenager, in order for her to complete her developmental task of identity (Erikson), she may need
to have the results of this testing.
Family Health Portrait - Diagram Report

Chart Legend

- Male family member
- Female family member
- Family member with a history of disease
- Negative for HD
- Huntington's disease
- SAB = Symptomatic Abuse

Thu, 21-Jan-2010

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Family Health Portrait - Chart Report
Thu, 21-Jan-2010
* Indicates that the system needs your assistance in identifying this condition. Please visit the "Family History" page to review this condition.

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Chapter 4: Growth and Development
Consider Sergio, who was introduced in the chapter-opening scenario. He is now 6 months of age and growing well. His mother has altered her work schedule to stay with him each day; she works for a few hours in the evening when her husband is home. One pair of grandparents live about 30 miles away and visit frequently. The family has medical insurance but has had to budget carefully to pay household bills since Yolanda is working less and they have expenses connected with Sergio’s care. Since they have no other children and have limited experience with children, Pepe and Yolanda, Sergio’s parents, have all the needs of new parents. Due to prematurity, Sergio has additional needs for developmental surveillance and parental education. Some developmental milestones that the nurse observes about Sergio include:
- Personal social—smiles, watches his own hand
- Fine motor—hands meet at midline, regards and watches small objects, and has begun to grasp a rattle
- Language—turns to sounds and voices, squeals and makes a variety of other sounds
- Gross motor—holds head steady when in sitting position; holds head and chest up using arms when prone

1. Sergio and his parents have many challenges and yet possess many strengths. Using the theory of resilience, list the infant’s and family’s risks and protective factors.

   **Answer:**
   **Protective factors:**
   - Baby is well loved and cared for.
   - Mother’s work is flexible so she can care for him during the day.
   - Father is able to care for infant when mother is at work.
   - Grandparents are close and visit often.
   - Family has medical insurance and they access health care.
   - Care at the clinic is continuous with caring provider
   - Family is able to maintain housing, food, etc.

   **Risk factors**
   - Prematurity predisposes infant to respiratory infections and possible developmental delays
   - Parents are new parents with limited experience.
   - Income is limited and expenses for family have increased.

2. The parents note that Sergio has recently learned the sound of his bottle being prepared and gets visibly excited. What cognitive substage does this represent in Piaget’s cognitive framework. Is this the substage you would expect for him?

   **Answer:** Sergio manifests Piaget’s stage of sensorimotor, substage of secondary circular reactions, when infants begin to connect cause and effect. This is the substage expected of Sergio at 6 months of age.

3. Analyze Sergio’s developmental milestones. Consult the list of expected milestones in this chapter. What skills will Sergio learn next? What specific suggestions do you have for his parents as they seek to encourage his development?

   **Answer:**
   Personal-Social: Sergio will work for a toy and begin to be interested in feeding himself.
   Fine Motor: Sergio will begin reaching for objects and will develop object permanence.
Language: Sergio will continue to develop speech sounds, babble, and say “mama and dada” nonspecifically. He will enjoy imitating parents’ speech sounds.

Gross Motor: Sergio will be rolling over front to back and back to front. He should be able to pull to sit and will soon be working on sitting up with no support.

Parent child interaction at this point is very important. They should talk to him, sing to him, and provide opportunities for him to interact with them. He will enjoy sitting where he can see the environment around him. He will enjoy music. He will begin interactions such as pat a cake and peek a boo. The parents should allow him safe play time on the floor with toys that he can look at and manipulate. As he becomes more mobile, they will need to be aware of safety hazards for the rolling and crawling infant.

4. You are the nurse in the clinic where Sergio receives health care. Briefly outline the physical growth, developmental progression, and family assessments that you expect for him.

Answer:
Growth – weight gain 5-7 oz/week; doubles birth weight; length increase 1.5 cm/month; head circumference increase 1.5 cm/month; teeth beginning to erupt; taking in 100 ml/kg/24 hour.

Development – grasping and mouthing rattles; holds feet and brings toward mouth; uses palmar grasp; holds head steady when sitting; turns from abdomen to back and starting to turn from back to abdomen; responds to sounds by looking; watches a dropped object; enjoys complex visual images.

Family – reports of increased sleep time at night; enjoyment of family with smiles and responsiveness of infant; understanding of developmental milestones and safety issues.

Chapter 5: Pediatric Assessment

Recall Jasmine from the opening scenario. She has recently been adopted from China by the Porter family. When Jasmine’s length, weight, and head circumference are plotted on a growth curve, she is found to be in the 5th percentile for length and weight, and the 10th percentile for head circumference.

1: What behaviors would you look for that might indicate that Jasmine is beginning to develop a relationship with Mrs. Porter?

Answer: Jasmine should have completed the trust vs. mistrust stage and moved into industry vs. inferiority. Jasmine may not have completed the development of trust stage and may have regressed into mistrust after movement from the only home she has known. The nurse should assess Jasmine’s response to the mother, her closeness and contact. Further assessment should include observation of how Jasmine and her mother are interacting. Jasmine will likely demonstrate stranger anxiety and show more interest in her mother. These assessment findings would demonstrate bonding between the mother and Jasmine and the development of a supportive relationship.

2. What actions could you take during the physical examination to develop rapport with Jasmine and to reduce her anxiety?

Answer: The nurse should enter the room and be aware of the anxiety and potential distress Jasmine may have related to contact with a new person. The nurse should be aware of verbal and non-verbal interactions to provide a comforting environment. The nurse should talk with Mrs. Porter to obtain history information and periodically talk with Jasmine in calm, comforting manner. You could tell her how pretty her clothing is, ask questions about a toy being held, or

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offer a toy or book. When beginning the examination, consider using the foot to head sequence, leaving the most stressful assessment processes for last. Starting with developmental assessment or assessment of motor skills may help to reduce anxiety in some children.

3. What are the physical findings of an ear infection in a child like Jasmine who has been crying during the examination?

Answer: The tympanic membrane, which separates the outer ear from the middle ear, is usually pearly gray and translucent. It reflects light, and the bones (ossicles) in the middle ear are normally visible. When the pneumatic attachment is squeezed and released, the tympanic membrane normally moves in and out in response to the positive and negative pressure applied (Figure 5-22). Table 5-5 lists the abnormal findings of a tympanic membrane examination and their associated conditions. When ear infection is present, the tympanic membrane may have a dull, red, or pink appearance. The membrane may be full or bulging with fluid and air bubbles visible. The light reflex will be absent or dull with an ear infection, and often there is no movement in response to the pneumatic attachment. When a child has been crying, the tympanic membrane may be reddened, but still move with positive and negative pressure are applied.

4. What is your interpretation of Jasmine's current growth status? Outline a plan to monitor her future growth.

Answer: At this point, Jasmine is small, with length and weight both at less than 5% on the growth curve for her age and sex. Since limited history is available about her past growth, the nurse needs to develop a plan for monitoring and encouraging growth. The nurse and Mrs. Porter need to develop a plan for a nutritional diet that incorporates Jasmine's favorite foods and appropriate protein, carbohydrates, and fats. Jasmine should have monthly weight and height checks for the next several months to see if she maintains the same growth percentile channel on the growth curve over time. Jasmine may be small based on genetics, but given the lack of available information, no determination can be made at this point.

Chapter 6: Introduction to Health Promotion and Maintenance
Recall the parents of 15-month-old Clarence. They are working parents who are overwhelmed by their son’s activity level. They express concern about how to spend time with and ensure safety for Clarence, while having some time to spend with each other.

1. Describe the physical activity skills that you expect to observe in a 15-month-old. Is Clarence typical of this age child?

Answer: Builds a tower of up to 4 blocks; scribbles on paper; starting to undress self; throws a ball; runs; walking up and down stairs; uses push-pull toys. Clarence’s activity sounds typical of toddlerhood.

2. Plan the assessment techniques you will apply to learn more about Clarence’s physical activity and social interactions.

Answer: Clarence responds best with parental presence. The nurse will approach him positively at his eye level while he is still sitting on his parent’s lap. He will respond to positive, non-threatening nonverbal communication, such as animated facial expressions and an upbeat tone of voice. The nurse will first perform any assessments and observations of him that she can before she approaches him physically and save the most invasive tasks until last. Distraction techniques may work for Clarence, but they will need to be developmentally appropriate. It may be helpful for Clarence to hold something that interests him. Always the parents should be immediately available to him.
3. Clarence’s parents are concerned about providing a safe environment for him. List the most important safety precautions that should be taken in the home and during car trips to promote his safety.

**Answer:** First and foremost, all toddlers need approved car seats, and parents must strictly enforce use. Toddlers are very mobile so need close supervision to prevent climbing falls. Stairs should have gates. Poisons, medications, guns and other harmful items should be locked well out of reach of the child, and cupboards should have child-proof latches to prevent contents from being pulled out onto the child. Toddlers are burned by hot liquids on tables and in pots and pans on the stove. Parents need to continue to cover electrical outlets and keep cords out of reach. Toddlers also need direct, physical supervision when crossing streets and in pedestrian traffic. Parents must be vigilant about drowning accidents that may include mishaps with buckets of water, the toilet, hot tubs, bath tubs and swimming pools.

4. Plan several interventions that will assist his parent in planning their time so that they have time to spend with Clarence every day and also have some time alone to rest each week.

**Answer:** Take turns getting dinner and doing other household tasks so that the partner can devote time to Clarence during that time. Consider child care for an evening or several hours on a weekend to provide time for the parents to perform household tasks and have time to spend in activity with each other. Join a group for parents of toddlers to meet other parents and share experiences and parenting tips. Plan for safe play locations in the home to lessen concern and worry about safety; however, Clarence should always be supervised by adults.

**Chapter 7: Health Promotion and Maintenance for the Newborn and Infant**

Recall 22-year-old Shannon, who is described at the beginning of the chapter. She is a single mother with two daughters, 5-year-old Denise and 10-day-old Rhonda. Shannon lives with her male partner, who is the father of the new baby. Rhonda was born at 37 weeks’ gestation, weighed 2800 g (6 lb, 3 oz) at birth, required phototherapy for newborn jaundice, and had initial difficulty breastfeeding. She was discharged from the nursery at 5 days of age.

1. **What questions would the pediatric nurse and lactation consultant ask Shannon to assess the adequacy of breastfeeding at this time? What assessments of the newborn will provide clues about the adequacy of intake?**

**Answer:** Some questions to assess adequacy of breastfeeding include:

- How long does the baby breastfeed at each session?
- How frequently does the baby breastfeed?
- Is the baby alert and active?
- How many diapers does your baby have a day?
- How many stools does your baby have per day, and what is the color of her stools?
- Do you hear or see the baby swallow when she breastfeeds?
- Does she have any spit-up after breastfeeding (and how much)?

Rhonda has gained 30 gms (1 oz) since birth (not lost weight). Expected weight gain would be 120 to 240 g each week after the first week.

Other factors that should be assessed at this visit include any safety concerns (risk for domestic violence); identifying and promoting strengths for this newborn, mom, and family.
2. Consult Chapter 5 for a description of newborn reflexes. Plan a thorough newborn assessment that includes the reflexes. Why is it important to complete this neurological testing on baby Rhonda?

*Answer:* Newborn reflexes include Moro reflex, palmar grasp, plantar grasp, placing, stepping and tonic neck reflexes. Their presence and symmetry assist in verifying normal neurological function.

3. Plan a teaching session for Shannon that describes the sleep patterns of newborns. Integrate suggestions to enable Rhonda and her partner to obtain adequate rest.

*Answer:* Infant states include:

a. **Sleep States**: quiet sleep, active sleep

b. **Awake States**: drowsy, quiet alert, active alert, and crying

Rhonda is in the active sleep state when she stirs and fusses and makes crying sounds. Shannon can learn not to feed Rhonda every time she cries out, but try other consoling measures (soft music; re-swaddling in a warm blanket, use of a pacifier, etc. Once Rhonda is breastfeeding better, she will be able to extend the feeding frequency as well. Have the parents share the night feedings to allow them each to have some undisturbed sleep. Encourage daily naps for Shannon to help her in obtaining sufficient sleep.

4. Denise is Rhonda’s 5-year-old sibling. What questions will you ask Shannon about Denise’s adjustment to a new sibling?

*Answer:* How has Denise’s behavior changed since the arrival of the new baby? What tasks can Denise help with in care of Rhonda? Is Denise always supervised when she is with the new baby? What special interaction has been planned for Denise so that she has time alone with each parent each week?

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**Chapter 8: Health Promotion and Maintenance for the Toddler and Preschool Child**

Recall Dominic, an active 4-year-old who was described in the opening scenario. During today’s visit, you learn that his mother, Sophia, is quite tired from working at a retail store about 8–9 hours daily and then caring for Dominic in the evening. The recent move of her mother, Hannah, to a house down the street to assist with care has brought her some relief.

Dominic has several decaying deciduous teeth. His mother states that since he will lose them soon, she is not worried.

1. Dominic’s father is serving in the military in the Middle East. What suggestions can you make to Sophia so that Dominic continues to learn about and communicate with this father during the deployment?

*Answer:* Play videos and show pictures of the dad to Dominic each week and talk to him about his father. Read books about a parent being in the military. Make regular videos of Dominic to send to his father. Have a special object of the dad that Dominic can keep and look at each day, such as a tool, a book, or piece of clothing. Arrange play dates with other military families.

2. Dominic has not been seen for immunizations since early in the toddler years. List the immunizations you expect he has received and those that are likely needed at this time. Plan the questions to learn about his immunization history.

*Answer:* By the end of toddlerhood most children have had the #3 dose of hepatitis B, 2 doses of hepatitis A, the fourth dose of diphtheria, tetanus & pertussis, last dose of *Haemophilus influenzae* type b, first measles, mumps & rubella, the fourth pneumococcal vaccine, and annual influenza. Once those are completed, he will need a 5th diphtheria, tetanus & pertussis, and a 4th polio, as
well as the second varicella dose. An update of influenza is likely needed if it is fall and time for
the annual vaccine. The nurse should ask for a written record, or whatever the mother has
maintained. A past health care home may also have the records. Ask about allergies and prior
reactions to immunizations. Inquire about any contraindications to the immunizations to be
administered.

3. Since Sophia believes that she does not need to worry about caries in the deciduous teeth,
plan a teaching session that addresses the importance of even the primary teeth for good
health and development of language skills. Include information about resources that
provide dental care for children like Dominic.
Answer: Discuss role of primary teeth in adequate nutrition, speech and language development,
and health of mouth and gums, as well as disease prevention. Suggest resources such as the
military base, clinics in the community, and pediatric dentists.

4. Hannah has recently joined the family to assist in Dominic’s care. List the changes in
roles for the various family members and suggest ways that Sophia can now take care of
some of her own personal needs for rest and renewal.
Answer: The roles of housekeeper, child care provider, transportation provider, and meal planner
can now be undertaken by two adults. Encourage Sophia to define what tasks and roles it would
be helpful to have clear expectations about roles and times of the day when each adult has
responsibilities. Sophia can find a regular time such as early morning or evening to find some
time to exercise, read or otherwise care for herself. She can plan a weekend event with Dominic
each week when they have fun together.

Chapter 9: Health Promotion and Maintenance for the School-Age Child and Adolescent –
Recall the opening scenario which described Ty, a 12-year-old boy with osteogenesis imperfecta.
(Consult Chapter 29 for further information about this health condition.) Although he has a
health problem, Ty still needs health promotion and health maintenance visits. They need to be
adapted to consider his specific needs.

1. Ty often uses a wheelchair due to his frequent fractures and surgeries. What special
dietary needs does he have? What physical activities can be encouraged? Since he swims
and recently began wheelchair basketball, what safety needs does he have to prevent
injuries during these activities?
Answer: The diet should include nutritional management with adequate amounts of vitamin D
and calcium. Increased calories may be needed to promote healing; a variety of foods can
provide for a well-balanced diet. Physical activities should include those that limit the possibility
of fractures; examples are swimming and non-contact sports. Safety needs should be aimed at
providing protection and preventing fractures.

2. List the mental health strengths that Ty manifests. How will you use these strengths in
planning his care?
Answer: Ty demonstrates a positive outlook. He has sought out peers, interacted, and became
involved in many various activities that demonstrate his positive self concept. Ty should be
involved in planning his own care and schedules. The nurse should use his strengths and his
understanding of the disease to assist in development of the plan.

3. Plan a teaching session to explain osteogenesis imperfecta to Ty’s classmates.
Answer: The nurse uses creative and complex approaches to teach Ty’s class about his disease.
First, she can use concrete approaches and teaching aides to assist the class in understanding the
disease. Further, the children need an understanding of ways to help protect Ty from fractures. Ty can be involved in the teaching plan and presentations to classmates.

4. Many children with osteogenesis imperfecta have poor dental health due to the disease’s effects on teeth. Plan a teaching intervention with Ty to promote good oral hygiene and oral health.

Answer: The dental health plan needs to include prevention by including good oral hygiene and regular visits to the dentist. A soft bristle toothbrush, use of fluoride supplements, and fluoride toothpaste need to be included. Dental health may be impaired because of the disease, so if the family does not have dental coverage, alternative care is needed to facilitate monitoring and prompt treatment.

Chapter 10: The Child in the Community

Recall 7-year-old Ernesto at the beginning of the chapter, who visited the school nurse after becoming ill at school. Ernesto appears to have an acute illness with a sore throat and fever. He is otherwise healthy. The school nurse has called his mother to request that he go home.

1. What nursing care should be provided while Ernesto waits for his mother to come pick him up?

Answer: The nurse has already performed an assessment that included a focus on the head, eyes, ears, nose, mouth, throat, abdomen, and temperature. She has identified that Ernesto has a fever, as well as a reddened throat and tonsils. She should allow Ernesto to rest in the health room, encourage him to drink a cool, nonacidic liquid, and continue to monitor his condition. If physician standing orders for care of children in the school cover administration of acetaminophen or ibuprofen for fever, she could give Ernesto a dose. All assessment and nursing care data must be documented.

2. What information and recommendations should the school nurse give Ernesto’s mother regarding his illness? Should he be seen by his primary health care provider?

Answer: Ernesto’s mother should be informed about his inflamed tonsils and fever. She should also be informed that several other children have similar symptoms. If acetaminophen or ibuprofen has been administered, Ernesto’s mother should be informed about the time and dosage given. She should be encouraged to check Ernesto’s temperature periodically, and to expect that the fever may return 4 to 6 hours after the last dose. The mother should give acetaminophen or ibuprofen if his fever returns. Ernesto should be encouraged to drink lots of cool fluids and to rest or engage in quiet activities. Ernesto should be seen by his primary care provider to have a throat culture or rapid screen for a possible streptococcal infection.

3. Since Ernesto’s health problem may be infectious, what precautions and actions should the school nurse take to protect other students?

Answer: Ernesto should be isolated from other students in the health room. The nurse should wear gloves when in contact with any mucous membranes. All linens used by Ernesto should be removed and laundered; surfaces should be wiped down with a bleach or antiseptic solution in the health room where Ernesto rests.

4. What preparation should the school nurse have in place if Ernesto’s condition had been an emergency?

Answer: The school nurse should attend a course that focuses on the emergency assessment and care of children with acute illnesses and injuries, as well as be certified in Basic Life Support and automated defibrillator use. The nurse should have a portable first aid kit to carry to the site of
the emergency. An emergency plan should be developed that guides the actions of the school nurse and school administrators to be taken when a child has an emergency. The plan should include having a school administrator call 911, and ensuring that emergency medical services providers are taken immediately to the student’s location. A person on the administration should also call the parent while the school nurse provides care to the student.

Chapter 11: The Hospitalized Child
Recall Tiona, the child described in the chapter opening vignette. She is a 5-year-old girl who was admitted to the hospital for a tonsillectomy and adenoidectomy (T&A). Following Tiona’s operation, she refused to drink liquids because it hurt when she swallowed. After receiving intravenous pain medication, Tiona realized that she could swallow without too much pain and began to eat Popsicles and drink liquids. She was then switched to oral pain medication. Later in the day, Tiona was drinking liquids well enough that she was to be discharged home.

1. What information should the nurse include in the discharge teaching plan for Tiona’s mother?

   Answer:
   - Medication instructions and discussion re. pain management
   - Signs and symptoms to monitor for including: bleeding, inability to swallow fluids/soft food, inadequate po fluid intake, increased pain unrelieved by medication as ordered
   - Encouragement of mother to promote play activities, such as medical play or art work, so that Tiona can work out her feelings related to the hospitalization.
   - Follow-up appointment
   - Phone numbers to call if they have questions

2. As Tiona and her mother are preparing to leave the hospital, Tiona states “I am going to be good so I do not have to come to the hospital anymore!” How should the nurse respond?

   Answer: Assess what she means first: “Why do you think you had to come to the hospital? Did you think you were here because you weren’t good at home?” After finding out what she meant…then you can respond accordingly to dispel the reason or address that her tonsils were making her sick so they needed to be taken out so she can feel better. “It had nothing to do with anything you did.”

3. Tiona’s mother states that she is worried that her daughter will not drink enough at home. What can the nurse suggest to Tiona’s mother to encourage her to drink fluids? What are symptoms of dehydration that Tiona’s mother should watch for over the next few days?

   Answer: The nurse should stress to the mother the importance of giving Tiona pain medication at regular intervals as prescribed so that it will not hurt when she swallows. The nurse should suggest that the mother offer Tiona small amounts of her favorite fluids frequently, excluding any that might irritate the throat such as citrus juices. The nurse might also suggest that the mother offer a small reward such as a sticker each time Tiona drinks fluids.

4. Children Tiona’s age have many fears and stressors related to the hospital and surgery. How can Tiona’s mother assist her daughter to express her feelings about the hospital experience once she is home?

   Answer: After Tiona’s return home it is important for her normal routine to be established. Children Tiona’s age best express their feelings through play and drawings. Providing Tiona
with coloring books, crayons, dolls, etc will allow her to do this. A nurses kit might also allow her to play and work through any feelings she may still have.

Chapter 12: The Child with a Chronic Condition
Recall Haley, the 8-year-old child with cerebral palsy who will be attending school for the first time. Her mother believes that attending school will help promote her social development and broaden what she can learn. She also thinks that some of the special health services that Haley needs may be available in school, such as physical therapy and speech therapy. Haley’s mother has asked for the clinic nurse’s advice to help plan her daughter’s transition to school. Haley’s mother and nurse discuss the potential accommodations that Haley will need for her mobility limitations. The nurse suggests that Haley receive a full educational evaluation so her educational needs can be identified. Once the mother has signed consent, the clinic nurse prepares a summary of Haley’s health history for the school nurse that can be used to develop her IEP and IHP.

1: Describe the potential signs and symptoms of cerebral palsy that might be important to consider when Haley's IEP and IHP are developed (See chapter 20 for more information on cerebral palsy).
Answer: The potential symptoms of cerebral palsy will vary from child to child. In the case of Haley, the initial consideration will be for her mobilization issues. Other considerations will be her challenges with communication, feeding, toileting, medications, needed physical therapy and speech therapy, as well as her cognitive function and developmental level. Other issues may arise that require more information or assessment as the IEP and IHP are developed.

2. Based upon Haley's age and developmental stage, what feelings, fears, and concerns will she possibly experience related to entering school?
Answer: Based on her age and potential developmental level, Haley may experience a range of feelings, fears, and concerns related to entering school. Haley may be afraid of separation and experience separation anxiety when away from her primary care giver. She may for the first time notice a true difference between herself and peers. She may experience teasing and distant or difficult peer relationships.

3: Describe the role of the nurse as Haley's care coordinator.
Answer: The school nurse will manage and coordinate the multidisciplinary team for the IEP and/or IHP. The nurse will be responsible for managing the medical care of Haley during the school hours. The school nurse will arrange meetings, develop a care plan, develop a school schedule for medical needs and any additional needs that Haley may have during school hours. The clinic nurse’s role is to educate the mother about the school nurse role, facilitate permission for release of medical records, coordinate the transfer of information to the school nurse, and ensure that the physician understands and supports the process.

4: What education does the mother need to prepare her for serving as Haley's advocate with school administrators when her IEP and IHP are developed?
Answer: The mother needs to prepare in advance for the meetings regarding the IEP and IHP. The mother should speak with another parent who has experienced the process. The mother should also be aware of her rights and Haley's federal and state rights for education. The mother should be encouraged to learn about the range of services that may be provided by the school and community. Haley should have updated evaluations and her health care providers need to be aware of the plan. The mother should be available for meetings, review all information and recommendations, and ask questions during the process.
Chapter 13: The Child with a Life-Threatening Condition and End-of-Life Care
Recall Alexa in the opening scenario. She is unconscious from hitting her head and has a serious abdominal injury following a motor vehicle crash in which she was a passenger. She is being cared for in the pediatric intensive care unit so that she can be monitored and her injuries prevented from becoming life threatening. The abdominal CT scan has revealed a spleen laceration that is bleeding, so she is being carefully monitored for hypovolemia. She has regained consciousness, but drifts off to sleep frequently. Alexa’s mother is at her bedside. Her father, who was driving the car, is being evaluated at another hospital, and Alexa’s 8-year-old sister Sharon is temporarily staying with a neighbor.

1: What are the developmentally appropriate nursing interventions to address Alexa's stressors related to this sudden hospitalization?

Answer: Alexa is 6 years old. Her mother should be allowed to stay with her at all times. The family is the constant in the life of a child and the stress of hospitalization along with interrupted family connections would add more stress. Other considerations should include one or more of her favorite things such as stuffed animals in her hospital room, and working out a care schedule that incorporates many of Alexa's home routines. At this point, Alexa may not be fully alert and aware but the staff should speak with her, offer reassurance as appropriate, encourage touch if the family is comfortable, and allow for visitation by family or close friends. The nurses need to remember to educate Alexa and her mother on the surroundings and what to expect from all the machines and noises that may occur.

2: What physical assessment procedures are used to monitor Alexa's condition?

Answer: In the PICU setting Alexa will have monitors with alarms and many noises. The first assessment should not be assessment of the monitors, but assessment of Alexa. The nurse needs to use basic nursing assessment skills: respiratory, cardiac, blood pressure, neurologic, integumentary, bowel, and bladder. The monitors used in the PICU include but are not limited to: cardiac monitoring, respiratory monitoring, blood pressure via arterial line, intracranial pressure monitoring, central venous pressure, and hemodynamic monitoring.

3: What nursing interventions should be implemented to support Alexa's family?

Answer: The nursing interventions for the family should be implemented on admission to the hospital. The family should be encouraged to remain at Alexa's beside and to participate in the child's care. They should be encouraged to sing, talk, touch, and be with Alexa. Hospital staff and family members should avoid discussions at the bedside the child should not hear. The nurse should contact social work and if needed set up assistance for local lodging. The nurse should educate the family and encourage them to ask questions and seek clarification if needed. The family support may continue and the nurse should assess the family's support system and ability to cope. Consider if the family needs support from extended family or faith community. The nurse may offer to arrange spiritual assistance as needed. Consider if other children need to have their care needs met.

4: What information should be provided to Sharon to help her understand what has happened to Alexa?

Answer: Sharon needs to be aware that Alexa had two different injuries; one to the stomach (abdominal area) and one to the head (the brain). The nurse should be aware of Sharon's developmental level and comprehension at this point as well. Sharon is only 8 years old and needs easily understood information about the spleen injury and the possible need for surgery, as
well as reasons why Alexa is not talking or responding with her brain injury. Sharon should be
given the chance to ask questions. If Sharon is visiting Alexa in the PICU, explain what she will
see - tubes, machines, and how they are helping Alexa. Depending on the mother's stress level
and coping ability, the nurse may also want to have another family member or support person
present during the interaction.

Chapter 14: Nutrition Assessment and Management
Recall the family introduced in the chapter opener. Yvonne is a 9-month-old infant who is active
and healthy. Her mother, Colleen, has brought her to the Women, Infants, and Children (WIC)
Nutrition Program clinic, and they are accompanied by Margarita, the grandmother. Colleen feels
unprepared to make decisions about what Yvonne should be eating at this age. Yvonne
breastfeeds twice daily since Colleen works, but Colleen wonders if she should continue. The
nurse praises Colleen for continuing with these two feedings daily since that ensures the benefits
of breastfeeding such as immune protection against some illnesses, and it fosters mother–infant
bonding. She reassures Colleen that it is beneficial for her to pump her breasts and suggests that
the pumped milk be refrigerated and fed to Yvonne by bottle in the middle of the following day.

1. What fine motor skills would you expect to see in Yvonne at this age that will enable her
to perform more self feeding skills?
Answer: She can pick up small objects (such as pieces of food) and has a well-developed pincer
grasp.

2. During the visit, the nurse takes a blood sample for hematocrit. What is the expected
level at this age? What factors put infants in the second half of their first year of life at risk
for iron deficiency anemia? What teaching can you do to promote intake of iron? Yvonne
has a bottle of regular milk in the middle of the day. How could this contribute to anemia?
What is recommended for her intake at this age? How can you best support Colleen to
encourage her continued breast feeding of Yvonne?
Answer: Hematocrit should be 31-38%; consult the laboratory for specific norms they are using.
Iron stores from the infant’s mother are usually exhausted by this age and they may not be taking
in sufficient iron in foods to meet their needs. Encourage the mother to feed iron-enriched
formula (should be continued until 1 year of age), and to ensure daily intake of high iron foods,
such as this slices of meat and iron enriched infant cereals. Inquire about Colleen’s ability to
pump her breasts at work and store the milk for transfer home. Confirm her nutritional status via
24-hour diet recall; encourage a diet rich in water, calories, and protein to meet her needs.
Encourage breast feeding in the morning and evening on a regular basis when home.

3. Margarita prepares most of Yvonne’s meals during the day and speaks Spanish. How
will you prepare teaching for this grandmother so that she can benefit from the teaching
that the clinic has designed for parents of infants? How can you make that teaching
culturally sensitive?
Answer: Inquire about translated versions of the teaching materials. Seek out additional material
in Spanish from community and federal agencies (such as USDA and CDC). Find a translator in
the community to visit the grandmother with other health care providers. Start with an
assessment of the foods that Margarita likes to use and integrate them into the teaching plan.

4. As Colleen looks forward to the next few months, what information will she need to
provide nutritious intake for Yvonne? What are expected food patterns at 1 year and 18
months of age?
Yvonne will become increasingly independent in feeding herself. Her intake will generally increase but she will develop food likes and dislikes and may eat more in one day than another. A variety of types of foods should be consumed. She will generally eat the same foods as the rest of the family and should eat with the family and others in order to learn socialization skills. The mother and child can work together to accomplish weaning if desired during that time; bottle use should transfer to cup. Continue to emphasize safe feeding practices and avoidance of choking. Follow recommendations to avoid dental caries (such as limitation of fruit juice, sugary foods, and avoidance of bottles at bedtime or to carry throughout the day).

Chapter 15: Pain Assessment and Management

Recall Lucas, the 14-year-old at the beginning of the chapter who is to have orthopedic surgery for a slipped capital femoral epiphysis (see Chapter 29). He will go home the same day of surgery. Lucas received a dose of IV morphine in the postanesthesia unit at 10 a.m. He has an order for a repeat dose at 2 p.m., prior to discharge. He will be sent home with acetaminophen with codeine for pain every 3 to 4 hours.

1. **What are the most appropriate pain assessment tools for Lucas to use to report his level of pain to the nurse?**

   *Answer:* At age 14 years, several options are available for Lucas to use to self-report his level of pain. They include the Faces Pain Rating Scale, Numeric Pain Scale or Visual Analog Scale, Word-Graphic Pain Scale, and the Adolescent Pediatric Pain Scale. Lucas should be able to describe his pain and to report body sites with pain.

2. **What complementary pain therapies are of value for Lucas’s condition and age?**

   *Answer:* Complementary pain therapies that may be used for Lucas’ age and following orthopedic surgery include distraction, guided imagery, rhythmic breathing techniques, relaxation techniques, hypnosis, or massage.

3. **Lucas weighs 52 kg. What is the appropriate dose of morphine for Lucas and the calculated volume (concentration of 2 mg per mL) to be administered?**

   *Answer:* Because Lucas weighs more than 50 kg, he may potentially have the adult morphine dose of 10 mg every 3 to 4 hours prescribed. However, because he is a pediatric patient, the dose of have morphine may be calculated by his weight. The dose of morphine for children is recommended at 0.1 mg/kg. For Lucas at 52 kg, his dose would be 0.1 mg x 52 kg = 5.2 mg per dose given every 3 to 4 hours IV. Using a vial of morphine with a concentration of 2 mg per mL, the volume to be administered is 5.2 mg divided by 2 = 2.6 mL.

4. **Describe the important nursing assessments for Lucas following morphine administration.**

   *Answer:* Following any pain medication administration, it is most important to assess the level of pain after 30 to 60 minutes using the same pain scale selected to assess Lucas’ pain prior to analgesia administration. With an opioid drug, the nurse must also assess for respiratory status and potential respiratory depression. The nurse must also assess for break-through pain and determine if the dose is appropriate to maintain pain relief.

5. **Develop a teaching plan for Lucas’s home pain management and expected medication side effects.**

   *Answer:* The teaching plan for discharge needs to include information on pain assessment, the expectation of pain with the surgical procedure, the importance of pain management in promoting healing, and the administration of pain medication. The teaching plan needs to include
specific dosage amounts and timing for administration. In addition, complementary pain management therapies should be discussed with Lucas’ mother as a method to enhance pain management.

Chapter 16: Infectious and Communicable Diseases
Recall 4-month-old Kendra and her parents from the opening scenario, who came to the health center for Kendra’s immunizations and health assessment. Kendra’s growth and development are occurring as anticipated. Kendra has previously received the following vaccines: two doses of HepB, and one dose each of DTaP, IPV, Hib, RV, and PCV.

1. Which vaccines should Kendra receive today? When should she return for the next needed vaccines?
Answer: Kendra is 4 months old, and has previously received all appropriate vaccines for her age (two Hepatitis B doses, and one dose each of the following vaccines: Rotavirus, Diphtheria, Tetanus and Pertussis, Hemophilus Influenza B, Inactivated Polio, and Pneumococcal vaccines. Today, Kendra should receive a dose of the following vaccines: Rotavirus, Diphtheria, Tetanus and Pertussis, Hemophilus Influenza B, Inactivated Polio, and Pneumococcal.

2. What are the nurse's responsibilities before giving Kendra her needed vaccines?
Answer: The nurse must check the expiration of the vaccines being administered prior to use, and make sure that the vaccines are stored at the temperature that maintains their potency. When a vaccine is reconstituted, it is important to use the solution provided and follow the manufacturer’s directions. The nurse is responsible for informing the parents or the child’s legal guardian about the risks and benefits, as well as common local reactions, supplying the most current Vaccine Information Statements as required by the National Vaccine Injury Act. The nurse also obtains written consent before the vaccine is administered. Documentation of the vaccines given must include the date of administration, vaccine given, manufacturer, lot number and expiration date of the immunization given, site and route of administration, and the nurse’s name, title, and address.

3. What are some potential methods to reduce the pain associated with immunizations?
Answer: Kendra could be given 24% sucrose solution (Sweet-ease) to suck 2 to 3 minutes prior to the injections. Kendra should also be permitted to breastfeed or suck on a pacifier during the injections. Apply pressure at the site for 10 seconds before the injection. Two injections can be given simultaneously by two nurses. Encourage the parent to hold and comfort Kendra during and after the immunization can also decrease the pain.

4. What preparation should the health center have in case Kendra has a serious allergic reaction to a given vaccine?
Answer: The health center should have all required emergency equipment for managing a pediatric emergency in various pediatric sizes (Box 10-1) in a central location. The physicians and nurses should be trained in basic life support and Pediatric Advanced Life Support (PALS). Professional staff should rehearse emergency care responses with mock scenarios so that all personnel know what their roles are in an emergency.

5. What patient education should be given to Kendra’s parents about the expected reactions to the given vaccines?
Answer: Educate Kendra’s parents about expected vaccine responses including local reactions at the site of the injections. The child may have slight redness, swelling, or tenderness at the immunization site. The child may also have low-grade fever, irritability, crankiness, fussiness,
and crying. Acetaminophen or ibuprofen may be given to reduce a fever and pain. A cool pack may be placed on the injection site and the parents should use gentle movement of the affected extremity. The symptoms disappear in a day or two. The parent should be educated to notify the health care provider if any of the symptoms become severe or last longer than 72 hours.

Chapter 17: Assessment and Management of Social and Environmental Influences – Refer back to 15-year-old Amy, who is described in the chapter opener. She has visited the school nurse due to a painful ear pierced by a friend. The nurse examines all of Amy’s piercings on her ears, face, and navel. Amy is talkative and willing to answer the nurse’s questions about her body art and her life. She elaborates about the reasons she ran away from home last year and seems to be analyzing her own motives and goals. She now lives at home with her family again.

1. What is Amy’s developmental stage according to Erikson? How can the adults in her life encourage her healthy psychosocial development?
   Answer: The Erikson stage is Identity vs. Role Confusion. The family can set clear limits and assist Amy to establish a sense of identity by exploring safe choices. Conversations to assist in role development and clarification of values promote health identity formation.

2. Amy has clearly demonstrated many risk and protective factors for physical and psychosocial health. What factors place her at risk of disease or developing unhealthy lifestyles? What factors are protective of her health?
   Answer:
   Risk Factors:
   - She is an adolescent in an alternative high school where peer pressure may or may not be detrimental.
   - Her exposure to communicable diseases is currently unknown.
   - Her immunizations are incomplete
   - She has a tenuous relationship with her father
   - Multiple piercings and body art put her at risk for infection.
   - History of asthma and possible current smoking habits
   - Other health history unknown at this time, so other physical risk factors may exist.

   Protective factors/Strengths:
   - She in a supportive alternative high school with teachers she trusts.
   - She sees the value of education
   - She is beginning to understand the importance of high school graduation
   - Her parents are pleased she is back in school.
   - She has a trusting relationship with the school nurse
   - Her mother is concerned and caring

3. List at least three nursing diagnoses based on Amy’s risk and protective factors. What interventions will increase her protective factors?
   - Risk for infection related to multiple body piercings and lack of understanding of safe piercing procedures.
   - Family process, readiness for enhanced related to history of strained relationships and Amy’s expressed desire to be closer to her family.
   - Knowledge deficit related to incomplete understanding of asthma and trigger factors (e.g. smoking).
4. Exposure to home piercings and to body art presents several health risks. What are they? What immunization should Amy have to prevent her from acquiring a disease transmitted by blood?

Answer: Infection and blood borne pathogens are the greatest risks. Amy should receive hepatitis B vaccine. She should also have a current Tdap (tetanus, diphtheria and acellular pertussis).

Chapter 18: Alterations in Fluid, Electrolyte, and Acid-Base Balance

Consider the scenario involving Vernon at the beginning of this chapter. He is an 18-month-old who has had vomiting and diarrhea for several days. The assessment of body weight loss, skin turgor, and level of activity suggests moderate dehydration. Vernon refuses attempts at feeding him orally, his pulse becomes rapid, and his blood pressure decreases. Voiding is decreased and capillary refill is slow. Vernon is admitted to the short-stay unit and an intravenous infusion is started.

1. Based on his age, what oral fluids might be best to offer to Vernon? What questions will you ask his mother about his normal fluid intake at home?

Answer: Start slowly, 3 to 5 ml in a small cup or spoon every few minutes; offer flavors of ORT (ready to feed or powdered forms). Have mom assist him, since he will be most comfortable/cooperative with her.

2. What additional assessment will you perform on Vernon to gather further information about his state of dehydration?

Answer: In addition to the described weight loss, skin turgor and decreased level of activity that are described, mucous membranes and skin for hydration; evaluate pulse, blood pressure, capillary refill and respiratory status; urinary output and specific gravity, continued vomiting and diarrhea, and muscle tone.

3. Since Vernon has had vomiting and diarrhea, he is probably deficient in an electrolyte present in high quantities in these body fluids. What electrolyte in addition to sodium, is likely deficient?

Answer: potassium

4. A major nursing role is to plan care for Vernon while he is in the unit to rehydrate him. Calculate his replacement and maintenance fluid needs. Formulate a plan of care to include the amounts of oral rehydration therapy he should be offered over the next several hours. Use evidence-based findings to provide the rationale for your planned interventions.

Answer: Consult Box 18-1: Calculation of Intravenous Fluid Needs in this chapter. Administer 120 mL of oral rehydration for each diarrheal stool or vomiting episode. Start slowly with 3-5 mL and repeat every few minutes. In addition, give 50-100 mL in first 3-4 hours. Nursing care plan involves teaching parents about oral rehydration, and symptoms that require further healthcare contact. Maintain safety for the child and continue monitoring for dehydration symptoms and continuing or worsening illness.

Chapter 19: Alterations in Eye, Ear, Nose, and Throat Function

Recall Kate, who was described in the opening scenario. She was deaf and had a cochlear implant at 2 years of age. She is now 5 years of age. She hears sounds, is working to integrate sounds with
meaning, and attends speech therapy each week. Kate is fortunate that she has two parents who are able to attend speech therapy with her and reinforce learning at home. They are concerned about finding the best kindergarten for her to attend next year.

**1: Describe the normal speech patterns of a 5-year-old. How are Kate’s patterns likely to differ?**

*Answer:* At the end of the preschool age a child should have a vocabulary of about 2,000 words, should speak in complete sentences containing several words, and use all parts of speech. Kate is just beginning to use words and speech. She will have to learn to assimilate words and speech patterns to form thoughts and express herself with words and language.

**2: Refer back to the Denver II Developmental Screening Test described in Chapter 7. Are there any items for the 5-year-old that might be difficult for Kate? If so, which ones?**

*Answer:* On the Denver II Kate will have difficulty with most of the language skills. She may have some ability to combine words, name pictures, or use words correctly, but she will have limited capabilities in language as compared with most other children of her age.

**3: Which immunization is especially important for Kate to receive in order to prevent a risk of meningitis with her cochlear implant? How will you counsel parents about this and help them find a resource for immunizations?**

*Answer:* It is very important for Kate to receive the pneumococcal immunization, meningococcal vaccine, and Haemophilus Influenzae type B. Her previous immunizations should be reviewed to be sure that all others are up-to-date as well.

**4: Provide a list of questions that Kate’s parents can ask as they visit and evaluate kindergartens. What characteristics will be especially important for them to consider?**

*Answer:* Public laws apply to the education of children who have hearing impairment (see Chapter 1). After diagnosis, the parents and professionals together agree on an individualized education plan (see discussion in Chapter 10). Childcare and preschool are recommended for children with hearing problems. The parents should seek a kindergarten program that can provide resources to assist Kate. Some Questions to consider and use when interviewing a school could include:

- What is the student-to-teacher ratio?
- Are any teachers trained in special needs for students with auditory needs, such as those who use sign language?
- Does the school have a system in place for establishment of an IEP?
- Does the school have funding for students with special needs?
- Does the school have speech therapy for students with special needs?
- How does the school work with students and parents who have special needs?
- Is there a school nurse on site during the day?

**Chapter 20: Alterations in Respiratory Function**

Recall Shaun, the 13-year-old from the opening scenario. He is in the hospital for infection management and aggressive respiratory therapy. Because he has cystic fibrosis and infectious organisms in his lungs, he is in a single room. He is not permitted to interact with the other children on his unit. Shaun uses a mask when he leaves his room and the nursing unit. He is not feeling ill and welcomes company and distractions. His mother and sister are only able to visit after work. This is an optimal time to continue teaching Shaun to manage his condition.
1: What is Shaun's developmental stage, and what information and self-care skills should be included in a teaching plan for Shaun to correspond to that stage?

Answer: Shaun's developmental stage is that of an early adolescent, when there is a desire for independence, an ability to make decisions and use abstract reasoning, egocentric tendencies, and desire to fit in with peers. Shaun should be encouraged to understand all self-care and the rationale for the care. He should learn to take as much responsibility as possible to perform self-care. He needs to begin learning about the disease process and to understand that there are consequences for not following through with the daily care regimen. He should be encouraged to work with his mother to develop a daily care schedule and to fit his treatment plan into his life so the treatments are completed as needed. At this stage the parents still need to be actively involved and monitor his self-care and decision-making abilities.

2: What information should be reviewed with Shaun about his condition and the treatments needed to keep it from progressing?

Answer: Much of the education provided about CF has been given to his parents. Shaun also needs to be educated about his disease and how his treatment plan helps him to stay as healthy as possible. Shaun needs to understand the importance of the daily nebulizer therapy and chest physiotherapy or high-frequency chest wall oscillation, along with coughing and deep breathing to remove the secretions from the lungs. He needs to be aware that routine activity and exercise will promote lung function. Shaun also needs to be aware of the importance of a well-balanced diet with 120-150% of RDA calories, 200% of RDA protein, moderate fat, and pancreatic enzyme supplements to assist in digestion.

3: What signs should Shaun learn to recognize that might indicate a new infection?

Answer: Shaun needs to be aware of any changes in his respiratory system. Any signs of changes in breathing, energy level, new cough, fever, fatigue, irritability, or decreased activity tolerance may indicate that Shaun needs further assessment or medical evaluation for possible new onset infection.

4. What approaches might be taken to help Shaun schedule his treatments around school and recreational activities that might increase adherence to the schedule?

Answer: The nurse or case manager should talk with Shaun about his daily schedule and routine for school days and weekends. In collaboration with Shaun, the nurse or case manager should discuss the planned treatment regimen. If Shaun is allowed to develop a home treatment plan that allows him to participate in important activities, he will be more likely to adhere to the plan.

Chapter 21: Alterations in Cardiovascular Function

Recall Tim, 16 years old, in the opening scenario who was born with the tetralogy of Fallot congenital heart defect. Despite successful corrective surgery as an infant, he recently had a pacemaker placed to help manage the episodic slow ventricular heart rate. Tim is the oldest of two children; his brother is 10 years old. Tim had been able to participate in all usual school and childhood activities except sports until the past year. He has many friends, and he is friendly with several girls. Tim is becoming more aware of how different he is from his peers due to his heart defect and recent pacemaker implantation. His parents had previously made all of his health care decisions, but at the time the pacemaker was needed, Tim became more involved in the patient education and decision-making process. Now Tim is realizing that he must become much more involved in his health care, but does not know how to assume that responsibility.

1. What is the potential explanation for the development of an arrhythmia so many years
after the original heart surgery?
Answer: With growth through puberty, the body has markedly increased demands on the entire system. Tim's heart was able to maintain and keep up with blood flow requirements until she entered puberty. The increased demands on her heart combined with areas of the heart that may not grow after surgery, such as areas where a patch has been placed, may cause an interruption or malfunction in the cardiac electrical activity. This may lead to the development of the arrhythmia.

2. What emotional and behavioral responses should be expected from Tim when learning more about his physical limitations and future healthcare needs?
Answer: Tim has been an active "normal" child up to this point of his life. He will now have to make changes to decrease high exercise activities and demands on his heart. He will have frequent follow-ups to assure the pacemaker is working correctly. He will have to pay closer attention to his body's needs for rest.

3. Develop a teaching plan to educate Tim about his congenital heart condition and self-management to maintain his health status.
Answer: The first and most important teaching will be to ensure that Tim is informed about his specific heart defect and current condition, surgery performed, and treatments, just as earlier education was given to his parents. He needs to learn about appropriate level of activities that will allow his heart to function optimally. He may have to adjust his physical activities and plan for periods of rest. Tim also needs information related to his pacemaker and its care. Self-management to maintain his health status should include information about nutrition, weight management, allowable exercise, prophylactic antibiotics for procedures, and signs and symptoms needing immediate health care. The importance of care for health promotion should be discussed along with the risks for tobacco, alcohol, other substances of abuse, and unprotected sexual activity.

4. Develop a transition plan for Tim to begin taking primary responsibility for all aspects of his health care.
Answer: Tim needs to begin assuming responsibility for his health care as an adolescent. One strategy is to have Tim meet separately with his cardiologist before inviting his parents to come into the room. This allows Tim to practice giving historical information to a familiar physician and asking about his condition and care. Tim should be encouraged to also meet separately with his primary care provider to continue to advocate for himself, prior to being transitioned to adult health care providers. Make sure that Tim understands the need to obtain an annual influenza vaccine and all other recommended vaccines, and to maintain a record. Help Tim develop strategies to track medications he takes on a daily or episodic basis. Make sure that Tim has a summary of his health condition and current treatments to take with him to new physicians. Discuss the importance of seeking vocational training to match his interests and exercise limitations.

Chapter 22: Alterations in Immune Function
Recall Raymond, the 2-year-old introduced at the beginning of this chapter, who, after repeated infections, was diagnosed with AIDS. Raymond had no other risk factors for HIV and AIDS, so the health care team recommended that Raymond’s mother be tested for the infection. She was subsequently diagnosed with HIV infection whereas Raymond’s 5-year-old sister tested negative
for HIV. The family is dealing with the diagnosis for both Raymond and his mother as well as learning to care for Raymond.

1: Raymond is having difficulty eating. After you consider his age of 2 years and the recommended intake at this age, plan a daily menu for him with several small feedings. Answer: A nutritionist should be consulted to assist with the diet plan. At this age Raymond's preferences should be considered when planning the diet. The goal is optimal nutrition, so careful planning is essential to include the nutritious foods that Raymond will eat. Antioxidants (vitamin A, vitamin E, zinc, and selenium) should be consumed at recommended levels as they are known to enhance general immune function. The diet should be high in protein and polyunsaturated/monosaturated fats to increase caloric content. Foods with lactose should be avoided.

2: You have just been assigned to care for Raymond during a day shift. Organize your morning assessment of Raymond. Plan to observe the systems constituting the most frequent sources of infection in children with HIV. Answer: Frequent sources of infection that impact assessment are the respiratory and GI systems. To protect Raymond, include frequent hand hygiene and education of visitors, family, friends about the potential of spreading respiratory and other infections to Raymond.

3: What is the most common cause of Raymond's infection with HIV? How might the family react when they learn about perinatal transmission? Answer: The most common cause of HIV is perinatal transmission. The family may be shocked and wonder why the mother did not have signs or symptoms of an HIV infection. The mother may feel guilt about passing HIV to Raymond. The remainder of the family may have fears related to the potential exposure from Raymond and his mother to other family members.

4: Dealing with the challenges of HIV in a young child taxes the family's resources. Plan nursing care that involves HAART medication administration and interventions to promote Raymond's development. Answer: Raymond needs interventions designed to encourage meeting of developmental milestones. Raymond should be treated for his disease and also be allowed to develop as any other two year-old-child. The family can be encouraged to provide opportunities for social interactions with other children in pre-school and school settings when appropriate. Raymond will need an IEP/IHP when he is in the school system. The family should be referred to specialty clinics and services as required. The most important change in his life will be the medication regimen. Treatment for the child diagnosed with HIV involves drugs to boost the immune response, and highly active antiretroviral therapy (HAART). Intravenous immune globulin has been used to prevent bacterial infections in children. Prompt therapy with anti-infective agents is used for bacterial and viral opportunistic infections.

Chapter 23: Alterations in Hematologic Function
Recall Michael, the child in the opening scenario who is admitted with sickle cell crisis. Michael is receiving intravenous and oral fluids, oxygen, and opioids via a patient-controlled analgesia (PCA) pump. His hemoglobin on admission was 7.7 g/dL, and hematocrit was 22%. Michael’s father has returned to work and he visits in the evenings. Michael’s mother remains at the hospital with her son.

1: Considering Michael's age and developmental stage, what communication techniques will the nurse implement when teaching Michael about his disease and treatment?
Answer: Michael is 12 years of age. At this stage he has ability to think in the concrete and abstract and is in the developmental stage of identity versus role confusion. The nurse should ask Michael what he knows about his disease and how he manages sickle cell at home. The nurse should include Michael in all education provided for the family. The nurse should engage and interact with Michael and ask him to participate in the planning and communication process.

2: Refer to Chapter 15 to plan the pain assessment and management techniques that can be used with Michael.

Answer: Multiple pain assessment techniques can be used. For Michael to communicate his pain level, the nurse may use a number pain scale, the FACES scale, and the poker chip technique. Inquire about what assessment techniques Michael has used in the past. Use the data gathered from pain assessment to determine the appropriate treatment for pain.

3: What are the expected levels of hemoglobin and hematocrit at Michael's age? Why are his levels abnormal? Describe how sickle cell disease influences blood values.

Answer: The expected level of hemoglobin is 10.5-13.3 g/dL; the expected level of hematocrit is 31.7-39.6%. In sickle cell disease, the normal hemoglobin is replaced with abnormal hemoglobin S. This results in a decrease of normal hemoglobin and a resulting decrease in the blood values for the usable normal hemoglobin.

4: What are the most immediate care needs while Michael is hospitalized? What additional immediate care will he require at home?

Answer: During hospitalization the major needs are for pain management, adequate hydration, and oxygenation. Once the body is rehydrated and well-oxygenated, some of the sickle cells reshape into the regular normal 'O' shaped hemoglobin. At home, Michaels must focus on maintaining adequate fluid intake. He should also be aware of the need to prevent infections which can lead to sickle cell crisis.

Chapter 24: The Child with Cancer

Recall 4-year-old Sam, who was described in the opening scenario. He was recently diagnosed with acute lymphocytic leukemia (ALL) and has begun treatment. Both his mother and father are strong supports, and his older siblings, Jeffrey (6 years) and Blake (8 years), are worried about and protective of their younger brother. On a recent clinic visit, Sam’s hemoglobin was found to be 6 g/dL.

1. Sam has had several procedures already that are painful and have required sedation. Plan to prepare him for a lumbar puncture for which he will be sedated. Consider his age as you plan how far ahead to tell him, how to explain the room he will be in, and how you will include his parents in the procedure.

Answer: Sam is 4 years old and in the preoperational stage of development. He has limitations in thought processes, so early preparation (days before) may not be helpful. The preschool child’s work is play, and he may want to initiate activities and medical play at home. If possible, let him play with the equipment he may see in the treatment room later (masks, syringes, play needles, Band-Aids, oxygen mask, iv tubing, etc.). If he likes to draw he may want to draw this out, or use a coloring/activity book created for children in the hospital. Often times child life specialist or nurses will have worked with the families and provided some medical play activities for him to work out his feelings after discharge, and before coming back in to clinic. This is also preparation. Letting him know what is going to happen during the procedures in terms he understands is key right before the procedure. For example: “We need to go to clinic tomorrow...
and get more medicine to keep you healthy. The doctor needs to see if the bad (leukemia) cells are gone to give you the right medicine. You will be given sleepy medicine while your mom (or dad) is with you. He/she will stay with you the whole time and the doctors will do the procedure while you are sleeping. When you wake up your mom/dad will be with you.”

Parents are provided information about the procedure and what to expect. If possible, one parent should stay with the child during the entire procedure through recovery. The parent can be given a role to support the child, stroking his head, talking softly until sedation takes effect, and as he wakes up, holding the child as he is arousing from sedation. The parent isn’t used to “hold” the child for the procedure, but is used in a supportive, comfort role.

2. **Lack of all blood cellular components is a side effect of leukemia treatment. Explain why Sam’s hemoglobin is low. What is the expected level? What colony-stimulating factor might be used in his treatment to increase RBCs? How will you explain all of this to his parents?**

**What dietary teaching can you do to enhance hemoglobin levels?**

**Answer:** The goal of chemotherapy is to destroy all of the leukemia cells, and precursor cells in the bone marrow. Since it is systemic therapy, to destroy these cells, bone marrow suppression occurs. This includes the production of RBCs. His low hemoglobin is an expected outcome from treatment. Transfusion levels are based on type of leukemia, actual hgb and hct levels, and clinical symptoms (signs of bleeding; need for procedures, etc). One could theoretically give erythropoietin to stimulate the production of RBCs, however, it isn’t standard on protocols. Granulocyte colony stimulating factors, e.g. filgrastim/Neupogen is frequently given to promote WBC production to increase the ability to prevent/respond to infection.

There are great teaching references regarding leukemia and treatment, both for parents and for pediatric patients that I would utilize. Explaining the reasons why the counts are low (need to destroy the leukemia cells and suppress the bone marrow in hopes that as it recovers, no blast (leukemia cells) are produced. When this suppression occurs, other cells are also decreased, including WBCs, RBCs, and platelets. Letting parents know what is most concerning about this and what they need to watch for and call the clinic early is key (bleeding, low grade fever, signs of viral illness). The key will be to help the parents understand goals and plans of treatment, expected complications, their role in comfort and early detection/seeking emergency or medical care is the mainstay of nurses’ teaching. Dietary teaching of foods that can increase hemoglobin include iron rich foods such as meat, fish, poultry, vegetables, dried fruits, whole grain and iron-fortified cereals, and legumes.

3. **Infection is a frequent complication of treatment for leukemia. During Sam’s clinic visit, what assessments will you make to monitor for infection?**

**Answer:** Assessments would start with a good history from Sam’s parents about how he’s doing and any concerns. This would guide a more focused assessment. Initial assessment would include: VS (looking for any signs of low grade to high fever, increased HR, increased RR, low BP or widened pulse pressure which could indicate sepsis/septic shock). If none of the above, full assessment would be respiratory (for signs of pneumonia), CV: signs of decreased perfusion, early signs of sepsis; GI assessment (for ileus; hx of bowel changes, diarrhea due to C-diff.); skin/mucous membranes for signs of bleeding, mouth sores/mucositis; central line site for drainage or signs of inflammation/infection, GU: note urine for cloudiness, signs of UTI. I would expect his WBC to be low to low normal if he has no infection. The goal would be to have his Absolute Neutrophil Count greater than 100 so he can receive chemotherapy.

4. **Jeffrey and Blake are attending one of Sam’s clinic visits when he receives chemotherapy. What questions and activities will you plan for them during the visit?**
can you do to increase their knowledge and help them feel like they are part of Sam’s care? Could their concern for Sam influence their own school performance? What should their teachers know about the fact that they have a sibling who has leukemia?

**Answer:** Jeffrey (6) and Blake (8) are in the concrete operational stage of development and are capable of mature thought, especially when offered ways to express themselves and develop an understanding of what is happening to their brother. In many settings, child life specialists will design activities for the siblings to participate, develop a comfort with the hospital/clinic environment, be invited in to the playrooms or an activity room to play and express themselves and their feelings. Some activities are art projects, various books, playing with the medical puppets and discussing the treatment and lines with the nurse or child life specialist in terms they understand. First and foremost is for them to gain trust with the staff, and for them to feel comfortable discussing or expressing their fears and concerns. To help them feel more apart of Sam’s care, when he is waiting (or if he is an inpatient), involving them in diversional activities with their brother is key. These may include playing games, bringing in lunch and eating with him, watching a movie, playing on the computer with him, etc.

It is well documented that siblings are very affected when a family member has a cancer diagnosis. This can be exhibited in regressive behaviors, anger and other emotional outbursts, inability to concentrate, etc. This can influence their own school performance. Nurses and others on the healthcare team encourage parents to notify their children (all) teachers to let them know about their sibling who has leukemia, and especially asking for them to provide the sibling extra TLC and notifying parent (or whomever is staying with the siblings) if they are having some decreased performance and/or behavioral issues. The siblings may also benefit from talking to the school counselor (if available). Depending on the season, there are other resources such as summer camps, where children with cancer and their siblings (and sometimes) friends can attend and play together.

Chapter 25: Alterations in Gastrointestinal Function

Recall Jenna from the chapter opening scenario, a 4-year-old who has just been admitted to the pediatric unit after surgery for a ruptured appendix. Jenna is groggy from the anesthesia, but is scared. She complains of “tummy” pain and wants the tubes “out now.” She cries as the nurse approaches to perform an initial assessment.

1. **Why was Jenna at increased risk for ruptured appendix compared to a school-age child?**

**Answer:** Diagnosis of appendicitis in young children may be delayed because young children have difficulty localizing pain and their symptoms may be more diffuse than in older children. Subsequently, young children frequently present after the appendix has ruptured.

2. **Jenna’s parents ask why she needs all of the tubes. What information should the nurse include related to the purpose of the nasogastric tube, the Foley catheter, and the PICC line?**

**Answer:** The nurse should assess the parents’ current level of knowledge and understanding of their daughter’s medical treatment. Explanations should be offered at their level of understanding. In simple terms the nasogastric tube is in place to keep her stomach empty and quiet so that she can heal. The Foley is in place to drain her bladder since surgery and narcotics make it difficult for her to urinate (pee) on her own. The Foley also helps the nurses keep accurate track of her urinary output. The PICC line provides access for the nurse to administer
intravenous fluids, pain medications, and antibiotics. Blood for laboratory tests can also be drawn from the line.

3. **Considering Jenna’s developmental age, how can the nurse help Jenna adapt to the hospitalization experience?** (Refer to Chapter 11)

   **Answer:** Jenna will benefit from parental presence as much as they can be there. They can assist in comfort holds and soothing. Jenna should be allowed to have a familiar toy or blanket. Night lights may alleviate some of her fear. The nurse should allow Jenna as many choices as possible and keep care as routine as possible. Developmentally appropriate toys can be helpful, as are books, songs and age appropriate videos. The nurse should also give brief, concrete, non-ambiguous explanations to the three year old, always being careful to use “soft, developmentally appropriate language. Three year olds may enjoy medical play (e.g. giving their teddy bear his medicine and listening to his heart.) Topical anesthetics and careful pain management also decrease her threshold for fear and anxiety.

4. **What interventions are most appropriate with a 4-year-old to decrease the risk of pulmonary complications associated with surgery?**

   **Answer:** The nurse should be performing respiratory assessments frequently. Jenna will need to be encouraged to turn every two hours if she is not moving about on her own. Coughing and deep breathing is a tough concept for children this age, so Jenna could be encouraged to blow bubbles, blow on a pinwheel, or pretend that she is blowing out a candle. Getting Jenna out of bed as soon as her condition permits and having her ambulate several times a day will also decrease this risk.

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**Chapter 26: Alterations in Genitourinary Function**

Recall Brooke from the opening scenario. She is an active 9-year-old who is involved in many activities at school. Her recent urinary tract infection forced her to leave class to run to the bathroom. She was given a prescription for oral antibiotics.

1. **What developmental considerations should the nurse incorporate when teaching Brooke about prevention of future UTIs?**

   **Answer:** Brooke is a school age child and is able to understand concrete explanations regarding UTIs and how to prevent reoccurrence. Using an anatomical model (such as described in the book) will help her see “healthy behaviors” of wiping front to back, importance of drinking lots of fluids, importance of not taking bubble baths (could be the cause of her UTI)

2. **What desired outcomes should the nurse include in the teaching plan?**

   **Answer:** Brooke verbalizes understanding of how to prevent UTIs and when to let her mother know if she is having signs/symptoms of UTI.

3. **What are the potential problems that Brooke could encounter if she does not take the medication as prescribed?**

   **Answer:** The main problem would be reoccurrence of infection.

4. **If Brooke has another urinary tract infection in the next few months, what diagnostic procedures might be used to rule out other potential causes?**

   **Answer:** Other diagnostic procedures include: repeat urinalysis and culture, renal/bladder ultrasound, and a voiding cystourethrogram (VCUG).

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**Chapter 27: Alterations in Neurologic Function**

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Recall 8-year-old Andy with meningitis at the beginning of the chapter. Andy has a cochlear implant that increases his risk for development of meningitis. During the first days of Andy’s hospital stay, he is irritable and resists moving because his head and neck hurt. Pain medication is provided to increase his comfort. His IV fluids are carefully managed for the first few days until it is known that the syndrome of antidiuretic hormone will not develop. Although he remains responsive during the initial days in the hospital, he naps a lot. On day 2, Andy has a generalized seizure that is effectively treated with lorazepam. Since Andy may have developed a seizure disorder due to meningitis, seizure precautions are initiated. As the infection begins to resolve, Andy begins feeling better and seeks opportunities for diversion.

1. **Describe the pathophysiology that could account for Andy’s infection and seizure.**
   
   **Answer:** Andy may have had a respiratory or other infection that resulted in bacteria spreading to the bloodstream, and then to the central nervous system where it entered the subarachnoid space. His body mounted an inflammatory response, and along with bacterial toxins, the brain became inflamed. Vasodilation of the brain blood vessels led to an increase in the intracellular and extracellular fluid in the brain tissues (cerebral edema). Because the skull is fused in a child of Andy’s age, increased intracranial pressure resulted. Andy had a seizure because the inflammation and increased intracranial pressure affected how the brain functioned, causing an excessive number of neurons in the brain to become overexcited and discharge abnormally.

2. **Identify age-appropriate diversions for Andy during his hospital stay.**
   
   **Answer:** When Andy is acutely ill and on bed rest, he could have been irritable and extra sensitive to loud noises and bright lights. Quiet activities would have been most appropriate, including soothing music, reading a story, and perhaps a favorite television show. As he recovers and is less sensitive to external stimuli, board games, television, coloring or drawing might be additional quiet activities. Once Andy could get out of bed and go to the play room, other games and activities with other children are appropriate.

3. **Describe the neurologic nursing assessments that should be performed on Andy at regular intervals during his initial days in the hospital.**
   
   **Answer:** At regular intervals during the initial days of care, assess Andy’s responsiveness to the environment or stimuli (is he irritable, lethargic, or difficult to arouse?). Monitor the vital signs, including the blood pressure to identify signs of increased intracranial pressure (increased systolic blood pressure, a wide pulse pressure, and bradycardia). Observe for other signs of increased intracranial pressure (Table 27-4). Perform a neurologic assessment that includes the cranial nerves (Table 5-16), pupil size and reactivity, eye movements, and motor function. Assess cognitive functioning (does the child follow directions, does he answer simple questions correctly). Observe the characteristics of any seizures.

4. **Develop a nursing care plan for Andy that takes into account his treatment, pain, and lethargy. Be sure to address hydration, seizure precautions, and family education.**
   
   **Answer:**
   
   - **Pain/discomfort:** Assess with numeric pain scale and administer opioid medication for pain and acetaminophen for fever as ordered. Perform frequent neurological assessment, vital signs and pulse oximetry to monitor respiratory status. Allow child to assume position of comfort and keep stimulation to a minimum.
   - **Infection:** Administer antibiotics as ordered. Enforce isolation until 24 hours on antibiotics. Encourage family to inquire about prophylactic antibiotics for other members and instruct them to watch for early signs of meningitis in their other children.

Coping and interrupted family processes: Involve parents and grandparents in care as much as possible. Update family (including biological father) on Andy’s progress. Encourage family to ask questions and express concerns. As soon as possible, allow siblings to visit and explain what’s happening to Andy in developmentally appropriate language. As Andy is ready to transition to home, begin discharge planning and education. Assist parents and extended family in problem solving regarding care at home.

Diversion: Assess Andy for interests and activities that he normally does and provide opportunities for him to pursue those as possible in the hospital environment. Involve parents, grandmother and his six-year-old brother in interactive games (cards, computer games, board games, etc.). Assure that child life specialists visit Andy. Encourage connections to the school including a visit from his teacher, cards from his classmates, and perhaps simple homework.

Chapter 28: Alterations in Mental Health and Cognition
Recall the opening scenario. Jeremiah is a 7-year-old child who has Down syndrome. He has been relatively healthy after some GI and ear problems in early childhood. His early intervention programs and now his entrance into school have provided a strong and nurturing environment for learning.

1: How will you decide if the physical growth and psychological development that Jeremiah is demonstrating are what would be expected for a child with his condition? What regular physical assessments are needed, due to some common accompanying health problems seen in children with Down syndrome?
Answer: The assessment data of Jeremiah will determine if he is demonstrating expected growth and development for his condition. Routine physical assessment includes growth, weight, height, development level, and physical assessment of body systems. In addition to routine exams, he should have thorough examinations of hearing, vision, cardiac function, thyroid, developmental assessment, as recommended by the American Academy of Pediatrics for routine care of a child with Down syndrome.

2: Based on his history of frequent otitis media, what assessments will you perform now? See Chapter 19 for ideas.
Answer: Based on the history of frequent otitis media, the child will need to have regular hearing screening, tympanic membrane assessment, speech, and language comprehension assessment.

3: What is the genetic basis for Down syndrome? Why are older parents more at risk for having a child with the syndrome?
Answer: The genetic basis for Down syndrome is based on an error of the chromosomes. Most commonly, there is an extra chromosome 21, so the child has 47 rather than 46 chromosomes. This condition is positively correlated with older age of the parents. As the eggs and sperm age, there is increased chance for genetic mutation during conception.

4: Find evidence-based practice guidelines to help you plan some physical activities that Jeremiah is likely to enjoy. How will you integrate them into his family and school life?
Answer: The activities the parents should plan are those of greatest interest to Jeremiah. Although he has Down syndrome, he is still a child with likes and dislikes. Activities that should
be introduced include those that will encourage communication skills, fine and gross motor skills, and social interactions. Teaching self-care skills can be integrated into activities that Jeremiah enjoys.

5: Jeremiah’s parents are requesting information about what plans they should make for his care when they start planning for retirement. How can you assist them in locating resources to assist with the future care that Jeremiah will need as he grows into teen years and young adulthood?

Answer: The nurse can best assist the parents for future planning by providing them with the appropriate links to resources. These include the Down Syndrome Society, American Academy of Pediatrics, local support groups, financial advisor, case worker, social work, and the school system to establish an IEP. All of the factors that affect current life should be considered when planning for the future. The parents will need to be aware of the child's ability to function independently.

Chapter 29: Alterations in Musculoskeletal Function

Recall the opening scenario. Douglass, 12 years old, has a fractured fibula from a fall while jumping on a trampoline. He talks openly in the office about how much fun he has at his friend’s house after school and shares that he hopes his mother will still let him go there. He is also nervous about returning to his busy school with a cast and crutches. Douglass has normal vital signs and neurovascular checks of the lower extremities. He ambulates well with crutches but appears slow and careful. Douglass admits that he has been pretty “crazy” at his friend’s house and takes chances on the trampoline that he should not take. He is worried that his friends at school will make fun of him now that he has a cast and crutches.

1. Douglass’s fracture did not disrupt the growth plate. What is the type of his fracture according to the Salter-Harris classification? If his growth plate had been disturbed, what are some possible long-term outcomes?

Answer: Douglass experienced a Type 1 fracture according to the Salter-Harris classification. Had the growth plate been disturbed, the long term impact of his fracture would depend on the severity of the fracture and Douglass’s current bone age. Since the injury was only to his fibula, the most likely consequence would be an angular deformity or joint incongruity in his ankle.

2. What is Douglass’s developmental stage according to Erikson? Can that explain his risk-taking behaviors at his friend’s house? Douglass’s mother is worried about whether she should allow her son to continue going to his friend’s house. What questions can you help her to ask the friend’s parents about supervision, activities allowed, and plans for emergencies?

Answer: Douglass is entering early adolescence, which is a time for children develop a sense of identity and begin to become more independent from their families. Peers become extremely important to the adolescent. It is not unusual for adolescents to engage in risk taking behaviors with their peers.

The mother should be encouraged to advocate for Douglass in a nonthreatening, nonjudgmental manner. She could open conversation with a positive statement about how much Douglass enjoys spending time with his friends, comment positively about strengths she may see in the friends’ family and then express safety concerns without placing blame on the other parents. Open ended questions may include:

- Tell me about who is home when the adolescents come home from school.
3. What kinds of other approved activities do your children do after school?

3. What do your children know about getting help in an emergency?

4. List two nursing diagnoses dealing with the physical systems and two focusing on psychosocial systems for Douglass.

4. What evidence-based nursing interventions can you establish for each nursing diagnosis?

Answers to Questions 3 and 4 combined:

**Physical**

**Impaired physical mobility related to recent fracture and current need for crutch walking**

- Refer to physical therapy for practice with crutch walking
- Assess home environment for barriers to his ambulation while at home and school
- Encourage mother to transport Douglass to school
- Partner with school to allow Douglass to transition between classes while halls are empty
- Find a partner for Douglass who will assist with books, doors, etc.

**Risk for injury related to physical risk taking behaviors with peers**

- Assess Douglass’ perception of his recent accident and explore ways to prevent it in the future
- Assess Douglass for other preventable risks for injury and encourage him to wear protective gear when indicated
- Brainstorm ways for Douglass to participate in healthy and safe physical activities
- Encourage Douglass and his family to explore supervised after school activities within the school setting and in the community
- Encourage mother to pursue her concerns regarding supervision and activities at the friends’ house

**Psychosocial**

**Risk for situational low self esteem related to Douglass’ expressed concerns about peer ridicule at school.**

- Allow Douglass to verbalize his concerns about being ridiculed
- Have Douglass choose a friend advocate for him at school
- Provide colored markers for artwork on Douglass cast and encourage him to have friends participate in signing and decorating the cast

**Readiness for enhanced family processes**

- Discuss with Douglass’s mother the developmental changes she can expect of Douglass
- Arrange for Douglass and his mother to discuss and mutually decide about time spent with his friends
- Reinforce mother’s desire to advocate for Douglass’s safety while offering suggestions for her to foster his independence
- Suggest activities that Douglass and his friends can do with Douglass’s family

**Chapter 30: Alterations in Endocrine and Metabolic Function**

Recall Anthony, the 12-year-old in the opening scenario, who is newly diagnosed with type 1 diabetes. His glucose is now stabilized and he is receiving basal-bolus insulin therapy. Anthony is learning to check his own serum glucose and demonstrates the correct technique. He states that he is afraid of giving himself a “shot” and becomes anxious when he receives injections. Anthony will soon be discharged from the hospital and will receive further diabetes education on
an outpatient basis. Anthony’s parents are eager to learn about caring for him, but express concerns now that he will not be able to participate in sports activities as he has in the past.

1. **Considering Anthony’s age and developmental level, how will the nurse explain type 1 diabetes to Anthony?**

   *Answer:* Anthony will be able to understand some abstract concepts. The nurse can use pictures and diagrams to explain the pathophysiology in lay terms. The more important aspect of his teaching relative to his developmental stage is to assess his acceptance of the chronic illness and his perception of how it’s going to affect his life now. When he has reached the stage of understanding and acceptance, the nurse can then involve him in learning self care and independence and assist him in integrating the chronic illness into his normal daily routines.

2. **How will the nurse address Anthony’s reluctance to self-administer his insulin? What are some potential causes of Anthony’s reluctance?**

   *Answer:* Anthony is adjusting to a new diagnosis, a new life style and a new identity when, in fact, he is developmentally just beginning to establish his basic sense of identity as a normal child. He surely doesn’t want to feel different from other young adolescents and may be either in denial or angry about his diagnosis. The nurse could talk with Anthony regarding his feelings about his new diagnosis, perhaps provide a journal for him to write about his feelings, network him with folks his own age, or make a blog with other children his own age who have diabetes. The psychomotor skill can be practiced in small steps. The nurse could start by having him draw up the insulin and double check doses. He could practice the injection technique on an injection pad. He could then transition into self-injection. He will need positive reinforcement and support throughout this whole process.

3. **What skills must Anthony’s parents demonstrate prior to his discharge from the hospital?**

   *Answer:* The basic “take home” knowledge and skills Anthony’s parents need include:
   - Glucose monitoring and interpretation
   - Administration of insulin
   - Urine testing for ketones
   - Record keeping for monitoring diabetes management
   - Basic food guidelines for dietary management of diabetes
   - Recognition and management of hypo and hyperglycemia
   - Sick day management of diabetes
   - Guidelines for when to call the care provider
   - Ideas for transitioning Anthony back to school

   Education needs will be ongoing, so referral to diabetic educators is essential.

4. **What will the nurse explain to Anthony and his parents regarding activity, exercise, and participation in sports?**

   *Answer:* Anthony will be able to participate fully in sports and other physical activities of choice. Anthony and his parents will need to understand the balance of nutrition, exercise and insulin. Andy will, as he becomes more comfortable managing his diabetes, learn to adjust nutrition and insulin dosage relative to the nature, timing and amount of physical activity in which he participates. He will need to recognize signs and symptoms of hypoglycemia and understand how to prevent and treat it. It would be beneficial to refer Anthony to other young adults with diabetes who are active in sports and recreational activities.
Chapter 31: Alterations in Skin Integrity

Recall Joshua, 6 years old, who was admitted to and discharged from the hospital with a deep partial-thickness burn caused by flames associated with playing with matches. He is making his second visit to the burn clinic for a burn dressing change 5 days after discharge. Because no debridement is expected on this visit, he will not go to the sedation suite. Joshua is given pain medication in the burn clinic to help cover the discomfort of the burn dressing change. He is anxious about the dressing change and worries that it will hurt. Finding activities to keep Joshua occupied is already becoming a challenge to his mother. She is concerned about how to keep Joshua occupied now that he is feeling better. She and Joshua’s father are worried about how they will prevent future injuries since Joshua is so energetic and curious. Joshua’s mother has had no difficulty identifying high-calorie foods for him to eat, but she is not sure if Joshua is getting enough extra protein to promote the wound healing.

1. What signs of wound infection must you observe for?

**Answer:** Signs of wound infection include increasing area of redness around the injury, discoloration of the wound margins, purulent drainage, foul odor, swelling and pain in the uninjured skin around the wound.

2. What nursing support may help the child deal with a painful and disfiguring injury?

**What are some developmentally appropriate complementary therapies for pain management that can be used during the burn dressing changes?**

**Answer:** It is very important to assess the child’s pain frequently and provide pain management throughout the day and night. Ensure that the child receives adequate pain and sedation for debridement and dressing changes to reduce anxiety associated with care. Cover burns as air movement and temperature change irritate exposed nerve endings and cause pain. Listen to the child’s concerns and provide psychological support regarding the burn injury. Make an effort to develop a rapport with the child and family over several days of care. Make referrals as needed to assist the child with the disfiguring nature of the injury. Provide diversion, such as therapeutic play to help the child focus on a pleasant activity rather than pain. This provides an outlet for frustration and fosters independence and creativity, as well as promoting range of motion. Other complementary therapies appropriate for Joshua’s age of 6 years include guided imagery, relaxation techniques, and breathing techniques. Hypnosis may also be an option in some hospital settings.

3. What suggestions can you make to help the family review needed injury prevention strategies to protect Joshua from future injuries?

**Answer:** Joshua has as much curiosity as at a younger age, but he most likely has more independence and dexterity at 6 years of age. Playing with matches is an example of that curiosity and dexterity. The family needs to learn about the risks of other types of thermal injuries that children of Joshua’s age could receive, such as fireworks, scald burns from food or beverages heated in the microwave oven, climbing high-voltage towers, climbing trees in contact with electrical wires, and chemical burns from combustion experiments. Joshua should be taught specific dangers associated with these activities and how to protect himself from injury. Similarly Joshua should wear a bicycle helmet and protective equipment for skateboarding and other sports.

4. What are some foods or strategies that Joshua’s mother can use at home to provide the high-protein and high-calorie diet needed for healing?

**Answer:** Joshua’s mother should provide well-balanced meals, with a protein food at each meal. Examples could be an egg for breakfast, tuna fish sandwich for lunch, and chicken or other meat for dinner. Ways to increase
his caloric intake in a nutritious manner could be to serve milk or juice at each meal, offer a milkshake, provide an afternoon snack with a peanut butter sandwich, and serve pudding for dessert. Many fast foods provide a combination of protein and high calories, which could be a periodic option for a meal. Inform Joshua’s mother that he should not continue this diet indefinitely, as that could lead to unwanted weight gain.