Pediatric nurses rely on a thorough knowledge base to formulate appropriate nursing interventions. Understanding the child’s physical, cognitive, and psychosocial developmental stages is essential to providing care. The nurse applies communication principles when working with both children and their family members. While many of the child’s characteristics are determined by developmental stages, the child’s social and environmental settings are also significant influences that must be assessed and included in planning interventions. The nurse applies knowledge of growth and development, communication, and societal influences during physical and nutritional assessment of young children; describing findings and identifying abnormalities is crucial to providing effective nursing care.
Michael and Alyssa had tried for several years to have a biologic child. After an unsuccessful in vitro fertilization, they decided to adopt. They explored opportunities with adoption agencies, and learned that international adoption was possible for them. They adopted 2-year-old Irena from Romania several months ago. Despite a thorough investigation of Michael and Alyssa by the adoption agency, they received only scant information about Irena’s history. She was left at an orphanage by her mother when she was about 7 months old; the mother stated that the pregnancy and delivery were normal. She was giving up the child because she had two older children to care for and her husband had left home nearly a year before and had not been heard from since. Irena appears small for her age, but is thriving in her new environment. She is learning to say a few English words and is responding appropriately to care and interactions. How can the nurse work with Michael and Alyssa to ensure special attention to Irena’s growth and healthcare needs? What will Irena’s cultural needs be as she grows older?
"We want to help Irena grow into a normal and special child. She has had challenges in her short life that we can only imagine. We worry about whether she'll want to go back to Romania when she's older to find her family."

—Alyssa, Irena's mother
Children develop as they interact with their surroundings. They learn skills at different ages, but the order in which they learn them is universal. Development is affected by factors such as nutrition and cultural practices, as well as the social situation in the country or neighborhood. While Irena will develop in a unique manner influenced by her genetic makeup, life experiences, and the interaction between these factors, certain principles of development can assist her parents and the nurse in fostering positive adaptations for her.

In this chapter, you will learn general principles of growth and development and will explore several theories related to childhood development, as well as their nursing applications. Each age group, from infancy through adolescence, is described in detail. Developmental milestones, physical and cognitive characteristics, psychosocial concerns, and communication strategies are presented. This basic information will help you provide developmentally appropriate care for children in each age group. You can apply these concepts to all children, including special situations such as the one described in the opening scenario. (See Developing Cultural Competence: International Adoptions.)

PRINCIPLES OF GROWTH AND DEVELOPMENT

It is essential to understand the concepts of growth and development when learning to care for children. Nurses who work with children must not only understand the pathophysiology of disease practices and the health promotion and health maintenance needs, but also must integrate knowledge of development into each encounter with a child. The pathophysiologic process, metabolism of medications, and healing process are influenced by the child’s age and organ maturity. Health promotion needs regarding topics such as safety measures and immunizations are determined by age and developmental stage of the child, and these factors must also be considered for therapeutic communication to occur. The language used, explanations for procedures, and integration of approaches such as stories and pictures depend on the child’s development. A skilled pediatric nurse therefore integrates knowledge of physical growth and psychosocial development into each child healthcare encounter.

Growth refers to an increase in physical size. Growth represents quantitative changes such as height, weight, blood pressure, and number of words in the child’s vocabulary. Development refers to an increase in capability or function. Developmental skills unfold in a complex manner as a relationship between the child’s innate, unfolding capabilities with the stimuli and support provided in the environment. Examples include the ability to sit without support or to throw a ball overhand. Growth and development or quantitative and qualitative changes in body organ functioning, ability to com-
municate, and performance of motor skills unfold over time and are key components in the process of planning pediatric healthcare.

Each child displays a unique maturational pattern during the process of development. Although the exact age at which skills emerge differs, the sequence or order of skill performance is uniform among children. Skill development proceeds according to two processes: from the head down and from the center of the body out to the extremities. Development that proceeds from the head downward through the body and toward the feet is called cephalocaudal development (Figure 5–1). For example, at birth, an infant's head is much larger proportionately than the trunk or extremities. Similarly, infants learn to hold up their heads before sitting, and to sit before standing. Skills such as walking that involve the legs and feet develop last in infancy. Development that proceeds from the center of the body outward to the extremities is called proximodistal development (see Figure 5–1). For example, infants are first able to control the trunk, then the arms; only later are fine motor movements of the fingers possible. Pediatric nurses use these concepts of predictable and sequential developmental direction to analyze the infant's or child's present state and to partner with families to plan ways to encourage and support emerging developmental abilities.

During the childhood years, extraordinary changes occur in all aspects of development. Physical size, motor skills, cognitive ability, language, sensory ability, and psychosocial patterns all undergo major transformations. Nurses study normal patterns of development so they can perform thorough pediatric assessments and identify children who demonstrate slow or abnormal growth development. These assessments can guide the nurse in planning interventions for the child and family, such as referring the child for a diagnostic evaluation or rehabilitation, or teaching the parents how to provide adequate stimulation for the child. When development is proceeding normally, the nurse uses the knowledge of usual patterns to plan teaching approaches based on the child’s cognitive and language ability, to offer appropriate toys and activities during illness, and to respond therapeutically during interactions with the child. These interventions form the basis of visits for health promotion and health maintenance (see Chapters 10 through 15 for detailed contents of these visits).

To highlight the important facets of development that are explored in this chapter, examine some of Irena's characteristics in the Photo Story on page 6. These involve her physical growth and development, cognitive development, and psychosocial development, the latter including play patterns, temperament characteristics, and communication.

MAJOR THEORIES OF DEVELOPMENT
Child development is a complex process. Many theorists have attempted to organize their observations of behavior into a description of principles or a set of stages. Each theory focuses on a particular facet of development. No one theory provides all necessary information and stages are not absolute. That is, there are differences in rates of progression among children and overlapping of stages within a specific child. Most developmental theorists separate children into age groups by common characteristics. Some of the age groups and developmental characteristics commonly used to group children include:

- **Prenatal period**—Includes the time from conception to birth; influenced by the genetics of the baby and the health of parents, particularly the mother.
- **Newborn**—From birth to 1 month of life. Although part of infancy, the first month is marked by the need for adaptation to extrauterine life and requires special support and care.
- **Infancy**—From 1 to 12 months. Includes infants or babies up to 1 year of age who require a high level of care in daily activities.
- **Toddlerhood**—From 1 to 3 years. Characterized by increased motor ability and independent behavior.
- **Preschool**—From 3 to 6 years. The preschooler refines gross and fine motor ability and language skills and often participates in a preschool learning program.
- **School age**—From 6 to 12 years. Begins with entry into a school system and is characterized by growing intellectual skills, physical ability, and independence.
- **Adolescence**—From 12 to 18 years. Begins with entry into the teen years. Mature cognitive thought, formation of identity, and influence of peers are important characteristics.

**Freud’s Theory of Psychosexual Development**

**Theoretical Framework**
The psychoanalytic techniques used by Sigmund Freud (Box 5–1) led him to believe that early childhood experiences form the unconscious motivation for actions in later life. He developed a
theory that sexual energy is centered in specific parts of the body at certain ages. Unresolved conflict and unmet needs at a certain stage lead to a fixation of development at that stage (Lerner, 2002).

Freud viewed the personality as a structure with three parts: the id, the basic sexual energy that is present at birth and drives the individual to seek pleasure; the ego, the realistic part of the person, which develops during infancy and searches for acceptable methods of meeting impulses; and the superego, the moral and ethical system, which develops in childhood and contains a set of values and conscience (Craig & Baucum, 2001). He viewed all of these forces as largely out of conscious awareness.

Development and behaviors then unfold as the ego balances the tension between the two opposing forces of id and superego. The ego diverts impulses of the id and protects itself from excess anxiety created by the superego by use of defense mechanisms. These unconscious techniques distort reality to guide actions and prevent painful challenges to the personality. Examples of defense mechanisms used by children include regression to earlier stages of development, and repression or forgetting of

### BOX 5–1 Sigmund Freud (1856–1939)

Freud was a physician in Vienna, Austria. His work with adults who were experiencing a variety of nervous disorders led him to develop the approach called psychoanalysis, which explored the driving forces of the unconscious mind. Freud viewed these forces as largely due to unconscious childhood experiences.

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Observing the activities of a child provides information about developmental status. Follow Irena as she goes about her daily activities.

**PHYSICAL GROWTH AND DEVELOPMENT**

Although many international adoptees are small for their age, Irena appears well nourished. (See Chapter 9 for a discussion of nutritional needs during toddlerhood.) Her gross motor skills, including walking up steps, running, and kicking a ball, are well developed. Fine motor skills are evident in her ability to brush teeth and dress with help, scribble on paper, and build a tower of cubes. As her physical abilities continue to develop, her family needs to integrate injury prevention to keep her safe from falls, car crashes, and other injuries.

COGNITIVE DEVELOPMENT

Cognitive development relates to intellectual or thinking processes. It is hard to identify Irena’s cognitive stage at this time, as she knows only a few English words and is shy during interactions with strangers. As she adapts to her new home, frequent assessments of her cognitive development will be necessary.

**PSYCHOSOCIAL DEVELOPMENT**

**Play**

Irena is observed playing with toys and making sounds with her dolls. This is expected behavior, as toddlers often engage in solitary play. Toddlers also begin to enjoy the presence of other children, even though they do not yet play cooperatively with them. Irena’s parents can encourage the emergence of parallel play commonly seen in toddlers by arranging to have Irena play with
painful experiences such as child abuse. See Table 5–1 for examples of defense mechanisms used in childhood.

**Stages**

**Oral (Birth to 1 Year).** The infant derives pleasure largely from the mouth, with sucking, eating, chewing, and mouthing objects as primary desires. These oral behaviors also release tension for the infant and play an important part in formation of the ego.

**Anal (1 to 3 Years).** The young child’s pleasure is centered in the anal area, with control over body secretions as a prime force in behavior.

**Phallic (3 to 6 Years).** Sexual energy becomes centered in the genitalia and children explore touching their sexual organs.

Freud also viewed this period as the time that the child works out relationships with parents of the same and opposite sexes. He believed that children love the parent of the opposite sex and want to take the place of the parent of their same sex. The child needs to accept the presence of both parents and begin to identify with the parent of the same sex.

**Latency (6 to 12 Years).** Sexual energy is at rest in the passage between earlier stages and adolescence. During this stage Freud believed that the child focused on other activities related to social and cognitive growth.

**Genital (12 Years to Adulthood).** Mature sexuality is achieved as physical growth is completed, sexual pleasure reemerges, and relationships develop with others outside the family.

**Personality and Temperament**

Irena has been demonstrating what experts term an “easy” temperament; that is, she has readily acquired a regular schedule for eating and sleeping, her mood is generally pleasant, and she is easily comforted when upset. These temperamental characteristics will form a critical link to communication with family, teachers, and friends.

**Communication**

Irena has only learned a few words. This is abnormal for a toddler, since most know several hundred words. However, it is expected that Irena will learn language quickly as she adapts. Michael and Alyssa should speak with Irena often, pointing out names of people and objects. Positive reinforcement for Irena’s attempts at speech can involve smiles, phrases such as “that’s right,” and further elaboration such as “Yes, that is a bus; it’s a big, yellow bus.”

What else can you suggest to her parents as activities that will enhance speech development?
UNIT II
Child Concepts and Application

DEFENSE MECHANISM DEFINITION EXAMPLE
Regression Return to an earlier behavior A previously toilet trained child becomes incontinent when separated from parents during a hospitalization.
Repression Involuntary forgetting of uncomfortable situations An abused child cannot consciously recall episodes of abuse.
Rationalization An attempt to make unacceptable feelings acceptable A child explains hitting another because “he took my toy.”
Fantasy A creation of the mind to help deal with unacceptable fear A hospitalized child who is weak pretends to be Superman.

Nursing Application
Freud emphasized the importance of meeting the needs of each stage in order to move successfully into future developmental stages. His work has been criticized for several reasons—he developed a theory of childhood by his work with adults, primarily women, who sought help in dealing with emotional issues; he viewed males as dominant because of their possession of a penis; and he ignored the effects of culture and other external experiences. However, there are some aspects of his theory that appear to be supported by more current research and theory testing and can be applied in nursing.

The crisis of illness can interfere with normal developmental processes and add challenges for the nurse who is striving to meet an ill child’s needs. For example, the importance of sucking in infancy guides the nurse to provide a pacifier for the infant who cannot have oral fluids. The preschool child’s concern about sexuality guides the nurse to provide privacy and clear explanations during any procedures involving the genital area. It may be necessary to teach parents that masturbation by the young child is normal and to help parents deal with it. The adolescent’s focus on relationships suggests that the nurse should include questions about significant friends during history taking. Table 5-2 and Figure 5-2 summarize ways in which the nurse can apply these theoretical concepts to the care of children.

Erikson’s Theory of Psychosocial Development

Theoretical Framework
Erikson’s theory establishes psychosocial stages during eight periods of human life. For each stage, Erikson identifies a crisis, that is, a particular challenge that exists for healthy personality development to occur (Erikson, 1963, 1968) (Box 5-2). The word crisis in this context refers to normal maturational social needs rather than to a single critical event. Each developmental crisis has two possible outcomes: When needs are met, the consequence is healthy and the individual moves on to future stages with particular strengths. When needs are not met, an unhealthy outcome occurs that will influence future social relationships.

Stages
Trust Versus Mistrust (Birth to 1 Year). The task of the first year of life is to establish trust in the people providing care. Trust is fostered by provision of food, clean clothing, touch, and comfort. If basic needs are not met, the infant will eventually learn to mistrust others. Developing a sense of trust leads the child and eventually the adult to have confidence that the world is a good place and to approach life with a general sense of optimism. However, it is also important to have a balance between trust and mistrust with trust being the predominant characteristic. If a child is too trusting, child abuse or other poor

**TABLE 5–1** Common Defense Mechanisms Used by Children

<table>
<thead>
<tr>
<th>DEFENSE MECHANISM</th>
<th>DEFINITION</th>
<th>EXAMPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>Return to an earlier behavior</td>
<td>A previously toilet trained child becomes incontinent when separated from parents during a hospitalization.</td>
</tr>
<tr>
<td>Repression</td>
<td>Involuntary forgetting of uncomfortable situations</td>
<td>An abused child cannot consciously recall episodes of abuse.</td>
</tr>
<tr>
<td>Rationalization</td>
<td>An attempt to make unacceptable feelings acceptable</td>
<td>A child explains hitting another because “he took my toy.”</td>
</tr>
<tr>
<td>Fantasy</td>
<td>A creation of the mind to help deal with unacceptable fear</td>
<td>A hospitalized child who is weak pretends to be Superman.</td>
</tr>
</tbody>
</table>

**FIGURE 5–2** Children exposed to pleasant stimulation and who receive positive feedback from an adult for engaging in activities will develop and refine their skills faster, demonstrating the importance of a nurturing environment. Group activities provide an opportunity for motor skill and psychosocial development. Which skills are being developed by children in this photograph?

**BOX 5–2** Erik Erikson (1902–1994)

Erikson studied Freud’s theory of psychoanalysis under Freud’s daughter, Anna, but later established his own developmental theory emphasizing the psychosocial rather than psychosexual nature of individuals. Erikson’s theory is one of the few that addresses development over the entire life span.
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TABLE 5–2  Nursing Applications of Theories of Freud, Erikson, Piaget

<table>
<thead>
<tr>
<th>AGE GROUP</th>
<th>DEVELOPMENTAL STAGES</th>
<th>NURSING APPLICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant</td>
<td>Oral stage (Freud): The baby obtains pleasure and comfort through the mouth.</td>
<td>When a baby is NPO, offer a pacifier if not contraindicated. After painful procedures, offer a baby a bottle or pacifier or have the mother breast-feed.</td>
</tr>
<tr>
<td></td>
<td>Trust versus mistrust stage (Erikson): The baby establishes a sense of trust when basic needs are met.</td>
<td>Hold the hospitalized baby often. (1) Offer comfort after painful procedures. Meet the baby’s needs for food and hygiene. Encourage parents to room in. Manage pain effectively with use of pain medications and other measures. Use crib mobiles, manipulative toys, wall murals, and bright colors to provide interesting stimuli and comfort. Use toys to distract the baby during procedures and assessments.</td>
</tr>
<tr>
<td></td>
<td>Sensorimotor stage (Piaget): The baby learns from movement and sensory input.</td>
<td></td>
</tr>
<tr>
<td>Toddler</td>
<td>Anal stage (Freud): The child derives gratification from control over bodily excretions.</td>
<td>Ask about toilet training and the child’s rituals and words for elimination during admission history. Continue child’s normal patterns of elimination in the hospital. Do not begin toilet training during illness or hospitalization. Accept regression in toileting during illness or hospitalization. Have potty chairs available in hospital and childcare centers. Allow self-feeding opportunities. Encourage child to remove and put on own clothes, brush teeth, or assist with hygiene. (2) If restraint for a procedure is necessary, proceed quickly, providing explanations and comfort. Ensure safe surroundings to allow opportunities to manipulate objects. Name objects and give simple explanations.</td>
</tr>
<tr>
<td></td>
<td>Autonomy versus shame and doubt stage (Erikson): The child is increasingly independent in many spheres of life.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sensorimotor stage (end); preoperational stage (beginning) (Piaget): The child shows increasing curiosity and explorative behavior. Language skills improve.</td>
<td></td>
</tr>
<tr>
<td>Preschooler</td>
<td>Phallic stage (Freud): The child initially identifies with the parent of the opposite sex but by the end of this stage has identified with the same-sex parent.</td>
<td>Be alert for children who appear more comfortable with male or female nurses, and attempt to accommodate them. Encourage parental involvement in care. Plan for playtime and offer a variety of materials from which to choose. Offer medical equipment for play to lessen anxiety about strange objects. (3) Assess children’s concerns as expressed through their drawings. Accept the child’s choices and expressions of feelings. Offer explanations about all procedures and treatments. Clearly explain that the child is not responsible for causing the illness.</td>
</tr>
<tr>
<td></td>
<td>Initiative versus guilt stage (Erikson): The child likes to initiate play activities.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Preoperational stage (Piaget): The child is increasingly verbal but has some limitations in thought processes. Causality is often confused, so the child may feel responsible for causing an illness.</td>
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(1) (2) (3) (continued)
outcomes may occur. The sense of trust must predominate, but mistrust is also needed at times for healthy development.

**Autonomy Versus Shame and Doubt (1 to 3 Years).** The toddler’s sense of autonomy or independence is shown by controlling body excretions, saying no when asked to do something, and directing motor activity. Children who are consistently criticized for expressions of autonomy or for lack of control—for example, during toilet training—will develop a sense of shame about themselves and doubt in their abilities. Developing a healthy sense of autonomy results in a person who can function with independence and self-direction. It is also important for the toddler to recognize feelings and needs of others; excessive autonomy could lead to disregard and inability to work with others.

**Initiative Versus Guilt (3 to 6 Years).** The young child is exposed to more people outside of the family and therefore initiates new activities and considers new ideas. This interest in exploring the world creates a child who is involved and busy. The child learns to assume new responsibilities and becomes aware of guiding principles for actions. Constant criticism for the child’s activities, on the other hand, leads to feelings of guilt and a lack of purpose. Preschoolers’ sense of initiative leads to the ability to start projects but they may not always see the value in completing them, a potentially frustrating situation for parents.

**Industry Versus Inferiority (6 to 12 Years).** The middle years of childhood are characterized by development of new interests and by a focus on intellectual or cognitive pursuits. The child takes pride in accomplishments in sports, school, home,
and community. Developing a sense of industry provides the child with purpose and confidence in his or her ability to be successful. If the child cannot accomplish what is expected, however, the result will be a sense of inferiority. The child's sense of industry must be balanced by a realistic perspective gained over time, that there is always more to learn and that one cannot be the “best” at every activity.

Identity Versus Role Confusion (12 to 18 Years). In adolescence, as the body matures and thought processes become more complex, a new sense of identity or self is established. The adolescent tries out roles and examines what fits best for the self and family/society expectations. The self, family, peer group, and community are all examined and redefined. Identifying with values and roles provides guidance as the adolescent enters adulthood. The adolescent who is unable to establish a meaningful definition of self will experience confusion in one or more roles of life. On the other hand, a certain amount of role confusion is desirable as it is the impetus for self-examination and provides the basis for establishment of identity.

Although not discussed here, Erikson describes adulthood through three additional stages of development. They include intimacy versus isolation, generativity versus stagnation, and integrity versus despair.

Nursing Application
Erikson's theory is directly applicable to the nursing care of children. Health promotion and health maintenance visits in the community provide opportunities for helping caregivers to meet children's needs. The nurse asks for examples of the child's social interactions and self-concept. The child's behaviors can be explained within the perspective of developmental stages. Parents benefit from learning what the child's developmental tasks are at each stage, and from discussing ideas about how to encourage healthy psychosocial development. Such discussions also may highlight parental concerns and provide a forum for reassurance about normal developmental characteristics, such as a preschooler who does not follow through on each activity, or an adolescent who tries different hairstyles each month.

The child's usual support from family, peers, and others is interrupted by hospitalization. The challenge of hospitalization also adds a situational crisis to the normal developmental crisis a child is experiencing. Although the nurse may meet many of the hospitalized child's needs, continued parental involvement is necessary both during and after hospitalization to ensure progression through expected developmental stages (see Table 5–2). Asking parent's about the child's developmental progression provides clues to activities and supports that the child needs in the hospital. (See Chapter 17.)

Piaget's Theory of Cognitive Development

Theoretical Framework
Based on his observations and work with children, Jean Piaget formulated a theory of cognitive, or intellectual, development (Box 5–3). He believed that the child's view of the world is influenced largely by age, experience, and maturational ability. Given nurturing experiences, the child's ability to think matures naturally (Ginsberg & Opper, 1988; Piaget, 1972). The child incorporates new experiences via assimilation and changes to deal with these experiences by the process of accommodation. The child is an active participant in this cognitive building. For example, an infant first sucks or grasps by reflex. As feedback occurs (some things produce more satisfaction than others when sucking them and when grasping, one can shake to create sound, or let go to watch an object fall), the infant learns to change behaviors by sucking a breast, bottle, or fingers, and learns to shake a rattle or bring it to the face to examine. In these examples, can you describe which parts of the behaviors represent assimilation and which represent accommodation?

Some earlier theories viewed children as totally formed and shaped by adults around them. John Locke, a 17th-century theorist, formulated the theory of tabula rasa, or blank slate, to explain children. He believed that they entered the world with nothing but genetic potential and the way they developed was a result of experiences provided. While this theory is similar to Piaget's in recognizing the importance of experiences in building cognitive processes, Piaget believed that children were active participants in the unfolding of their inborn cognitive structures, taking in information and modifying behavior as a result.

Another important characteristic of Piaget's theory is that each of the stages he described is qualitatively different. By that, he means that a child does not simply learn by having more experiences. Instead, the child's mind unfolds so that the processes of assimilation and accommodation change over time, that there is always more to learn and that one cannot be the “best” at every activity.

Stages

Sensorimotor (Birth to 2 Years). Infants learn about the world by input obtained through the senses and by their motor activity. Six substages are characteristic of this stage.

Use of Reflexes (Birth to 1 Month). The infant begins life with a set of reflexes such as sucking, rooting, and grasping. By using these reflexes, the infant receives stimulation via touch, sound, smell, and vision. The reflexes thus pave the way for the first learning to occur.

Primary Circular Reactions (1 to 4 Months). Once the infant responds reflexively, the pleasure gained from that response causes repetition of the behavior. For example, if a toy grasped reflexively makes noise and is interesting to watch, the infant will grasp it again.
TABLE 5–3 **Characteristics of Thought Identified by Piaget**

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>DEFINITION</th>
<th>DEVELOPMENT STAGE</th>
<th>NURSING IMPLICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Object permanence</td>
<td>Ability to understand that when something is out of sight it still exists</td>
<td>Sensorimotor period, especially in coordination of secondary schemes from 8–12 months</td>
<td>Before development of object permanence babies will not look for toys or other objects out of sight; as the concept is developing they are concerned when a parent leaves since they are not certain the parent will return.</td>
</tr>
<tr>
<td>Egocentrism</td>
<td>Ability to see things only from one’s own point of view</td>
<td>Preoperational thought</td>
<td>Peers or others who have gone through an experience will not impress the preschooler; teaching should focus on what an experience will be like to the child.</td>
</tr>
<tr>
<td>Transductive reasoning</td>
<td>Connecting two events in a cause-effect relationship simply because they occur together in time</td>
<td>Preoperational thought</td>
<td>Ask the child what he or she thinks caused an occurrence; ask how the two events are connected; correct misconceptions to lessen child’s guilt.</td>
</tr>
<tr>
<td>Centration</td>
<td>Focusing only on one particular aspect of a situation</td>
<td>Preoperational thought</td>
<td>Listen to the child’s comments and deal with concerns in order to be able to present new concepts to the child.</td>
</tr>
<tr>
<td>Animism</td>
<td>Giving lifelike qualities to nonliving things</td>
<td>Preoperational thought</td>
<td>Ask preschool children to describe how a machine works, or how the trees move. Provide opportunities to learn about machines that may move and make noises (intravenous pumps, magnetic resonance imaging) to decrease fears.</td>
</tr>
<tr>
<td>Magical thinking</td>
<td>The belief that events occur because of one’s thoughts or actions</td>
<td>Preoperational thought</td>
<td>Ask the young child how they became ill, what caused a parent or sibling’s illness. Correct misconceptions when the child blames self for causing problems by wishing someone ill or having bad behavior.</td>
</tr>
<tr>
<td>Conservation</td>
<td>Knowledge that matter is not changed when its form is altered</td>
<td>Concrete operational thought</td>
<td>Before conservation of thought is reached, the child may think that gender can be changed when hair is cut; the leg under a cast is broken in separate pieces. Ask perceptions and clarify misconceptions.</td>
</tr>
</tbody>
</table>

**Secondary Circular Reactions (4 to 8 Months).** Awareness of the environment grows as the infant begins to connect cause and effect. The sounds of bottle preparation will lead to excited behavior. If an object is partially hidden, the infant will attempt to uncover and retrieve it.

**Coordination of Secondary Schemes (8 to 12 Months).** Intentional behavior is observed as the infant uses learned behavior to obtain objects, create sounds, or engage in other pleasurable activity. **Object permanence** (the knowledge that something continues to exist even when out of sight) begins when the infant remembers where a hidden object is likely to be found; it is no longer “out of sight, out of mind.”

The concept of object permanence is not fully developed, however. The infant knows the parent well, objects to new people, and seems very worried when the parent leaves. Other caretakers may be rejected as the infant does not understand that the parent will return. This phase of “stranger anxiety” is quite common and heralds the infant’s growing recognition of and desire to be cared for by the parent.

**Tertiary Circular Reactions (12 to 18 Months).** Curiosity, experimentation, and exploration predominate as the toddler tries out actions to learn results. Objects are turned in every direction, placed in the mouth, used for banging, and inserted in containers as their qualities and uses are explored.

**Mental Combinations (18 to 24 Months).** Language provides a new tool for the toddler to use in understanding the world. Language enables the child to think about events and objects before or after they occur. Object permanence is now fully developed as the child actively searches for objects in various locations and out of view. The child who has had successful separations from the parents followed by return, such as hours spent in another’s home or childcare center, begins to understand that the missing parent will return.

**Preoperational (2 to 7 Years).** The young child thinks by using words as symbols, but logic is not well developed. During the preconceptual substage (2 to 4 years), vocabulary and comprehension increase greatly, but the child shows **egocentrism** (that is, an inability to see things from the perspective of another). In the intuitive substage (4 to 7 years), the child relies on **transductive reasoning** (that is, drawing conclusions from one general fact to another). For example, when a child disobeys a parent and then falls and breaks an arm that day, the child may ascribe the broken arm to bad behavior. Cause-and-effect relationships are often unrealistic or a result of
magical thinking (the belief that events occur because of thoughts or wishes). Additional characteristics noted in the thought of preschoolers include centration, or the ability to consider only one aspect of a situation at a time, and animism, or giving life to inanimate objects because they move, make noise, or have certain other qualities.

Concrete Operational (7 to 11 Years). Transductive reasoning has given way to a more accurate understanding of cause and effect. The child can reason quite well if concrete objects are used in teaching or experimentation. The concept of conservation (that matter does not change when its form is altered) is learned at this age.

Formal Operational (11 Years to Adulthood). Fully mature intellectual thought has now been attained. The adolescent can think abstractly about objects or concepts and consider different alternatives or outcomes. A certain amount of idealism, however, is characteristic at this age.

Nursing Application
Piaget’s theory is essential to pediatric nursing. The nurse must understand a child’s thought processes in order to design stimulating activities and meaningful, appropriate teaching plans. Presence of the parent as much as possible for the infant experiencing stranger anxiety is important, while providing links to peers may be important to the teen.

Health teaching is tailored to understanding of cognitive stages. For example, the teaching that a 6-year-old needs about newly diagnosed diabetes would focus on very different topics than the teaching provided for a 16-year-old with the same diagnosis. The nurse applies knowledge of the young child’s magical thinking and egocentrism by asking about possible causes of the disease and planning teaching that focuses on the child’s experiences. The adolescent will receive teaching with others of the same age or by teens who are managing the disease. Causation and possible outcomes can be addressed.

Understanding a child’s concept of time suggests to the nurse how far in advance to prepare that child for procedures. Similarly, the nurse’s decision to offer manipulative toys, read stories, draw pictures, or give the child reading material to explain healthcare measures depends on the child’s cognitive stage of development (see Table 5–2).

What activities will you plan for Irena based on her expected cognitive level? How can you encourage her cognitive development?

Kohlberg’s Theory of Moral Development

Theoretical Framework
Lawrence Kohlberg’s focus is on a particular type of cognitive development concerned with moral decisions (Box 5–4). He presented stories involving moral dilemmas to children and adults and asked them to solve the dilemmas. For example, in one story a woman was very ill and the drug that would help her was too expensive for her family. The scientist who made that drug would not sell it for less money, so the woman’s husband broke in to the store to steal the drug. Kohlberg asked a series of questions about whether it was right or wrong to steal the drug, and to charge a high price for it. Kohlberg then analyzed the motives people expressed when making decisions about the best course to take. Based on the explanations given, Kohlberg established three levels of moral reasoning. Although he provided age guidelines, he stated that they are approximate and that many people never reach the highest (postconventional) stage of development (Santrock, 2003).

Kohlberg’s work has been criticized for insensitivity to cultural differences in moral reasoning, lack of consideration of the family in moral development, an emphasis on moral reasoning rather than actual actions, and for sexual bias. However, it remains a useful framework for some to help understand moral decision making.

Stages
Preconventional (4 to 7 Years). Decisions are based on the desire to please others and to avoid punishment.

Conventional (7 to 11 Years). Conscience or an internal set of standards becomes important, but these standards are based on the beliefs and teachings of others such as parents. Rules are important and must be followed to please other people and “be good.”

Postconventional (12 Years and Older). The individual has internalized ethical standards on which to base decisions, and uses awareness of the common good and ethical principles rather than relying on the standards of others. Social responsibility is recognized. The value in each of two differing moral approaches can be considered and a decision made.

Nursing Application
Decision making is required in many areas of healthcare. Children can be assisted to make decisions about healthcare and to consider alternatives when available. The nurse should keep in mind that young children may agree to participate in research simply because they want to comply with adults and appear cooperative. Guidelines for child participation in research are available (see Chapter 1∞).

Provide parents with information so that they can assist their children in moral judgments. Encourage talking with a child or adolescent about how a given decision was made. Parents can then add information and help the child learn to integrate more factors into decision making. Talking about the process is important in helping children progress to higher moral development stages. Focusing on the feelings of others, using positive discipline techniques, and clearly identifying positive and negative behaviors are important. See Chapters 13 through 15∞ for positive discipline techniques at each age.
Social Learning Theory

Theoretical Framework

Albert Bandura, a contemporary psychologist, believes that children learn attitudes, beliefs, customs, and values through their social contacts with adults and other children (Box 5–5). Children imitate (or model) the behavior they see; if the behavior is positively reinforced, they tend to repeat it. However, Bandura also believes that people can consciously choose how to act, such as deciding to handle problems by talking rather than hitting or yelling, even when some role models engage in the latter approach. The external environment (the behavior of others) and the child’s internal processes and characteristics are thus both key elements in the behaviors a child manifests (Bandura, 1986, 1997a).

Bandura believes that an important determinant of behavior is self-efficacy, or the expectation that someone can produce a desired outcome. For example, if adolescents believe they can avoid use of drugs or alcohol, they are more likely to do so. A child who has confidence in his or her ability to exercise regularly or lose weight has a greater chance of success with these behavior changes. Parents who have confidence in their ability to care adequately for their infants are more likely to do so (Bandura, 1997b).

Nursing Application

The importance of modeling behavior can readily be applied in healthcare. Children are more likely to cooperate if they see adults or other children performing a task willingly. A frightened child may watch another child perform vision screening or have blood drawn and then decide to allow the procedure to take place. Contact with positive role models is useful when teaching children and adolescents self-care for chronic diseases such as diabetes. Positive reinforcement should be given for desired performance.

Nurses can utilize the concept of self-efficacy to increase the chance of success with lifestyle behavior changes. For example, encouraging youth who are trying to quit smoking, providing them with role models, and pointing out parental successes with their children all demonstrate methods of fostering self-efficacy. See Evidence-Based Practice: Self-Efficacy in the box above.

Behaviorism

Theoretical Framework

John Watson (Box 5–6) studied the research of Pavlov and Skinner, who demonstrated that actions are determined by responses from the environment. Pavlov and, later, Skinner worked with animals, presenting a stimulus such as food and pairing it with another stimulus such as a ringing bell. Eventually the animal being fed began to salivate when the bell rang. As Skinner and...
then Watson began to apply these concepts to children, they showed that behaviors can be elicited by positive reinforcement, such as a food treat, or extinguished by negative reinforcement, such as by scolding or withdrawal of attention. Watson believed that he could make of a child anyone he desired—from a professional to a thief or beggar—simply by reinforcing behavior in certain ways (Santrock, 2003).

**Nursing Application**

Behaviorism has been criticized for its simplicity and its denial of the inherent capability of persons to respond willfully to events in the environment. This theory does, however, have some use in healthcare. When particular behaviors are desired, positive reinforcement can be established to encourage these behaviors. Behavioral techniques are also used to alter behavior of children who misbehave or to teach skills to children who are physically challenged. Parents often use reinforcement in toilet training and other skills learned in childhood. Indeed, combining behaviorism with social learning theory can be beneficial. For example, children might have desired activities, such as tooth brushing, modeled by an adult or older child (social learning theory), and be rewarded (behaviorism) for carrying out the activity on a regular basis.

**Ecological Theory**

**Theoretical Framework**

You may have noticed the controversy among theorists concerning the relative importance of heredity versus environment—or nature versus nurture—in human development (Box 5–7). **Nature** refers to the genetic or hereditary capability of an individual. **Nurture** refers to the effects of the environment on a person's performance. Piaget believed in the importance of internal cognitive structures that unfold at appointed times, given any environment that provides basic opportunities. He emphasized the strength of nature. The behaviorist John Watson, on the other hand, believed that behaviors are primarily shaped by environmental responses; he thus stressed the predominance of nurture. Contemporary developmental theorists increasingly recognize the interaction of nature and nurture in determining the child's development.

The ecological theory of development was formulated by Urie Bronfenbrenner to explain the unique relationship of the child to all of life's settings, from close to remote (Bronfenbrenner, 1986; Bronfenbrenner, McClelland, Ceci, et al., 1996) (Box 5–8). **Ecologic theory** emphasizes the presence of mutual interactions between the child and these various settings. Neither nature nor nurture is considered of more importance. Bronfenbrenner believes each child brings a unique set of genes—and specific attributes such as age, gender, health, and other characteristics—to his or her interactions with the environment. The child then interacts in many settings at different levels or systems (Figure 5–3).

**Levels or Systems**

**Microsystem.** The microsystem level is defined as the daily, consistent, close relationships such as home, childcare, school, friends, and neighbors. For the child with a chronic illness requiring regular care, the healthcare providers may even be part of the microsystem. In the ecologic model, the child influences each of these settings in addition to being influenced by them, with reciprocal interactions. Consider how Irena's microsystems have changed. Initially her mother and siblings were the important persons in her daily life, then the orphanage staff and other children, and finally Michael and Alyssa and their families and friends. How might these changes have influenced Irena? What stability is needed now to foster her ability to form relationships?

**Mesosystem.** The mesosystem level includes relationships of Microsystems with one another. For example, two Microsystems for most children are the home and the school. The relationships between these Microsystems are shown by parents' involvement in their children's school. This involvement, in turn, influences the effects of the home and school settings on the children.

**Exosystem.** The exosystem level is composed of those settings that influence the child even though the child is not in close daily contact with the system. Examples include the parents' jobs and the governing board of the local school district. Although the child may not go to the parents' workplaces, he or she can be influenced by policies related to healthcare, sick leave, inflexible work hours, overtime, travel, or even by the mood of the boss (through its impact on the parent). The child's needs may influence a parent to give up a certain job or to work harder to obtain money for the child's education. Likewise, when a local school board votes to ban certain books or to finance a field trip, the child is influenced by these decisions; the child, in turn, can help establish an atmosphere that will guide future school board decisions.

**Macrosystem.** The macrosystem level includes the beliefs, values, and behaviors expressed in the child's environment. Culture is a powerful influence in the macrosystem, as is the political system. For instance, a democratic system creates different beliefs, values, and even eating practices than an anarchic system.

**Chronosystem.** The outer chronosystem final level brings the perspective of time to the previous settings. The time period during which the child grows up influences views of health and illness. For example, the experiences of children with influenza in the 19th versus 20th centuries were quite different.

**Nursing Application**

Nurses use ecologic theory when they assess the child’s settings to identify influences on development. Table 5–4 provides an
assessment tool based on this theory. Interventions are planned to enhance the strengths of the child’s settings and to improve on areas that are not supportive.

**Temperament Theory**

**Theoretical Framework**

In contrast to behaviorists such as Watson or maturational theorists such as Piaget, Stella Chess and Alexander Thomas recognized the innate qualities of personality that each individual brings to the events of daily life (Box 5–9). They, like Bronfenbrenner, believe the child is an individual who both influences and is influenced by the environment. However, Chess and Thomas focus on one specific aspect of development—the wide spectrum of behaviors possible in children, identifying nine parameters of response to daily events (Box 5–10). Infants generally display clusters of responses, which Chess and Thomas have classified into three major personality types (Box 5–11). Although most children do not demonstrate all behav-
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<table>
<thead>
<tr>
<th>MICROSYSTEMS</th>
<th>MESOSYSTEMS</th>
<th>EXOSYSTEMS</th>
<th>MACROSYSTEMS</th>
<th>CHRONOSYSTEMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents</td>
<td>Parents’ involvement in childcare or school</td>
<td>Community centers</td>
<td>Cultural group membership</td>
<td>Child’s age</td>
</tr>
<tr>
<td>Significant others in close contact</td>
<td>Parents’ involvement in community</td>
<td>Local political influences</td>
<td>Beliefs and values of group</td>
<td>Parents’ ages</td>
</tr>
<tr>
<td>Childcare arrangements</td>
<td>Parents’ relationships with significant others (e.g., grandparents, care providers)</td>
<td>Parents’ work</td>
<td>Political structure</td>
<td></td>
</tr>
<tr>
<td>School</td>
<td>Influences of religious community (e.g., church, synagogue, mosque) or parents and school</td>
<td>Parents’ friends and activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neighborhood contacts</td>
<td></td>
<td>Social services</td>
<td></td>
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</tr>
<tr>
<td>Clubs</td>
<td></td>
<td>Healthcare</td>
<td></td>
<td></td>
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<tr>
<td>Friends, peers</td>
<td></td>
<td>Libraries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religious community (e.g., churches, synagogues, mosques)</td>
<td></td>
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</tbody>
</table>

**TABLE 5–4**  Assessment of Ecologic Systems in Childhood—Bronfenbrenner

**BOX 5–9  Stella Chess and Alexander Thomas**

Chess and Thomas are psychiatrists who began the New York Longitudinal Study in 1956 with 141 children, which they expanded in 1961 with 95 additional children. Most of these individuals are still being assessed periodically as adults. Their research has identified characteristics of personality and provides a basis for the ongoing study of temperament (Chess & Thomas, 1995).

**BOX 5–10  Nine Parameters of Personality—Chess and Thomas**

1. **Activity level.** The degree of motion during eating, playing, sleeping, bathing. Scored as high, medium, or low.
2. **Rhythmicity.** The regularity of schedule maintained for sleep, hunger, elimination. Scored as regular, variable, or irregular.
3. **Approach or withdrawal.** The response to a new stimulus such as a food, activity, or person. Scored as approachable, variable, or withdrawn.
4. **Adaptability.** The degree of adaptation to new situations. Scored as adaptive, variable, or nonadaptive.
5. **Threshold of responsiveness.** The intensity of stimulation needed to elicit a response to sensory input, objects in the environment, or people. Scored as high, medium, or low.
6. **Intensity of reaction.** The degree of response to situations. Scored as positive, variable, or negative.
7. **Quality of mood.** The predominant mood during daily activity and in response to stimuli. Scored as positive, variable, or negative.
8. **Distractibility.** The ability of environmental stimuli to interfere with the child’s activity. Scored as distractible, variable, or nondistractible.
9. **Attention span and persistence.** The amount of time devoted to activities (compared with other children of the same age) and the degree of ability to stick with an activity in spite of obstacles. Scored as persistent, variable, or nonpersistent.


Current research demonstrates that personality characteristics displayed during infancy are often consistent with those seen later in life. The ability to predict future characteristics is not possible, however, due to the complex and dynamic interaction of personality traits and environmental reactions.

Many other researchers have expanded the work of Chess and Thomas, developing assessment tools for temperament types. The concept of “goodness of fit” is an outgrowth of this theory. Goodness of fit refers to whether parents’ expectations of their child’s behavior are consistent with the child’s temperament type. There is a “good fit” when the properties of the environment are in accord with the child’s capabilities, characteristics, and style of behavior (Chess & Thomas, 1999; Turecki, 2003). As an example of lack of good fit, an active infant who reacts strongly to verbal stimuli may be unable to sleep when placed in a room with older siblings. A child who is slow to warm up may not perform well in the first few months at a new school, much to parents’ disappointment. When parents understand a child’s temperament characteristics, they are better able to shape the environment to meet the child’s needs. The active infant described above should be put to sleep in a quiet room. The school child will benefit from meeting the teacher while parents are present, inviting classmates.
Resiliency Theory

**Theoretical Framework**

Why do some children coming from similar backgrounds have such different behavioral outcomes? A theory that examines both the individual’s characteristics and the interaction of these characteristics with the environment is the resiliency model.

**Resilience** is the ability to function with healthy responses, even with significant stress and adversity (Stewart, Reid, & Mangham, 1997). In this model, the individual or family members experience a crisis that provides a source of stress, and the family interprets or deals with the crisis based on resources available. Families and individuals have **protective factors** that provide strength and assistance in dealing with crises, and **risk factors** that promote or contribute to their challenges. Risk and protective factors can be identified in children, in their families, and in their communities (see Chapter 7 for further description of the interplay of social and environmental factors with individual characteristics). A crisis for a young child might be a transfer to a new childcare provider. Protective factors could involve past positive experiences with new people, an “easy” tempera-

<table>
<thead>
<tr>
<th>CHILDS BEHAVIOR</th>
<th>PARENTS ACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely active</td>
<td>Plan periods of active play several times in day. Have restful periods before bedtime to foster sleep.</td>
</tr>
<tr>
<td>Shy</td>
<td>Allow time to adapt at own pace to new people and situations.</td>
</tr>
<tr>
<td>Easily stimulated</td>
<td>Have quiet room for sleeping as an infant. Have quiet room for homework for school-age child.</td>
</tr>
<tr>
<td>Short attention span</td>
<td>Provide projects that can be completed in a short period. Gradually encourage longer periods at activities.</td>
</tr>
</tbody>
</table>
As we have seen, both nature and nurture are important in determining individual patterns of development. These two forces interact in distinctive ways in each individual, explaining differences in time frames for acquisition of developmental skills among children, personality variations between identical twins, and other unique characteristics of individuals. An environmental factor that is extremely important in the development of children is the profile of family characteristics. The family is an important component in the lives of all children, and plays an essential role in fostering the development of youth. A significant concept in families is that of parenting. How children are parented interacts with their individual characteristics to influence risk and protective factors, personality characteristics, and developmental outcomes. Chapter 2 discusses types of families, frameworks used to understand families, the roles of families in fostering the development of children, and types of parenting styles.

### Assessment Questions to Determine Resilience Capability

#### QUESTIONS TO DETERMINE RISK FACTORS
- Describe the event that occurred and what it has been like for your family.
- What other stressors do you have in your family right now?
- Are there financial worries?
- Are there things you think and worry about late at night?
- Describe your job, your friends.
- Describe your typical day.
- Describe your neighborhood.
- Do you have friends, people to call in emergencies?

#### QUESTIONS TO DETERMINE PROTECTIVE FACTORS
- What gives you strength?
- How do you deal with this stress?
- What do you think you do well in your family?
- Who do you call when you need help?
- Do you have a computer? Internet access?
- Are you religious? Spiritual?
- Do you exercise regularly?
- How do you spend free time?

### Components of Resiliency Model

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>MEANING</th>
<th>EXAMPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A = Crisis Event or Health Challenge</td>
<td>Nature of health care challenge</td>
<td>Parent leaving home</td>
</tr>
<tr>
<td>V = Vulnerability; risk factors</td>
<td>Stresses and risks related to dealing with the health challenge</td>
<td>Prior abandonment; financial instability; child’s developmental understanding of abandonment</td>
</tr>
<tr>
<td>T = Typology</td>
<td>Family methods of functioning</td>
<td>Reliance on extended family; parent alcoholism</td>
</tr>
<tr>
<td>B = Protective factors</td>
<td>Strengths for dealing with challenge</td>
<td>Child’s desire to succeed in school; positive role modeling of maternal grandparents</td>
</tr>
<tr>
<td>C = Appraisal</td>
<td>Family’s interpretation of crisis event</td>
<td>Abandonment by loved one; inability to trust others</td>
</tr>
<tr>
<td>PS = Problem-solving or coping techniques</td>
<td>Skills that help family work toward solution</td>
<td>Use of community resources; acceptance of school and community counselors; child’s involvement in classroom activities</td>
</tr>
<tr>
<td>X = Response</td>
<td>Positive or negative response to tension created by the health challenge</td>
<td>Remaining parent using counseling available; child identifying with a teacher in school; establishment of sense of mutual interdependence among remaining family members</td>
</tr>
</tbody>
</table>

Culture

The traditional customs of the many cultural groups represented in North America influence the growth and development of the children in these groups. Genetic traits may predispose children for being at the upper or lower ranges of growth. Nutritional practices of various ethnic groups may influence the rate of growth for infants. Physical development is also influenced by genetic characteristics of ethnic groups (see Chapter 3). In addition, development may be influenced by child rearing practices. For example, the Native American practice of carrying infants on boards often delays walking when it is measured against the norm for walking on some developmental tests. These infants will begin walking later than other babies, but achieve other gross motor skills on schedule. Children who are carried by straddling the mother’s hips or back for extended periods have a low incidence of developmental dysplasia of the hip, since the practice keeps their hips in an abducted position. There is no lasting delay in any milestone. The nurse needs to be aware of potential limitations of developmental tests when applied to various cultural groups.

While the sequence of cognitive and psychosocial development is the same for all children, the rates of acquiring new skills can vary. When the surrounding cultural group provides much stimulation, the child may achieve cognitive milestones at early ages. On the other hand, in cultures where self-exploration is valued, the child learns at a slower pace, but is more able to apply learning to new situations. In some cultures interactions are valued and the child is always with adults and other children; in other cultures independence is more valued and a child may be slower to develop cooperative psychosocial behaviors. What are the values of your cultural group and how have they influenced your development?

NEWBORN (UP TO 1 MONTH)
Physical Growth and Development and Prenatal Influences

Some Asian cultures calculate age from the time of conception. This practice acknowledges the profound influence of the prenatal period. The mother’s nutrition and general state of health play a part in pregnancy outcome. Poor nutrition can lead to low-birth-weight infants and infants with compromised neurologic performance, slow development, or impaired immune status with resultant high disease rates. Low maternal stores of iron can result in anemia in the infant (Kleinman, 2004; UNICEF, 1998). Maternal smoking is associated with low-birth-weight infants. Ingestion of alcoholic beverages, including beer and wine, during pregnancy may lead to fetal alcohol syndrome (see Chapter 3 for further description of fetal alcohol syndrome). Illicit drug use by the mother may result in neonatal addiction, convulsions, hyperirritability, poor social responsiveness, and other neurologic disturbances (Children’s Defense Fund, 2004).

Even prescription drugs may adversely affect the fetus. An example is the drug thalidomide, which was commonly used in Europe to treat nausea during the 1950s. This drug resulted in the birth of infants with limb abnormalities to women who used the drug during pregnancy. Other drugs can cause bleeding, stained teeth, impaired hearing, or other defects in the infant (Briggs, Freeman, & Yaffe, 2001). Some maternal illnesses are harmful to the developing fetus. An example is rubella (German measles), which is rarely a serious disease for adults but can cause deafness, vision defects, heart defects, and mental retardation in the fetus if it is acquired by a pregnant woman. A fetus can also acquire diseases, such as acquired immunodeficiency syndrome (AIDS) and human immunodeficiency virus (HIV) infection or hepatitis B from the mother. Paternal influence may be important as well. Either parent may have been exposed during war to Agent Orange, to toxins in the workplace, to stresses such as anxiety and violence, or to steroid or street drugs. Radiation, chemicals, and other environmental hazards may adversely affect a fetus when the parent is exposed to these influences. The best outcomes for infants occur when both parents have had minimal exposure to environmental toxins, have enjoyed general good health, and refrain from use of drugs, excessive alcohol, and tobacco. During pregnancy mothers should eat well, exercise regularly, seek early prenatal care, and refrain from harmful exposure to substances.

Babies are born with important physical characteristics, including a set of newborn reflexes (see Chapter 8 for their description) that help them receive input from the environment. The baby’s sucking reflex provides food, physical contact with the mother, and a way to comfort the self. The grasp reflex creates a way to feel the world and its textures. The newborn takes in food through stimulation of the reflexes. This food enables the baby to grow and perform a gradually expanding array of motor skills. Developmental progression is monitored closely during the baby’s first month of life, as the transition of all body systems to extrauterine life occurs.

Cognitive Development

Piaget’s theory of cognitive development recognized the importance of the newborn reflexes in determining the newborn’s cognitive development. Reflexes are not just a way to obtain food or maintain safety, but are the tools that help the newborn transition from the uterus to the external world. The baby uses reflexes and learns through them. Grasping opens the world to many objects that the baby will gradually learn to manipulate. When comfort needs are met, the baby learns from the experiences of eating and being clothed and held. The foundations of thought have been laid.

Psychosocial Development

Many people may believe that the newborn is incapable of anything but eating and sleeping. However, some observant researchers and care providers have noted that the newborn is particularly attuned to people in the environment, especially the parents. Relationships begin and will continue to develop throughout infancy. Attachment is a strong emotional bond between people and it can begin in the newborn period. When women hold their babies directly after birth, they tend to progress from touching them by fingertip, to full palm, and then enfolding them in hands and arms. Newborns are often alert after birth and follow the mother’s face carefully with their eyes. This first interaction fosters attachment between the mother and
baby. For many families, the process also involves attachment with the father, and sometimes siblings. The newborn learns quickly in the first month about safety and security, comfort when distressed, and food. These basic needs are associated with the primary caretakers and the infant forms a close attachment when needs are met; the foundations of trust are established. The baby who is fed by parents when hungry, held and comforted when in pain or distress, and played with several times daily learns that the parents and other caretakers can be trusted to meet basic needs. The infant learns how to trust, how to believe that people will provide care, and is free to move on to explore the environment more actively. Berry Brazelton, a pediatrician who has worked extensively with newborns and their parents, has shown that even in the first days of life infants can focus on the face of an adult, imitate behaviors such as smiling, frowning, or sticking out the tongue, and become totally engaged in the interaction with another person. The term *en face* is used to indicate the baby and adult gazing into each other’s faces with their faces oriented in the same positions (Figure 5–4 ■). There are periods in the day when the baby’s level of alertness supports the ability to focus on faces of caretakers, and learn positive aspects of the interpersonal relationship. Nurses support parents to recognize these times and use them to interact with the baby when possible (Figure 5–5 ■). See Table 5–8 for a description of infant states of alertness and suggested parental responses.

Nurses play an important role in helping new parents to learn about their babies’ communication ability and responding appropriately. When there are risks, such as parents who are very young or have limited experience with babies, parents with mental health problems, or the birth of a premature newborn, parents may need ongoing help for a period of time to foster attachment with the child. Challenges for parents of a high-risk infant include:

- Guilt and grieving about the child’s condition
- Worry upon hospital discharge about whether skills are present to be competent in care of the baby
- Concern about future development
- Constant adaptation to changes as the child grows and develops

Nursing interventions that can promote positive attachment with the high-risk infant include (Hummel, 2003):

- Encouraging frequent visits to the baby in the newborn care unit
- Promoting holding of the baby
- Providing for skin-to-skin contact of the baby and parent (Box 5–12)
- Pointing out baby’s attributes and responses to voice or touch
- Involving parents in care of and decisions about the baby
- Advocating for healthcare agency policies that are supportive of attachment between infant and parents
- Giving information and repeating as needed; letting parents have a telephone number they can call at any time to get information about the baby or talk with a supportive person

See Evidence-Based Practice: Preterm Infants and Touch.
The first year of life is one of rapid change for the infant. Theู

**TABLE 5–8 Infant States of Alertness**

<table>
<thead>
<tr>
<th>STATE</th>
<th>DESCRIPTION</th>
<th>RECOMMENDED PARENTAL RESPONSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drowsiness or dozing</td>
<td>The baby’s eyes are open or closed but there is not concentration on surroundings; the eyelids flutter, extremities move slowly and occasional startles occur. The baby either transitions to deeper sleep or wakefulness.</td>
<td>Parents can provide a quiet place for sleep or encourage wakefulness if that is desired.</td>
</tr>
<tr>
<td>Quiet alert</td>
<td>The baby is wide awake, follows objects, sounds, and faces; there is minimal motor movement. The infant is learning from the environment and will look away every few seconds and then look back at the face or object of interest.</td>
<td>Parents can talk with, sing to, assume the en face position, or provide objects for the baby to look at.</td>
</tr>
<tr>
<td>Active alert</td>
<td>The baby is very active with movements of extremities and head; responds to all stimuli with movement.</td>
<td>Parents may swaddle or quiet the infant if desired or allow the baby to move about, understanding that either crying or settling into quiet alert will likely occur next.</td>
</tr>
<tr>
<td>Crying</td>
<td>The baby cries and has movements of extremities.</td>
<td>Parents can look for reasons for the crying and intervene to provide comfort. The baby may be tired and need swaddling, hungry, having gastric distress, wet, or cold. Sometimes the source of crying is not known and an episode of crying, while annoying to parents, may continue to occur.</td>
</tr>
</tbody>
</table>


**BOX 5–12 Kangaroo Care**

“Kangaroo care” is used to describe skin-to-skin contact between infant and parent. This type of care developed in treatment of premature infants and involves clothing the baby in only a diaper and placing the infant against the skin of the parent’s chest. The parent then wraps in warm clothes and holds the child close for several minutes daily. Premature infants having kangaroo care grow well, maintain temperature, and calm more easily. Parents usually feel close to the infant and appreciate the skin contact. Nurses have been instrumental in performing research on this technique and using it in hospitals and family homes.

**INFANT (1 MONTH TO 1 YEAR)**

Can you imagine tripling your present weight in a single year? Or becoming proficient in understanding fundamental words in a new language and even speaking a few? These and many more accomplishments take place in the first year of life. Starting the year as a mainly reflexive creature, the infant can walk and communicate by the year’s end. Never again in life is development so swift (Figure 5–6  ).

**Physical Growth and Development**

The first year of life is one of rapid change for the infant. The birth weight usually doubles by about 5 months and triples by the end of the first year (Figure 5–7  ). Height increases by approximately 1 foot during this year. Teeth begin to erupt at about 6 months, and by the end of the first year the infant has six to eight deciduous teeth (see Chapter 8 for a full description of tooth eruption). Physical growth is closely associated with type and quality of feeding. See Chapter 9 for a discussion of nutrition in infancy.

Body organs and systems, although not fully mature at 1 year of age, function differently than they did at birth. Kidney and liver maturation helps the 1-year-old excrete drugs or other toxic substances more readily than in the first weeks of life. The changing body proportions mirror changes in developing internal organs. Maturation of the nervous system is demonstrated by increased control over body movements, enabling the infant to sit, stand,
FIGURE 5–6  A 12-month-old child will have tripled his birth weight, learned to walk, and will be beginning to talk.

and walk. Sensory function also increases as the infant begins to discriminate visual images, sounds, and tastes (Table 5–9).

Cognitive Development
The brain continues to increase in complexity during the first year. Most of the growth involves maturation of cells, with only a small increase in cell number. This growth of the brain is accompanied by development of its functions. One has only to compare the behavior of an infant shortly after birth with that of a 1-year-old to understand the incredible maturation of brain function. The newborn’s eyes widen in response to sound; the 1-year-old turns to the sound and recognizes its significance. The 2-month-old cries and coos; the 1-year-old says a few words and understands many more. The 6-week-old grasps a rattle for the first time; the 1-year-old reaches for toys and self-feeds.

The infant’s behaviors provide clues about thought processes. Piaget’s work outlines the infant’s actions in a set of rapidly progressing changes in the first year of life. The infant receives stimulation through sight, sound, and feeling, which the maturing brain interprets. This input from the environment interacts with internal cognitive abilities to enhance cognitive functioning.

Psychosocial Development

Play
An 8-month-old infant is sitting on the floor, grasping blocks and banging them on the floor. Infants spend much of their time engaging in solitary play, or playing by themselves. However, when a parent walks by, the infant laughs and waves hands and feet wildly, showing that periodic interactions with others are pleasurable (Figure 5–8). Physical capabilities enable the infant to move toward and reach for objects of interest. Cognitive ability is reflected in manipulation of the blocks to create different sounds. Social interaction enhances play. The presence of a parent or other person increases interest in surroundings and teaches the infant different ways to play.

The play of infants begins in a reflexive manner. When infants move extremities or grasp objects, they experience the foundations of play. They gain pleasure from the feel and sound of these activities, and gradually perform them purposefully. For example, when a parent places a rattle in the hand of a 6-week-old infant, the infant grasps it reflexively. As the hands move randomly, the rattle makes an enjoyable sound. The infant learns to move the rattle to create the sound and then finally to grasp the toy at will to play with it.

The next phase of infant play focuses on manipulative behavior. The infant examines toys closely, looking at them, touching them, and placing them in the mouth. The infant learns a great
<table>
<thead>
<tr>
<th>AGE</th>
<th>PHYSICAL GROWTH</th>
<th>FINE MOTOR ABILITY</th>
<th>GROSS MOTOR ABILITY</th>
<th>SENSORY ABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth to 1 month</td>
<td>Gains 5–7 oz (140–200 g)/week</td>
<td>Holds hand in fist (1)</td>
<td>Inborn reflexes such as startle and rooting are predominant activity</td>
<td>Prefers to look at faces and black-and-white geometric designs</td>
</tr>
<tr>
<td></td>
<td>Grows 1.5 cm (1/2 in.) in first month</td>
<td>Draws arms and legs to body when crying</td>
<td>May lift head briefly if prone (2)</td>
<td>(4)</td>
</tr>
<tr>
<td></td>
<td>Head circumference increases 1.5 cm (1/2 in.)/month</td>
<td></td>
<td>Alerts to high-pitched voices</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Comforts with touch (3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2–4 months</td>
<td>Gains 5–7 oz (140–200 g)/week</td>
<td>Holds rattle when placed in hand (5)</td>
<td>Moro reflex fading in strength</td>
<td>Follows objects 180 degrees</td>
</tr>
<tr>
<td></td>
<td>Grows 1.5 cm (1/2 in.)/month</td>
<td>Looks at and plays with own fingers</td>
<td>Can turn from side to back and then return (6)</td>
<td>Turns head to look for voices and sounds</td>
</tr>
<tr>
<td></td>
<td>Head circumference increases 1.5 cm (1/2 in.)/month</td>
<td>Readily brings objects from hand to mouth</td>
<td>Decrease in head lag when pulled to sitting; sits with head held in midline with some bobbing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Posterior fontanel closes</td>
<td></td>
<td>When prone, holds head and supports weight on forearms (7)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eats 120 mL/kg/24 hr (2 oz/lb/24 hr)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TABLE 5–9 Physical Growth and Development Milestones During Infancy**

1. Holds hand in fist
2. May lift head
3. Comforts with touch
4. Follows objects
5. Holds rattle
6. Can turn from side to back
7. Holds head up and supports weight with arms
### TABLE 5–9  Physical Growth and Development Milestones During Infancy (continued)

<table>
<thead>
<tr>
<th>AGE</th>
<th>PHYSICAL GROWTH</th>
<th>FINE MOTOR ABILITY</th>
<th>GROSS MOTOR ABILITY</th>
<th>SENSORY ABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>4–6 months</td>
<td>Gains 5–7 oz (140–200 g)/week Doubles birth weight 5–6 months Grows 1.5 cm (1/2 in.)/month Head circumference increases 1.5 cm (1/2 in.)/month Teeth may begin erupting by 6 months Eats 100 mL/kg/24 hr (1 1/2 oz/lb/24 hr)</td>
<td>Grasps rattles and other objects at will; drops them to pick up another offered object (8) Mouths objects Holds feet and pulls to mouth Holds bottle Grasps with whole hand (palmar grasp) Manipulates objects (9)</td>
<td>Head held steady when sitting No head lag when pulled to sitting Turns from abdomen to back by 4 months and then back to abdomen by 6 months When held standing supports much of own weight (10)</td>
<td>Examines complex visual images Watches the course of a falling object Responds readily to sounds</td>
</tr>
<tr>
<td>(8) Grasps objects at will</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(9) Manipulates objects</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(10) Supports most of weight when held standing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6–8 months</td>
<td>Gains 3–5 oz (85–140 g)/week Grows 1 cm (3/8 in.)/month Growth rate slower than first 6 months</td>
<td>Bangs objects held in hands Transfers objects from one hand to the other Beginning pincer grasp at times</td>
<td>Most inborn reflexes extinguished Sits alone steadily without support by 8 months (11) Likes to bounce on legs when held in standing position</td>
<td>Recognizes own name and responds by looking and smiling Enjoys small and complex objects at play</td>
</tr>
<tr>
<td>(11) Sits alone without support</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TABLE 5–9  Physical Growth and Development Milestones During Infancy (continued)

<table>
<thead>
<tr>
<th>AGE</th>
<th>PHYSICAL GROWTH</th>
<th>FINE MOTOR ABILITY</th>
<th>GROSS MOTOR ABILITY</th>
<th>SENSORY ABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>8–10 months</td>
<td>Gains 3–5 oz (85–140 g)/week</td>
<td>Picks up small objects (12)</td>
<td>Crawls or pulls whole body along floor by arms (13)</td>
<td>Understands words such as “no” and “cracker”</td>
</tr>
<tr>
<td></td>
<td>Grows 1 cm (3/8 in.)/month</td>
<td>Uses pincer grasp well (14)</td>
<td>Creeps by using hands and knees to keep trunk off floor</td>
<td>May say one word in addition to “mama” and “dada”</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pulls self to standing and sitting by 10 months</td>
<td>Recognizes sound without difficulty</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Recovers balance when sitting</td>
<td></td>
</tr>
<tr>
<td>10–12 months</td>
<td>Gains 3–5 oz (85–140 g)/week</td>
<td>May hold crayon or pencil and make mark on paper</td>
<td>Stands alone (16)</td>
<td>Plays peek-a-boo and patty cake</td>
</tr>
<tr>
<td></td>
<td>Grows 1 cm (3/8 in.)/month</td>
<td>Places objects into containers through holes (15)</td>
<td>Walks holding onto furniture</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Head circumference equals chest circumference</td>
<td></td>
<td>Sits down from standing (17)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Triples birth weight by 1 year</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

deal about texture, qualities of objects, and all aspects of the surroundings. At the same time, interaction with others becomes an important part of play. The social nature of play is obvious as the infant plays with other children and adults.

Toward the end of the first year, the infant’s ability to move in space enlarges the sphere of play. Once infants crawl or walk, they can get to new places, find new toys, discover forgotten objects, or seek out other people for interaction. Play is a reflection of every aspect of development, fostering psychosocial skills and enhancing learning and maturation (see Table 5–9).

**Personality and Temperament**

Why does one infant frequently awaken at night crying while another sleeps for 8 to 10 hours undisturbed? Why does one infant smile much of the time and react positively to interactions while another is withdrawn around unfamiliar people and fre-
FIGURE 5–8 Garrett shows us that an 8-month-old child can play with blocks, demonstrating physical, cognitive, and social capabilities.

Nocturnal frowns and cries? Such differences in responses to the environment are believed to be inborn characteristics of temperament. Infants are born with a tendency to react in certain ways to noise and to interact differently with people. They may display varying degrees of regularity in activities such as eating and sleeping, and manifest a capacity for concentrating on tasks for different amounts of time.

Nursing assessment identifies personality characteristics of the infant that the nurse can share with the parents. With this information, the parents can appreciate more fully the uniqueness of their infant and design experiences to meet the infant’s needs. Parents can learn to modify the environment to promote adaptation. For example, an infant who does not adapt easily to new situations may cry, withdraw, or develop another way of coping when adjusting to new people or places. Parents might be advised to use one or two babysitters rather than engaging new sitters frequently. If the infant is easily distracted when eating, parents can feed the infant in a quiet setting to encourage a focus on eating. Although the infant’s temperament is unchanged, the ability to fit with the environment is enhanced. See Chapter 12 for further ideas about how nurses apply information on infant temperament to health promotion and health maintenance visits.

Communication
Even at a few weeks of age, infants communicate and engage in two-way interaction, and express comfort by soft sounds, cuddling, and eye contact. Newborns respond best to a high-pitched voice, something that most parents inherently seem to know. Even fathers raise their voice to a higher pitch when talking with a young infant. The infant displays discomfort by thrashing the extremities, arching the back, and crying vigorously. From these rudimentary skills, communication ability continues to develop until the infant speaks several words at the end of the first year of life (Table 5–10).

Nurses assess communication to identify possible abnormalities or developmental delays. Language ability may be assessed with the Denver II Developmental Test and other specialized language screening tools (see Chapter 10). Normal infants and toddlers understand (receptive speech) more words than they can speak (expressive speech). Abnormalities may be caused by a hearing deficit, developmental delay, or lack of verbal stimulation from caretakers. Further assessment may be required to pinpoint the cause of the abnormality.

Nursing interventions focus on providing a stimulating and loving environment. Parents are encouraged to speak and sing to infants frequently and teach words. Descriptive verbalizations encourage the infant’s speech. For example, when a 1-year-old says “bottle,” the parent can say, “Oh you want your warm bottle of milk now? This is your blue bottle.” Hospital nurses should include the infant’s known words when providing care, and talk to infants using comforting and descriptive terminology. Security is communicated when care providers hold the infant for feedings, cuddle and play gently often during the day, and swaddle and hold the young infant securely during crying episodes. Parents may enjoy receiving information about how to swaddle the infant or perform infant massage. (See Complementary Therapy: Infant Massage below.)

TODDLER (1 TO 3 YEARS)
Toddlerhood is sometimes called the first adolescence. An infant only months before, the child from 1 to 3 years is now displaying independence and negativism. Pride in newfound accomplishments emerges.

Physical Growth and Development
The rate of growth slows during the second year of life. Parents may become concerned because the child has a limited intake and may need reassurance that this is normal. See Chapter 9 for further ideas about how nurses apply information on infant temperament to health promotion and health maintenance visits.

COMPLEMENTARY THERAPY
Infant Massage
Infant massage is a technique for communicating with and soothing infants that has been used in many cultures throughout history, but is not traditional within most families in the United States and Canada. It has many benefits both for infants and parents and can be taught to families who are interested. Some of the benefits for babies include improved sleep, soothability, and decreased stress hormones. Premature infants have been shown to have enhanced growth and motor ability (Field, 2002; Mainous, 2003). Massage periods of 10–15 minutes daily can be encouraged and facilitated. Such episodes will enhance bonding and attachment between parents and infant.
for further discussion of nutrition in toddlerhood. By age 2 years, the birth weight has usually quadrupled and the child is about one half of the adult height. Body proportions begin to change, with legs longer and head smaller in proportion to body size than during infancy (see Figure 5–7). The toddler has a pot-bellied appearance and stands with feet apart to provide a wide base of support. By approximately 33 months, eruption of deciduous teeth is complete, with 20 teeth present.

Gross motor activity develops rapidly (Table 5–11), as the toddler progresses from walking to running, kicking, and riding a tricycle (Figure 5–9). As physical maturation occurs, the toddler develops the ability to control elimination patterns. See Chapter 13 for a discussion of the nurse’s role in assisting parents in the process of toilet training toddlers, and Developing Cultural Competence: Toilet Training below.

### DEVELOPING CULTURAL COMPETENCE

**Toilet Training**

In traditional Native American families, children are allowed to unfold and develop naturally at their own pace. Children thus wean and toilet train themselves with little interference or pressure from parents. Nurses should honor the beliefs and practices of families rather than suggesting that one approach, for example, that a single age for toilet training, is right for all families and situations.

### FIGURE 5–9

This toddler has learned to ride a Big Wheel, which he is doing right into the street. Toddlers must be closely watched to prevent injury.
### TABLE 5-11 Physical Growth and Development Milestones During Toddlerhood

<table>
<thead>
<tr>
<th>AGE</th>
<th>PHYSICAL GROWTH</th>
<th>FINE MOTOR ABILITY</th>
<th>GROSS MOTOR ABILITY</th>
<th>SENSORY ABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–2 years</td>
<td>Gains 8 oz (227 g) or more per month</td>
<td>By end of 2nd year, builds a tower of four blocks (1)</td>
<td>Runs</td>
<td>Visual acuity 20/50</td>
</tr>
<tr>
<td></td>
<td>Grows 3.5–5 in. (9–12 cm) during this year</td>
<td>Scribbles on paper (2)</td>
<td>Walks up and down stairs (5)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Anterior fontanel closes</td>
<td>Can undress self (3)</td>
<td>Likes push and pull toys</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Throws a ball</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2–3 years</td>
<td>Gains 1.4–2.3 kg (3–5 lb)/year</td>
<td>Draws a circle and other rudimentary forms</td>
<td>Jumps</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Grows 5–6.5 cm (2–2.5 in.)/year</td>
<td>Learns to pour</td>
<td>Kicks ball (6)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Learning to dress self (4)</td>
<td>Throws ball overhand</td>
<td></td>
</tr>
</tbody>
</table>

**Cognitive Development**

During the toddler years, the child moves from the sensorimotor to the preoperational stage of development. The early use of language awakens in the 1-year-old the ability to think about objects or people when they are absent. Object permanence is well developed.

At about 2 years of age, the increasing use of words as symbols enables the toddler to use preoperational thought. Rudimentary problem solving, creative thought, and an understanding of cause-and-effect relationships are now possible.

**Psychosocial Development**

**Play**

Many changes in play patterns occur between infancy and toddlerhood. The toddler’s motor skills enable him or her to bang pegs into a pounding board with a hammer. The social nature of toddler play is also readily seen. Toddlers find the company of other children pleasurable, even though socially interactive play may not occur. Two toddlers tend to play with similar objects side by side, occasionally trading toys and words. This is called **parallel play**. This playtime with other children assists toddlers to develop...
social skills. Toddlers engage in play activities they have seen at home, such as pounding with a hammer and talking on the phone. This imitative behavior teaches them new actions and skills (Figure 5–10).

Physical skills are manifested in play as toddlers push and pull objects, climb in and out and up and down, run, ride a Big Wheel, turn the pages of books, and scribble with a pen. Both gross motor and fine motor abilities are enhanced during this age period.

Cognitive understanding enables the toddler to manipulate objects and learn about their qualities. Stacking blocks and placing rings on a building tower teach spatial relationships and other lessons that provide a foundation for future learning. Various kinds of play objects should be provided for the toddler to meet play needs. These play needs can easily be met whether the child is hospitalized or at home (Table 5–12).

Personality and Temperament
The toddler retains most of the temperamental characteristics identified during infancy, but may demonstrate some changes. The normal developmental progression of toddlerhood also plays a part in responses. For example, the infant who previously responded positively to stimuli, such as a new babysitter, may appear more negative in toddlerhood. The increasing independence characteristic of this age is shown by the toddler’s use of the word *no*. The parent and child constantly adapt their responses to each other and learn anew how to communicate with each other.

Communication
Because of the phenomenal growth of language skills during the toddler period, adults should communicate frequently with children in this age group. Toddlers imitate words and speech intonations, as well as the social interactions they observe.

At the beginning of toddlerhood, the child may use four to six words in addition to “mama” and “dada.” Receptive speech (the ability to understand words) far outpaces expressive speech. By the end of toddlerhood, however, the 3-year-old has a vocabulary of almost 1,000 words and uses short sentences.

Communication occurs in many ways, some of which are nonverbal. Toddler communication includes pointing, pulling an adult over to a room or object, and speaking in expressive

<table>
<thead>
<tr>
<th>AGE</th>
<th>PLAY AND TOYS</th>
<th>COMMUNICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–3 years</td>
<td>Refines fine motor skills by use of cloth books, large pencil and paper, wooden puzzles Facilitates imitative behavior by playing kitchen, grocery shopping, toy telephone Learns gross motor activities by riding Big Wheel tricycle, playing with soft ball and bat, molding water and sand, tossing ball or bean bag Cognitive skills develop by educational television shows, music, stories and books</td>
<td>Increasingly enjoys talking Exponential growth of vocabulary especially when spoken and read to Needs to release stress by pounding board, frequent gross motor activities, and occasional temper tantrums Likes contact with other children and learns interpersonal skills</td>
</tr>
</tbody>
</table>
Communicating with a Toddler

Procedures such as drawing blood, getting immunizations, or even having ears checked can be frightening for a toddler. Parents and nurses can partner together to provide effective communication that minimizes the trauma caused by such procedures.

➤ Avoid telling toddlers about the procedure too far in advance. They do not have an understanding of time and can become quite anxious. Telling them just before the procedure begins is most appropriate.
➤ Use simple terminology: “We need to get a little blood from your arm. It will help us to find out if you are getting better.” If the parent is willing, say, “Your Mom will hold your arm still so we can do it quickly.” Approach positively and confidently.
➤ Give short, clear instructions. Do not give choices if none exist. Offer a choice of two alternatives when possible. “Would you like apple or grape juice after you drink this medicine?”
➤ Tell the toddler what you are doing; name objects.
➤ Allow the toddler to cry. Acknowledge that it must be frightening and that you understand. Encourage parents to allow the child to cry out during a procedure or other frightening event.
➤ If in a hospital, perform the procedure in a treatment room so that the toddler’s bed and room are a safe haven.
➤ Be sure the toddler is restrained, with the joints above and below the procedure immobilized so the procedure can be quickly accomplished with the least trauma.
➤ Use a Band-Aid to cover the site and to reassure the toddler that the body is still intact.
➤ Allow the toddler to choose a reward such as a sticker after the procedure.
➤ Praise the toddler for cooperation and acknowledge that you know this was difficult.
➤ Comfort the toddler by rocking, offering a favorite drink, playing music, and holding. If parents are present, they can offer the comfort needed.

PARTNERING WITH FAMILIES

jargon (using unintelligible words with normal speech intonations as if truly communicating in words). Another communication method occurs when the toddler cries, pounds feet, displays a temper tantrum, or uses other means to illustrate dismay. These powerful communication methods can upset parents, who often need suggestions for handling them. It is best to verbalize the feelings shown by the toddler, for example, by saying, “You must be very upset that you cannot have that candy. When you stop crying you can come out of your room,” and then to ignore further negative behavior. The toddler’s search for autonomy and independence creates a need for such behavior. Sometimes an upset toddler responds well to holding, rocking, and stroking.

Parents and nurses can promote a toddler’s communication by speaking frequently, naming objects, explaining procedures in simple terms, expressing feelings that the toddler seems to be displaying, and encouraging speech. The toddler from a bilingual home is at an optimal age to learn two languages. If the parents do not speak English, the toddler will benefit from a childcare experience because both languages can then be learned. See Partnering with Families: Communicating with a Toddler.

The nurse who understands the communication skills of toddlers is able to assess expressive and receptive language and communicate effectively, thereby promoting positive healthcare experiences for these children.

PRESCHOOL CHILD (3 TO 6 YEARS)

The preschool years are a time of new initiative and independence. Most children are in a childcare center or school for part of the day and learn a great deal from this social contact. Language skills are well developed, and the child is able to understand and speak clearly. Endless projects characterize the world of busy preschoolers. They may work with play dough to form animals, then cut out and paste paper, then draw and color (Figure 5–11 ■).

Physical Growth and Development

Preschoolers grow slowly and steadily, with most growth taking place in long bones of the arms and legs. The short, chubby toddler gradually gives way to a slender, long-legged preschooler (Table 5–13).
Physical skills continue to develop (Figure 5–12). The preschooler runs with ease, holds a bat, and throws balls of various types. Writing ability increases, and the preschooler enjoys drawing and learning to write a few letters. The preschooler becomes interested in the body and its function so the nurse can teach handwashing, general hygiene, dental care, and other health promotion topics to both parents and child. See Chapter 13 for further information about partnering with families to promote and maintain health of preschoolers.

### Cognitive Development

The preschooler exhibits characteristics of preoperational thought. Symbols or words are used to represent objects and people, enabling the young child to think about them. This is a milestone in intellectual development; however, the preschooler still has some limitations in thought (Table 5–14). Recall that Piaget states that the young child does not have “less thought” than adults, but that the thought is qualitatively different. Understanding the child’s thought will help you to explain procedures, conduct health teaching, and communicate
more effectively with the preschooler. For example, as you plan to teach about how handwashing can prevent colds, what connections will you need to make for the preschooler? Consider the transductive reasoning of the child and formulate an effective teaching approach.

**Psychosocial Development**

**Play**

The preschooler has begun to play in a new way. Toddlers simply play side by side with friends, each engaging in his or her own activities; but preschoolers interact with others during play. One child cuts out colored paper while her friend glues it on paper in a design. This new type of interaction is called **associative play**, and it is characterized by children interacting in groups and participating in similar activities.

In addition to this social dimension of play, other aspects of play also differ. The preschooler enjoys large motor activities such as swinging, riding a tricycle, and throwing a ball. Increasing manual dexterity is demonstrated in greater complexity of drawings and manipulation of blocks and modeling. These changes necessitate planning of playtime to include appropriate activities. Preschool programs and child life departments in hospitals help meet this important need.

Materials provided for play can be simple but should guide activities in which the child engages. Because fine motor activities are popular, paper, pens, scissors, glue, and a variety of other such objects should be available. The child can use them to create important images such as pictures of people, hospital beds, or friends. A collection of dolls, furniture, and clothing can be manipulated to represent parents and children, nurses and physicians, teachers, or other significant people. Because fantasy life is so powerful at this age, the preschooler readily uses props to engage in **dramatic play**, that is, the living out of the drama of human life.

The nurse can use playtime to assess the preschooler’s developmental level, knowledge about healthcare, and emotions related to healthcare experiences. Observations about objects chosen for play, content of dramatic play, and pictures drawn can provide important assessment data. The nurse can also use play periods to teach the child about healthcare procedures and offer an outlet for expression of emotions (see Table 5–14). See Chapter 17 for further information about use of play with hospitalized children.

**FIGURE 5–12** Preschoolers continue to develop more advanced motor skills, such as kicking a ball without falling down.

**TABLE 5–14 Psychosocial Development During Preschool Years**

<table>
<thead>
<tr>
<th>AGE</th>
<th>PLAY AND TOYS</th>
<th>COMMUNICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>3–6 years</td>
<td>Associative play is facilitated by simple games, puzzles, nursery rhymes, songs</td>
<td>All parts of speech are developed and used, occasionally incorrectly</td>
</tr>
<tr>
<td></td>
<td>Dramatic play is fostered by dolls and doll clothes, play houses and hospitals, dress-up clothes, puppets</td>
<td>Communicates with a widening array of people</td>
</tr>
<tr>
<td></td>
<td>Stress is relieved by pens, paper, glue, scissors</td>
<td>Play with other children is a favorite activity</td>
</tr>
<tr>
<td></td>
<td>Cognitive growth is fostered by educational television shows, music, stories and books</td>
<td>Health professionals can</td>
</tr>
<tr>
<td></td>
<td></td>
<td>➤ Verbalize and explain procedures to children</td>
</tr>
<tr>
<td></td>
<td></td>
<td>➤ Use drawings and stories to explain care</td>
</tr>
<tr>
<td></td>
<td></td>
<td>➤ Use accurate names for bodily functions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>➤ Allow the child to talk, ask questions, and make choices</td>
</tr>
</tbody>
</table>
Communication

Language skills blossom during the preschool years. The vocabulary grows to over 2,000 words, and children speak in complete sentences of several words and use all parts of speech. They practice these newfound language skills by endlessly talking and asking questions.

The sophisticated speech of preschoolers mirrors the development occurring in their minds and helps them to learn about the world around them. However, this speech can be quite deceptive. Although preschoolers use many words, their grasp of meaning is usually literal and may not match that of adults. These literal interpretations have important implications for healthcare providers. For example, the preschooler who is told she will be “put to sleep” for surgery may think of a pet recently euthanized; the child who is told that a dye will be injected for a diagnostic test may think he is going to die; mention of “a little stick” in the arm can cause images of tree branches rather than of a simple immunization, or the nurse’s explanation that a shot is “like a mosquito bite” may signal the idea of buzzing and itching for a child.

The child may also have difficulty focusing on the content of a conversation. The preschooler is unable to consider the perspective of another and may be unable to move from individual thoughts to those the nurse is proposing, as the following conversation illustrates:

NURSE: I’d like to tell you about the operation that you will have tomorrow.

SHARISSE: OK. Did you know my brother just got a new squirt gun?

NURSE: That’s nice. Now, first thing in the morning you will wake up early and your foot will be scrubbed with a special soap.

SHARISSE: The gun can spurt for about 40 feet—you have to pump it up.

NURSE: We’ll talk about that later. Let me tell you about your operation now. After your foot is scrubbed, the nurse will measure your blood pressure and temperature and feel the pulse in your arm. Do you remember my doing those things today?

SHARISSE: Yes. And I got a sticker when I came into the hospital today, too. Do you know that my Mom is going to stay here tonight?

During this interchange, Sharisse engages in collective monologue, in which separate conversations occur even though each person waits for the other to speak. Though waiting for the nurse to speak, Sharisse is not generally responding to the nurse’s content but is instead focusing on content from her own mind. She exhibits centration or a focus on just one aspect of a situation (the squirt gun). The nurse needs to respond to Sharisse’s content and then reinsert more facts about the preparations for surgery.

Concrete visual aids such as pictures of a child undergoing the same procedure or a book to read together enhance teaching by meeting the child’s developmental needs. Handling medical equipment such as intravenous bags and stethoscopes increases interest and helps the child to focus. Teaching may have to be done in several short sessions rather than one long session. Use short, directive approaches: “I know this hurts. It will be over soon. Hold your mom’s hand and let’s count while you get this shot. One, two, three, four, oh it’s over!”

SCHOOL-AGE CHILD (6 TO 12 YEARS)

Errol, 10 years old, arrives home from school shortly after 3 P.M. each day. He immediately calls his friends and goes to visit one of them. They are building models of cars and collecting baseball cards. Hours are spent on these projects and on discussions of events at school that day (Figure 5–13).

Nine-year-old Karen practices soccer two afternoons a week and plays in games each weekend. She also is learning to play the flute and spends her free time at home practicing. Although practice time is not her favorite part of music, Karen enjoys the performances and wants to play well in front of her friends and teacher. Her parents now allow her to ride her bike unaccompanied to the store or to a friend’s house.

These two school-age children demonstrate common characteristics of their age group. They are in a stage of industry in which it is important to the child to perform useful work. Meaningful activities take on great importance and are usually carried out in the company of peers. A sense of achievement in these activities is important to develop self-esteem and to prevent a sense of inferiority or poor self-worth.

Physical Growth and Development

School age is the last period in which girls and boys are close in size and body proportions. As the long bones continue to grow, leg length increases (see Figure 5–7). Fat gives way to muscle, and the child appears leaner. Jaw proportions change as the first deciduous tooth is lost at 6 years and permanent teeth begin to erupt. Body organs and the immune system mature, resulting in fewer illnesses among school-age children. Medications are less likely to cause serious side effects, because they can be metabolized more easily. The urinary system can adjust to changes in fluid status. Physical skills are also refined as children begin to play sports, and fine motor skills are well developed through school activities (Table 5–15).
Although it is commonly believed that the start of adolescence (age 12 years) heralds a growth spurt, the rapid increases in size commonly occur during school age. Girls may begin a growth spurt by 9 or 10 years and boys a year or so later (Figure 5–14). Nutritional needs increase dramatically with this spurt.

The loss of the first deciduous teeth and the eruption of permanent teeth usually occur at about age 6, or at the beginning of the school-age period. Of the 32 permanent teeth, 22 to 26 erupt by age 12 and the remaining molars follow during the teenage years. The school-age child should be closely monitored to ensure that brushing and flossing are adequate, that fluoride is taken if the water supply is not fluoridated, that dental care is obtained to provide for examination of teeth and alignment, and that loose teeth are identified before surgery or other events that may lead to loss of a tooth.

<table>
<thead>
<tr>
<th>TABLE 5–15</th>
<th>Physical Growth and Development Milestones During the School-Age Years</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PHYSICAL GROWTH</strong></td>
<td><strong>FINE MOTOR ABILITY</strong></td>
</tr>
<tr>
<td>Gains 1.4–2.2 kg (3–5 lb)/year</td>
<td>Enjoys craft projects</td>
</tr>
<tr>
<td>Grows 4–6 cm (1 1/2–2 1/2 in.)/year</td>
<td>Plays card and board games</td>
</tr>
</tbody>
</table>

(1) Rides two-wheeler  
(2) Jumps rope  
(3) Concentrates on activities for longer periods
Cognitive Development

The child enters the stage of concrete operational thought at about 7 years. This stage enables school-age children to consider alternative solutions and solve problems. However, school-age children continue to rely on concrete experiences and materials to form their thought content.

During the school-age years, the child learns the concept of conservation (that matter is not changed when its form is altered). At earlier ages, a child believes that when water is poured from a short, wide glass into a tall, thin glass, there is more water in the taller glass. The school-age child recognizes that although it may look like the taller glass holds more water, the quantity is the same. The concept of conservation is helpful when the nurse explains medical treatments. The school-age child understands that an incision will heal, that a cast will be removed, and that an arm will look the same as before once the intravenous infusion is removed.

Psychosocial Development

Play

When a preschool teacher tries to organize a game of baseball, both the teacher and the children become frustrated. Not only are the children physically unable to hold a bat and hit a ball, but they also seem to have no understanding of the rules of the game and do not want to wait for their turn at bat. By 6 years of age, however, children have acquired the physical ability to hold the bat properly and may occasionally hit the ball. School-age children also understand that everyone has a role—the pitcher, the catcher, the batter, the outfielders. They cooperate with one another to form a team, are eager to learn the rules of the game, and want to ensure that these rules are followed exactly (Table 5–16).

The characteristics of play exhibited by the school-age child are cooperation with others and the ability to play a part in order to contribute to a unified whole. This type of play is called cooperative play. The concrete nature of cognitive thought leads to a reliance on rules to provide structure and security. Children have an increasing desire to spend much of playtime with friends, which demonstrates the social component of play. Play is an extremely important method of learning and living for the school-age child. Active physical play has decreased in recent years as television viewing and playing of computer games have increased, leading to poor nutritional status and other health risks in children. See Chapter 9 for further discussion of nutrition and physical activity in children.

When a child is hospitalized, the separation from playmates can lead to feelings of sadness and purposelessness. School-age children often feel better when placed in multibed units with other children. Games can be devised even when children are using wheelchairs (Figure 5–15). Normal, rewarding parts of play should be integrated into care. Friends should be encouraged to visit or call a hospitalized child. Discharge planning for the child who has had a cast or brace applied should address the activities in which the child can participate and those the child must avoid. Reinforce the importance of playing games with friends.

Personality and Temperament

The enduring aspects of temperament continue to be manifested during the school years. The child classified as “difficult” at an ear-

<table>
<thead>
<tr>
<th>AGE</th>
<th>ACTIVITIES</th>
<th>COMMUNICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>6–12 years</td>
<td>Gross motor development is fostered by ball sports, skating, dance lessons, water and snow skiing/boarding, biking. A sense of industry is fostered by playing a musical instrument, gathering collections, starting hobbies, playing board and video games. Cognitive growth is facilitated by reading, crafts, word puzzles, school work.</td>
<td>Mature use of language. Ability to converse and discuss topics for increasing lengths of time. Spends many hours at school and with friends in sports or other activities. Health professionals can: Assess child’s knowledge before teaching. Allow the child to select rewards following procedures. Teach techniques such as counting or visualization to manage difficult situations. Include both parent and child in healthcare decisions.</td>
</tr>
</tbody>
</table>
Adolescence is a time of passage, signaling the end of childhood and the beginning of adulthood. Although adolescents differ in behaviors and accomplishments, they are in a period of identity formation. If a healthy identity and sense of self-worth are not developed in this period, role confusion and purposeless struggling will ensue. The adolescents in your care will represent various degrees of identity formation, and each will offer unique challenges.

Physical Growth and Development

The physical changes ending in puberty, or sexual maturity, begin near the end of the school-age period. The prepubescent period is marked by a growth spurt at an average age of 10 years for girls and 13 years for boys. The increase in height and weight is generally remarkable and is completed in 2 to 3 years (Table 5-17). The growth spurt in girls is accompanied by an increase in breast size and growth of pubic hair. Menstruation occurs last and signals achievement of puberty. In boys, the growth spurt is accompanied by growth in size of the penis and testes and by growth of pubic hair. Deepening of the voice and growth of facial hair occur later, at the time of puberty. See Chapter 8 for a description of the pubertal stages.

During adolescence children grow stronger and more muscular and establish characteristic male and female patterns of fat distribution. The apocrine and eccrine glands mature, leading to increased sweating and a distinct odor to perspiration. All body organs are now fully mature, enabling the adolescent to take adult doses of medications.

The adolescent must adapt to a rapidly changing body for several years. These physical changes and hormonal variations offer challenges to identity formation.

Cognitive Development

Adolescence marks the beginning of Piaget’s last stage of cognitive development, the stage of formal operational thought. The adolescent no longer depends on concrete experiences as the basis of thought but develops the ability to reason abstractly. Such concepts as justice, truth, beauty, and power can be understood. The adolescent revels in this newfound ability and spends a great deal of time thinking, reading, and talking about abstract concepts.

The ability to think and act independently leads many adolescents to rebel against parental authority. Through these actions, adolescents seek to establish their own identity and values.
TABLE 5–17  Physical Growth and Development Milestones During Adolescence

<table>
<thead>
<tr>
<th>PHYSICAL GROWTH</th>
<th>FINE MOTOR ABILITY</th>
<th>GROSS MOTOR ABILITY</th>
<th>SENSORY ABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variation in age of growth spurt</td>
<td>Skills are well developed (1)</td>
<td>New sports activities attempted and muscle development continues (2)</td>
<td>Fully developed</td>
</tr>
<tr>
<td>During growth spurt, girls gain 7–25 kg (15–55 lb) and grow 2.5–20 cm (2–8 in.); boys gain approximately 7–29.5 kg (15–65 lb) and grow 11–30 cm (41/2–12 in.)</td>
<td></td>
<td>Some lack of coordination common during growth spurt</td>
<td></td>
</tr>
</tbody>
</table>

Psychosocial Development

Activities

Maturity leads to new activities. Adolescents may drive, ride buses, or bike independently. They are less dependent on parents for transportation and spend more time with friends. Activities include participation in sports and extracurricular school activities, as well as “hanging out” and attending movies or concerts with friends (Table 5–18). The peer group becomes the focus of activities, regardless of the teen’s interests. Peers are important in establishing identity and providing meaning.

Although same-sex interactions predominate, boy–girl relationships are more common than at earlier stages. Adolescents thus participate in and learn from social interactions fundamental to adult relationships.

Personality and Temperament

Characteristics of temperament manifested during childhood usually remain stable in the teenage years. For instance, the adolescent who was a calm, scheduled infant and child often demonstrates initiative to regulate study times and other rou-

TABLE 5–18  Psychosocial Development During Adolescence

<table>
<thead>
<tr>
<th>AGE</th>
<th>ACTIVITIES</th>
<th>COMMUNICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>12–18 years</td>
<td>Sports—ball games, gymnastics, water and snow skiing/boarding, swimming, school sports; School activities—drama, yearbook, class office, club participation; Quiet activities—Reading, school work, television, computer, video games, music</td>
<td>Increasing communication and time with peer group—movies, dances, driving, eating out, attending sports events; Applying abstract thought and analysis in conversations at home and school</td>
</tr>
</tbody>
</table>
times. Similarly, the adolescent who was an easily stimulated infant may now have a messy room, a harried schedule with assignments always completed late, and an interest in many activities. It is also common for an adolescent who was an easy child to become more difficult due to the psychologic changes of adolescence and the need to assert independence.

Similar to the child’s earlier ages, the nurse’s role may be to inform parents of different personality types and to help them support the teen’s uniqueness while providing necessary structure and feedback. Nurses can help parents to understand their teen’s personality type and to work with the adolescent to meet expectations of teachers and others in authority.

**Communication**

All parts of speech are used and understood by the adolescent. Colloquialisms and slang are commonly used with the peer group. The adolescent often studies a foreign language in school, having the ability to understand and analyze grammar and sentence structure.

The adolescent increasingly leaves the home base and establishes close ties with peers. These relationships become the basis for identity formation. There is generally a period of stress or crisis before a strong identity can emerge. The adolescent may try out new roles by learning a new sport or other skills, experimenting with drugs or alcohol, wearing different styles of clothing, or trying other activities. It is important to provide positive role models and a variety of experiences to help the adolescent make wise choices.

The adolescent also has a need to leave the past, to be different, and to change from former patterns to establish a self-identity. Rules that are repeated constantly and dogmatically will probably be broken in the adolescent’s quest for self-awareness. This poses difficulties when the adolescent has a health problem, such as diabetes or a heart defect that requires ongoing care. Introducing the adolescent to other teens who manage the same problem appropriately is usually more successful than telling the adolescent what to do.

Privacy should be ensured during the taking of health histories or interventions with teens. Even if a parent is present for part of a history or examination, the adolescent should be given the opportunity to relay information or ask questions alone with the healthcare provider. The adolescent should be given a choice of whether to have a parent present during an examination or while care is provided. Most information shared by an adolescent is confidential. Some states mandate disclosure of certain information to parents such as an adolescent’s desire for an abortion. In these cases, the adolescent should be informed of what will be disclosed to the parent. (See Chapter 1∞∞ for further discussion.)

Setting up teen rooms (recreation rooms for use only by adolescents) or separate adolescent units in hospitals can provide necessary peer support during hospitalization. Most adolescents are not pleased when placed on a unit or in a room with young children. Choices should be allowed when possible, and include preference for evening or morning bathing, the type of clothes to wear while hospitalized, timing of treatments, and visitation guidelines. Use of contracts with adolescents may increase compliance. Firmness, gentleness, choices, and respect must be balanced during care of adolescent patients.

**Sexuality**

With maturation of the body and increased secretion of hormones, the adolescent achieves sexual maturity. This complex process involves growing interactions with members of the opposite sex, an interplay of the forces of society and family, and identity formation. The early adolescent progresses from dances and other social events with members of the opposite sex to the late adolescent who is mature sexually and may have regular sexual encounters. About half of all high school students in the United States have had intercourse, but only 63% of these youth used a condom at their last sexual encounter (Acquavella & MMWR, 2004).

Teenagers need information about their bodies and emerging sexuality. They should understand the interests and forces they experience. Including sex education in school classes and healthcare encounters is important. Information on methods to prevent sexually transmitted diseases is given, with most school districts now providing some teaching on AIDS. Far more common risks to teens, however, are diseases such as gonorrhea, herpes, and hepatitis. Health histories should include questions on sexual activity, sexually transmitted diseases, and birth control use and understanding. Most hospitals routinely perform pregnancy screening on adolescent girls before elective procedures.

Adolescents will benefit from clear information about sexuality, an opportunity to develop relationships with adolescents in various settings, an open atmosphere at home and school where problems and issues can be discussed, and previous experience in problem solving and self decision making. Sexual issues should be among topics that adolescents can discuss openly in a variety of settings. Alternatives and support for their decisions should be available.

Some adolescents identify with a sexual minority group such as lesbian, gay, bisexual, or transgendered. They are at particular risk of being stigmatized and harassed by other youth or adults. They are more likely to suffer a variety of problems such as isolation, rejection by significant others, violence, suicide, and taking sexual risks (Stevens & Morgan, 1999, 2001). Nurses are instrumental in helping these youths by providing information for them and their parents, integrating sexual minority content into sexual education curricula, and providing referrals for health and social care when needed. Nurses must examine their own beliefs and communication styles to provide culturally competent care. They can promote trust and acceptance among youth and in the general school community (Bakker & Cavender, 2003). See Chapter 7∞∞ for further information about the health issues related to homosexuality and other sexual minority practices.
UNIT II  Child Concepts and Application

CHAPTER HIGHLIGHTS

- Development unfolds in a predictable pattern, but at different rates dependent on the particular characteristics and experiences of each child.
- Major theories of development encompass the psychosexual (Freud), psychosocial (Erikson), cognitive (Piaget), moral (Kohlberg), social learning (Bandura), and behavioral (Skinner and Watson) components of individuals.
- The ecologic theory of Bronfenbrenner and the temperament theory of Chess and Thomas emphasize the interactions of the individual within the environment.
- Resiliency theory examines risk and protective factors that hinder or help children and families when dealing with developmental and life crises.
- Influences on the developmental process include one’s genetic potential and a series of environmental influences unique to each family and individual.
- The newborn period begins at birth and ends at about 1 month, and is characterized by adaptation to extrauterine life, establishing periods of varying alertness, and specific physical findings.
- Infancy spans the time from 1 month to 1 year, and is marked by rapid physical growth, mastery of basic fine and gross motor skills, and beginning cognitive and language skills.
- Toddlers range in age from 1 to 3 years, and become increasingly mobile and communicative. They master control over excretion and are known for exerting their own opinions and wishes to parents. Injury prevention and toilet training are specific parental teaching needs.
- Preschool years range from 3 to 6 and are marked by increasing social skills. Most preschool children attend childcare programs and learn to play with other children. Continued mastery of physical coordination and language occur.
- School age spans the years from 6 to 12, when children mature in many areas. They show slow, steady growth until reaching puberty between 9 and 12 years, when a growth spurt marks increased height and weight, as well as sexual maturation. School-age children play cooperatively with other children and participate in various school and community activities.
- Adolescence occurs from about 12 years of age through the teen years. Adolescents establish their own identities distinct from parents and other adults. They are mature physically and cognitively. The peer group exerts the major influence at this age.
- The nurse is involved in assessing development at each stage, and in providing anticipatory guidance to families to foster optimal development.

CRITICAL THINKING EXERCISES

INTRODUCTION

Consider Irena, who was introduced in the chapter opening scenario. She is 2 years of age and was recently adopted from Romania. Irena is adapting well, but her parents have many questions.

Although Irena has an easy temperament, she is quiet in her interactions with other toddlers. She has learned a few words in English, and is generally in a pleasant mood.

DESCRIPTION

Since they have no other children and have limited experience with children, Michael and Alyssa are essentially new parents. As parents of a toddler, they have unique information needs.

Irena is 32 inches (81 cm) (standing height) and weighs 23 lb (10.45 kg). Items she performs in the Denver II Developmental Test include:

- Personal social—washes and dries hands, brushes teeth with help, and removes garments
- Fine motor—builds a tower of six cubes
- Language—has six words (in English; unknown in native language), combines words, and points to two pictures
- Gross motor—kicks ball forward, jumps up, and throws ball overhand

DISCUSSION

1. Irena and her parents have many challenges and yet possess many strengths. Using the theory of resilience, list the child and family risks and protective factors.

2. Calculate Irena’s height and weight percentiles. Consult the growth grids in Appendix A and the Skills Manual for correct analysis. What nutritional advice do you have for Irena’s parents?

3. What developmental strengths are suggested by Irena’s Denver II results? (Consult the Denver II form in Chapter 10.) Which area needs the most attention? What specific suggestions do you have for Irena’s parents as they seek to encourage her development?

4. Michael and Alyssa are parenting a toddler. What special needs are they likely to have? What resources are available for adoptive parents? How could they preserve Irena’s heritage as a Romanian as she grows older?
REFERENCES


