Chapter 23

Nursing Assessment

Growth and Development

- **Infant (0–12 mo)**
  - Developmental progression
    - Infants develop vertically, then horizontally
    - Body control begins with head control at 2 months, followed by chest control at 4 months, sitting at 6 months, crawling (arm and knee control) at 8 months, standing (cruising) at 10 months, and walking at 12 months
    - By 1 year of age, children learn to feed themselves and talk using a few words
  - Physical development
    - Infants are totally dependent on their caregivers
    - They manifest separation anxiety and loss of control with crying and rage; they expect that crying will bring an immediate response when they are otherwise unable to express their needs or understand a situation
    - Immobility leads to irritability
    - Infants respond to pain by crying or withdrawing
  - When examining an infant, assess vitals (see Chapter 2, Anesthesia, Table 2-2 for normal vital signs by age)
    - Infants and children have the same normal ranges for temperature and oxygen saturation as adults
    - Infants should exhibit the following characteristics:
      - Ability to make eye contact, orient preferentially to faces, and track brightly colored objects
      - Ability to move all extremities spontaneously
      - Irritability or high-pitched, weak crying (these characteristics are concerning)
        - Deterioration manifests as a weak, flaccid, and unresponsive examination
      - An open anterior fontanelle until around 16 months
- **Toddlers (1–3 y)**
  - Developmental progression

        - Toddlers begin to eat regular foods
        - They have around 10 teeth
        - They talk using one or two words
        - They begin to toilet train, bowel first and bladder second (daytime first, nighttime last)
    - Physical needs are more independent; toddler can walk and grasp
        - Toddlers will often regress to "baby" behavior when ill or stressed
        - They may return to earlier, dependent behaviors like clinging, bed wetting, or wanting bottle, breast, or pacifier
    - Toddlers fear the unknown and abandonment; upon separation, they may protest loudly or cry monotonously
    - Denial or saying "no" is common toddler behavior
    - Toddlers are very ritualistic; disruption in routine leads to a feeling of loss of control
    - Forced immobility as a result of illness or injury may interfere with motor and language development
    - Toddlers may fear intrusive procedures and often become emotionally distraught before and during bedside procedures
    - When examining a toddler, assess vitals (see Chapter 2, Anesthesia, Table 2-2)
    - Toddlers should exhibit the following characteristics:
        - Bulging abdomen
        - Numerous "do not like" considerations, which may challenge the bedside nurse
        - Resistance to being touched, separated from their caregivers, having their clothing removed, and donning masks (eg, oxygen)
        - Dislike of needles and pain
        - Belief that injury and illness may be a form of punishment
        - Protest vigorously if separated from parents (lack of protest when parent or caregiver departs may signify a clinical deterioration)
- **Young children (3–6 y)**
    - Developmental progression
        - Talk in full sentences

        - Better fine motor movement (eg, can use scissors)
        - Toilet trained
        - Behavior regression is common
    - Physically, the child can run, jump, and skip
    - Separation may be viewed as punishment
    - Exhibit more subtle responses to stress than toddlers (eg, loss of appetite or sleep)
    - Active imagination may lead to exaggeration and fear, or fantasies may take over
        - This may lead to confusion between reality and fantasy
        - A young child may worry over body integrity (eg, wonder if a body part under a cast is actually missing)
    - Understand when a pain event is coming and may try to escape
    - Immobility as a result of illness or injury leads to a sense of helplessness
    - When examining a young child, assess vitals (see Chapter 2, Anesthesia, Table 2-2)
    - Young children:
        - Think concretely and interpret literally what they hear
        - Have vivid imaginations and tend to dramatize events
        - Believe that injury and illness are their own fault and view them as punishment
        - Are aware of death and are afraid of pain, blood, and permanent injuries
        - Fear loss of body integrity, which may lead to mistrust of hospital personnel
        - Are curious about equipment and tasks
        - Can localize pain
        - Like games
- **Older children (6–12 y)**
    - Children of this age are in school, are very concerned about privacy, and are interested in a lot of things
    - Physically, these children's vital signs are within adult parameters; they are typically agile and in good physical shape
    - Separation from family and friends is better tolerated
    - Immobility as a result of illness or injury leads to a sense of frustration or agitation

- May be anxious about death
- Illness or injury affects sense of self worth or achievement
- Children this age are stoic
  - They avoid letting others see them lose control
  - They may lie rigid, with their eyes shut and teeth and fists clenched
- Pain perception and reporting is influenced by cultural variables; some children are afraid to cry even when in pain
- When examining an older child, assess vitals (see Chapter 2, Anesthesia, Table 2-2)
- The following are some characteristics of older children:
  - Honesty is important to children this age; avoid talking down to them
  - They should be able to cooperate with procedures and answer questions about health, symptoms, and activities
  - They are self-conscious about physical examinations
  - Critically ill children are initially more irritable and uncooperative

- **Adolescents (12–18 y)**
  - Children this age are moody and want to spend most of their time with friends
  - Puberty and secondary growth occur, changing breasts and the scrotum area; underarm hair develops
  - Other than bone growth, children this age are physically very similar to adults, undergoing puberty and developing secondary sexual characteristics
  - Adolescents fear loss of control and enforced dependence
  - Vital signs are similar to those of adults; children this age:
    - Are concrete thinkers and are learning to think in the abstract
    - Believe that nothing bad can happen to them
    - Fear disability and disfigurement may cause them to be different and not "fit in"
    - Appreciate honesty
    - Are concerned about privacy and modesty

Communicating with Children

- Understand the stages of development
- Explain procedures to children and their parents; plan on having to repeat explanations

- Talk in a quiet, gentle tone
- Be reassuring to children and parents
- Provide a security object
- Keep your hands visible
- Use appropriate terminology
- Assign the child a task if possible (eg, "keep your eyes on the purple cow in your bed")
- Explain monitoring noises
- Use the child's name

Nursing Tips

- **Pediatric intubation**: Have monitors, suction, ventilator, airway, intravenous (IV) access, and medications ready
- **Pediatric medications**: Have emergency medications specific to the child's age and weight listed at the bedside
- **Pediatric diets**: Have nipples, 60-cc graduate feeders, pacifiers, and oral electrolyte solution in stock
- **Pediatric catheters**: Feeding tubes (5 and 8 Fr) can be used as Foley catheters if needed in infants 6 months old and younger
  - Connect the tube to an urometer using a syringe without a plunger
  - An inline burette can also be used as a collection device
- **Arm boards**: Use tongue blades or cut down larger arm boards; cover the board with disposable washcloths and apply
- **IV access**: Have plenty of people around to help place an IV
  - Make sure the extremity is well restricted
  - It is not unusual to have 4–5 people hold a toddler down for blood work or an IV
  - Butterflies are **not** acceptable to use as IVs; use pore tape to secure (do not use paper tape)
- **Blood samples**: If the laboratory processing the blood work cannot handle pediatric blood amounts, use adult amounts or a handheld blood analyzer (it is better to stick for blood once for a larger amount than to repeat several sticks for a laboratory that cannot process a small amount); note all blood in output
- **Tubes** are often flimsy in children and will occlude
  - Consider using a stiffer tube as a stent outside the primary tube

- Smaller tubes also frequently occlude from the inside
- Endotracheal (ET) tubes need to be suctioned at least every 2–3 hours
- Foleys can often get plugged; irrigation is necessary if there is concern over decreasing urine output or if a nasogastric (NG) tube is being used
  - NG tubes: to record small amounts of drainage, hook the NG tube up to a Lukens trap, then to suction so hourly outputs can be accurately measured
  - Tracheal and ET tubes: always have an extra at the bedside for emergencies; use cloth tape to secure ET tubes

- **Nasal samples**
  - Get a 19-gauge butterfly and cut off the needle
  - Attach the tubing to a 10-cc syringe with 3 cc of normal saline
  - Place cut-off tubing into nose and push in 1 cc of normal saline, then pull back
  - Look for mucus in the syringe
- **Temperature measurement**
  - Routine rectal temperature measurement in neonates and young infants should be avoided due to the risk of rectal perforation
  - Ear, oral, and bladder methods are all more accurate than axillary temperatures
  - Hypothermia is a temperature < 36°C
  - Fever is a temperature > 38°C