

# NURSE-NCLEX-RN

Assessment, pregnancy & pediatrics, care models, ethics, preventive care, nutrition, pain management, dosage calculations, transfusion reactions, CBC & differential, metabolic panel, documentation & more

## COMPONENTS OF THE NURSING PROCESS

- **Assessment:** The process by which a nurse investigates the physical, psychosocial, and spiritual needs of a patient through the collection of subjective and objective data.
- **Analysis (a.k.a. diagnosis):** The data collected during the assessment phase are analyzed to determine the plan of care.
- **Planning:** The data from the assessment and analysis phases are used to develop measurable goals and outcomes (i.e., nursing interventions).
- **Implementation:** The nursing interventions are put into practice.
- **Evaluation:** The outcomes of the nursing interventions are measured.

## BASIC HEAD-TO-TOE ASSESSMENT

- **General:** Assess general appearance and behavior, posture, gait, hygiene, speech, mental status, height and weight, hearing and visual acuity, vital signs, and nutrition.
- **Head and neck:** Assess skull size, shape, and symmetry; hair; and scalp. Palpate for masses on scalp, ears, face, throat, and neck. Palpate sinuses for tenderness and masses. Inspect sclera and conjunctiva. Assess pupil response (use **PERLA**: pupils equal, round, reactive to light and accommodation). Test convergence (as eyes shift from a far object to a near object, pupils constrict), confrontation (the extent of the peripheral field), and corneal light reflex. Inspect and palpate teeth and gums. Test rise of uvula and gag reflex. Assess sense of smell and taste. Check range of motion (ROM) in neck and shoulders. Palpate lymph nodes for tenderness and swelling, trachea for symmetry, and thyroid for masses.
- **Upper extremities:** Inspect skin, test capillary refill, palpate peripheral pulses, rate muscle strength, assess ROM, and check deep tendon reflexes.
- **Posterior thorax:** Inspect spine for alignment, assess anteroposterior to lateral diameter, assess thoracic expansion, palpate tactile fremitus, auscultate breath sounds, and perform blunt percussion over costovertebral angles for tenderness.
- **Anterior thorax:** Observe respiratory pattern, palpate respiratory excursion, auscultate breath sounds, auscultate heart sounds, inspect jugular veins, and perform breast exam.
- **Abdomen:** Auscultate for bowel sounds, percuss for masses and tenderness, percuss the liver, and palpate the kidneys and spleen.
- **Lower extremities:** Inspect skin, palpate peripheral pulses, assess for Homans' sign, inspect and palpate joints for swelling, assess for pedal and ankle edema, and assess ROM.

## ASSESSMENT TECHNIQUES

### Inspection

**Inspection** is the careful examination of the patient as a whole, as well as each body system, using the visual, auditory, and olfactory senses to gather information. Inspection:

- Looks at color, shape, symmetry, and position of body parts
- Should be purposeful and systematic; body parts should be compared bilaterally throughout the entire examination
- Requires good lighting to visually inspect the body without distortion or shadows

### Palpation

**Palpation** is the technique of using touch to gather information about temperature, turgor, texture, moisture, size, shape, consistency, location, and tenderness of an organ or body part.

- Palpation can be **light** (the application of pressure by depressing the skin and underlying structures approx. ½ inch) or **deep** (palpation using inward pressure to depress the skin and underlying structures approx. 1 inch).
- The patient should be provided with privacy, and the nurse should have warm hands and short fingernails. Any areas of tenderness should be palpated last.
- During palpation, make sure you assess consistency of tissues, alignment and intactness of structures, symmetry of body parts or movements, and transmission of fine vibrations.

### Percussion

**Percussion** is the art of striking one object with another to create sound to assess the location, size, and density of underlying tissues. The sound changes as you move from one area to the next. Percussion is done with the middle finger of the dominant hand tapping on the middle finger of the nondominant hand while the nondominant palm is on the body.

- The nondominant hand is placed on the area to be percussed, with fingers slightly separated.
- The dominant hand is used as the striking force by exerting a sharp downward wrist movement so that the tip of the middle finger of the dominant hand strikes the joint of the middle finger on the nondominant hand.
- There are five types of percussion sounds:
  - **Tympany:** Loud; drumlike sound
  - **Resonance:** Moderate to loud; low-pitched, hollow sound
  - **Hyperresonance:** Very loud; low-pitched, booming sound
  - **Flatness:** Soft; high-pitched, flat sound
  - **Dullness:** Soft to moderate; high-pitched, thud-like sound

### Percussion Sounds & Potential Causes

Percussion Sound	Where Normally Heard	Potential Cause
Tympany	Abdomen	Normal
Resonance	Chest	Healthy lungs
Hyperresonance	Chest	COPD, asthma, pneumothorax
Flatness	Solid areas	Muscle or bone, severe pneumonia
Dullness	Liver or heart	Organs, pneumonia, tumor, pleural effusion

### Auscultation

**Auscultation** is the act of listening to sounds produced by the body using a stethoscope. Auscultation is performed for the purposes of examining the circulatory system, respiratory system, and gastrointestinal system.

- Sounds must be isolated for proper identification and evaluation.
- The stethoscope has a diaphragm, which detects high-pitched sounds best, and a bell, which detects low-pitched sounds best.
- Four characteristics of sounds should be noted: pitch, loudness, quality, and duration.

## TIP

Auscultation is a skill that requires substantial clinical experience, a fine stethoscope, and good listening skills. High-pitched tones are best heard with the diaphragm of the stethoscope; low-pitched tones are best heard with the bell of the stethoscope.

## SYSTEMS ASSESSMENT

### Integumentary

- Inspect skin for color, texture, tone, and lesions. Palpate with the back of the hand for temperature, moisture, and texture. Note any abnormal findings (shiny skin on lower extremities, mole with irregular borders, lesions, masses, bruising, jaundice, high or low temperature).
- Inspect hair for distribution and presence of head lice.
- Inspect scalp for lesions.
- Inspect nails for color, contour, texture, symmetry, and capillary refill. Note any abnormal findings (white spots, pitting, ridges, clubbing, cyanosis, slow capillary refill).

### Cardiovascular

- Record blood pressure.
- Auscultate the carotid arteries using the bell of the stethoscope.
- Listen for carotid bruits (blowing or rushing sounds).
- Listen to heart sounds. Note any abnormal findings (murmurs, gallops, clicks, rubs).
- Palpate pulses (carotid, radial, brachial, femoral, popliteal, posterior tibial, dorsalis pedis).
- Assess feet for vascularity (warmth, capillary refill, elevation pallor, dependent rubor).

### Respiratory

- Inspect skin color, and observe level of consciousness.
- Look for signs of respiratory distress (cyanosis, pursed-lip breathing, accessory muscle use, nasal flaring, retractions).
  - Evaluate rate, depth, and rhythm of breathing.
  - Palpate for tracheal deviation, crepitus, tactile fremitus, and equal thoracic expansion.
  - Percuss beginning at the apex of the left lung; listen for resonance (normal), hyperresonance (too much air; may indicate emphysema), and flatness (presence of fluid or solid mass; may indicate pleural effusion, pneumonia, or tumor).
- Listen to breath sounds. Note any abnormal breath sounds (adventitious sounds, crackles, wheezes, rubs, stridor).

### Gastrointestinal (GI)

- Inspect mouth for lesions, irritations, or tumors.
- Check gag reflex.

- Inspect all four quadrants of the abdomen for contour, symmetry, abdominal aorta pulsation, and distension.
- Percuss all four quadrants (**NOTE:** Do not percuss if an abdominal aortic aneurysm is suspected); listen to bowel sounds for frequency and classification (e.g., hypoactive, normal, or hyperactive). Note any abnormal bowel sounds (bruits, venous hums, friction rubs).
- Palpate by quadrant, noting any guarding, rigidity, tenderness, or masses.

### Genitourinary (GU)

- Assess urinary intake and output.
- Ask about potentially abnormal urinary symptoms (urgency, pain with urination, pelvic pain, back pain, nocturia, dysuria, incontinence, blood in urine, difficulty in starting or stopping urinary stream, pain in testicles, leaking or feeling of full bladder after voiding).
- Inspect genitalia for discharge, lesions, swelling, warts, bumps, blisters, and redness.
- Ask about pain during intercourse, history of sexually transmitted diseases, and menstrual history (menarche, regularity, duration, flow, dysmenorrhea).

### Musculoskeletal

- Inspect each extremity bilaterally for symmetry.
- Inspect each joint for size, contour, masses, and deformities.
- Palpate each extremity for edema.
- Perform ROM tests of the extremities bilaterally (shoulders, elbows, wrists, fingers, hips, knees, ankles, toes).
- Test ROM of the spine by asking the patient to bend forward and touch his/her toes.

### Types of Musculoskeletal Pain

- **Bone pain:**
  - Is deep, aching, and constant
  - Is unrelated to movement unless fracture is present
- **Muscle pain:**
  - May be related to posture or occur with movement
  - May be accompanied by tremors, twitches, or weakness
  - May produce referred pain

- **Joint pain:**
  - Is tender to palpation
  - May produce referred pain
  - May produce distal pain due to nerve root irritation
  - Is worse with movement and worsens throughout the day

**Neurologic**

- Inspect gait and balance.
- Assess recent and remote memory.
- Test cerebellar functions by finger-to-nose test for upper extremities and running each heel down the opposite shin for lower extremities.
- Test the Babinski reflex (the big toe bends back toward the top of the foot, and the other toes fan out when the sole of the foot is firmly stroked).
- Assess mental status (appearance, attitude, behavior, mood and affect, speech, thought process, thought content, perception, cognition, insight, judgment).
- Assess cranial nerves (olfactory, optic, oculomotor, trochlear, trigeminal, facial, acoustic, glossopharyngeal, vagus, spinal accessory, hypoglossal).
- Assess reflexes bilaterally (biceps, triceps, brachioradialis, patellar, Achilles).
- Assess motor skills (bilateral muscle strength, balance, coordination).
- Assess sensory perception bilaterally (use different stimuli, such as a cotton ball for light touch and fingertips for pressure).

**Cranial Nerve Assessment**

- **CN I (olfactory):** Use easily identifiable substances (e.g., coffee, orange, soap, toothpaste) to assess unilateral sense of smell.
- **CN II (optic):** Check visual acuity; check near vision by having the patient read newspaper print and far vision with a Snellen chart.
- **CN III (oculomotor):** Assess pupil size and light reflex.
- **CN IV (trochlear) and CN VI (abducens):** Check eye movement by having the patient turn eyes downward, temporally, and nasally.
- **CN V (trigeminal):** Assess motor function by palpating jaw and temples while having the patient clench teeth; assess sensory function by touching a cotton ball to areas of the face.
- **CN VII (facial):** Check symmetry and mobility of face by having the patient frown, close eyes, lift eyebrows, and puff out cheeks; check the patient's ability to identify tastes (e.g., sugar, salt, lemon).
- **CN VIII (acoustic):** Check hearing acuity.
- **CN IX (glossopharyngeal) and CN X (vagus):** Evaluate movement of uvula and soft palate; also check gag reflex.
- **CN XI (spinal accessory):** Check movement of head and neck.
- **CN XII (hypoglossal):** Assess tongue control.

**Psychosocial**

- Perform mental status exam (appearance, attitude, behavior, mood, affect, speech, thought process, thought content, perception, cognition, insight, judgment).
- Assess home environment (family structure, interactions, support systems, safety).
- Assess community environment (recreational activities, transportation, safety).
- Perform spiritual assessment (religious affiliations, spiritual beliefs).

**QuickStudy**

**PREGNANCY, LABOR & DELIVERY, POSTPARTUM CARE**

**Definitions**

- **Perinatal period:** From before birth through day 28 after birth
  - **Prematurity:** Birth prior to completion of 37 weeks' gestation
  - **Low birth weight (LBW):** Baby born weighing less than 2,500 grams (5 lb, 8 oz)
  - **Full term:** Weeks 38–40 (266–280 days)
- **Prenatal periods**
  - **Embryonic period:** Weeks 2–8
  - **Fetal period:** Week 9 through delivery
- **Postpartum period:** First 6 weeks after childbirth
  - **Puerperium period:** From the end of labor until the uterus returns to normal size (typically 3–6 weeks)

**Nursing Care during Labor**

- Monitor fetal heart rate via auscultation or external fetal monitor (optimal rate is 120–160 beats per minute [bpm]).
- Monitor mother's vital signs.
- Assess frequency, duration, and intensity of contractions by palpating uterine fundus.
- Perform vaginal exam; assess:
  - Dilation (use index and middle finger to measure the size of the opening)
  - Effacement (thinning and shortening of the cervix)
  - Membrane status (ruptured or intact)
  - Station (the relationship between the baby's presenting part and the mother's ischial spines)
  - Fetal presentation and position (via vaginal exam and Leopold's maneuvers)
  - Bloody show (amount and character)

**Postpartum Care**

- Assess:
- **Uterus:** Fundal height, involution
  - **Perineum:** Edema, infection, hematoma
  - **Lochia:** Color and amount
  - **Breasts:** Engorgement

- **Voiding:** Frequency, amount, bladder distention
  - **Pain:** Location, intensity, duration
- Newborn Assessment**
- APGAR score
  - Weight
  - Measurement
  - Vital signs
    - **BP:** 65–85/45–55 mm Hg
    - **Pulse:** 120–160 bpm
    - **RR:** 30–50 breaths per minute
    - **T:** 98.6°F–99.8°F

- General appearance
- Skin
- Head and neck (appearance, shape, fontanelles)
- Breath sounds
- Heart sounds
- GI and GU
- Extremities

APGAR Score			
Signs	0	1	2
Activity	No muscle tone	Some muscle tone	Active motion
Pulse	No pulse	<100 bpm	>100 bpm
Grimace (reflex in response to stimulation)	No reaction	Grimace	Grimace and cough, sneeze, or cry
Appearance	Pale blue body and extremities	Pink body, blue extremities	Pink body and extremities
Respiration	No breathing	Slow or irregular breathing	Strong cry

NOTE: A normal APGAR score is 7–9.

**Common Pregnancy Complications**

Complication	Symptoms	Potential Causes
Bleeding	Vaginal bleeding	Vaginal bleeding during pregnancy (especially during the first trimester) is common and may not be a sign of a problem; potential problems include miscarriage, premature labor, ectopic pregnancy, placenta previa, and cervical cancer
Gestational hypertension	High blood pressure during pregnancy; usually no symptoms, but may have headache, blurred vision	Unknown
Gestational diabetes	High blood sugar during pregnancy; usually no symptoms, but may have fatigue, increased thirst, increased urination, weight loss	Hormonal changes that lead to progressive impaired glucose intolerance
Ectopic pregnancy	Pregnancy outside the uterus (usually in the fallopian tube); symptoms may include vaginal bleeding, abdominal or pelvic pain	Damage to the fallopian tube due to previous infection, endometriosis, or pelvic surgery
Preterm labor	Labor before 37 weeks; symptoms may include abdominal cramping, pressure in the abdomen or pelvis, contractions, vaginal bleeding, lower back pain	Smoking, drug abuse, multiple pregnancy (more than one fetus), infection, hypertension, diabetes
Placenta previa	Placenta is covering the cervix; symptoms may include cramps, vaginal bleeding in the second or third trimester	Abnormal shape or size of uterus; multiple pregnancy (more than one fetus); uterine scarring from previous pregnancies, C-section, or surgery
Preeclampsia	Hypertension and proteinuria after the 20th week of pregnancy; symptoms may include hypertension, proteinuria, edema, sudden weight gain, pain in the RUQ, decreased urine output, nausea and vomiting, headaches, vision problems	Autoimmune disorders, poor nutrition, blood vessel damage

**PEDIATRICS**

**Human Growth & Development**

- **Infancy:** Gains control of eye movements, birth weight doubles, smiles, coos, grasps objects, rolls over, sits.
- **Early childhood:** Walks, talks, identifies common objects, undergoes toilet training.
- **Preschool:** Develops gross motor skills (pedaling, hopping on one foot, kicking, catching a ball) and fine motor skills (drawing, using scissors, dressing self), follows commands.
- **School age:** Has strong motor skills; grammar and pronunciation become normal.
- **Adolescence:** Experiences rapid growth, understands abstract ideas, establishes relationships.
  - **Girls:** Breast development, hair growth (pubic, armpits, arms, legs), menarche.
  - **Boys:** Genital growth, hair growth (pubic, armpits, arms, legs, chest, face), voice changes.
- **Young adulthood:** Experiences minimal physical growth; physical performance, strength, and flexibility peak; develops lasting relationships.
- **Middle adulthood:** Experiences hair loss and/or graying, develops fine lines and wrinkles, hearing and eyesight decline, menopause occurs (in women).
- **Late adulthood:** Slowing of all major organs and systems.

**Erikson's Stages of Psychosocial Development**

- **Trust vs. mistrust (birth–18 months):** When needs are met, the child develops trust; if the caregiver is unreliable or inconsistent, mistrust develops.
- **Autonomy vs. shame and doubt (18 months–3 years):** Successfully conquering new skills leads to a sense of autonomy; a lack of success in learning new skills can lead to shame and doubt.
- **Initiative vs. guilt (3–5 years):** The child becomes more assertive in order to feel more in control over the environment; if the parents approve of the child's attempts to take the initiative, the child develops a sense of purpose. Disapproval can lead to feelings of guilt.
- **Industry vs. inferiority (6–11 years):** The child goes to school and begins to acquire new social and learning skills; failure can lead to feelings of inferiority.

**Expected Growth Rate for Infants & Children**

Age	Rate per Year
1–6 months	18–22 cm
6–12 months	14–18 cm
Second year	11 cm
Third year	8 cm
Fourth year	7 cm
Fifth to tenth years	5–6 cm

**Classifications of Young Patients**

Age	Classification
<38 weeks' gestation	Premature or preterm infant
<1 month	Neonate or newborn infant
1 month to <1 year	Infant
1 year to <12 years	Child

**Timeline of Childhood Milestones**

Age	Milestone(s)
2 months	Smiles at the sound of your voice
3 months	Raises head and chest when lying on stomach, grasps objects, smiles at other people
4 months	Babbles, laughs, tries to imitate sounds
6 months	Rolls from back to stomach

- **Identity vs. role confusion (12–18 years):** The adolescent or teen begins to develop a sense of self or identity; failure can lead to confusion or identity crisis.
- **Intimacy vs. isolation (19–40 years):** The young adult forms intimate relationships with others; failure can lead to feelings of isolation.
- **Generativity vs. stagnation (40–65 years):** Those in middle adulthood need to feel that they are doing something worthwhile that will outlast them; failure may lead to a societal disconnect and shallow relationships.
- **Ego integrity vs. despair (65+):** Older adults need to look back and feel that their lives were well-lived and had meaning; failure can lead to feelings of despair.

**Common Childhood Diseases**

- **Chickenpox:** A highly contagious virus that is characterized by itchy, fluid-filled blisters on the skin. A vaccine is available for the prevention of chickenpox.

- **Respiratory syncytial virus (RSV):** A respiratory virus that infects the lungs and airways. Symptoms may include runny nose, decreased appetite, coughing, sneezing, fever, and wheezing.
- **Whooping cough (pertussis):** A highly contagious respiratory disease that is characterized by uncontrollable, violent coughing fits followed by a “whooping” sound. A vaccine is available for the prevention of whooping cough.
- **Fifth disease (erythema infectiosum):** A virus that is characterized by a red facial rash that is known as a “slapped cheek” rash. Other symptoms may include runny nose, fever, and headache.
- **Hand, foot, and mouth disease:** A virus that is characterized by blister-like sores in the mouth and a skin rash (usually on the hands or feet). Other symptoms may include fever and malaise.
- **Croup:** An infection that is characterized by a “barking cough.” Other symptoms may include cold-like symptoms and difficulty breathing.
- **Scarlet fever:** A strep infection that is characterized by a red rash that feels like sandpaper. Other symptoms may include sore throat, fever, chills, vomiting, and abdominal pain.
- **Impetigo:** A skin infection characterized by itchy, pus-filled blisters. Other symptoms may include a rash that spreads with scratching and swollen lymph nodes.

## NURSING CARE MODELS

- **Case method:** A nurse is assigned to provide complete care for a patient or group of patients for a defined time period.
- **Functional:** A variety of caregivers are assigned to perform specific tasks or functions for each patient.
- **Team:** A team that is made up of licensed and unlicensed providers is assigned to deliver care under the direction of a team leader.
- **Primary:** A single nurse has sole responsibility for assessing patient needs, developing a plan of care, and evaluating the patient’s response to the plan of care.
- **Case management:** An integrated system of care that uses a multidisciplinary team approach in a variety of care settings.

## NURSING ETHICS

### Ethical Principles

- **Autonomy:** A patient has the right to make health care decisions for himself/herself even if the nurse does not agree with that decision. Exceptions may be made when autonomy interferes with another person’s rights, health, or well-being.
- **Justice:** Patients have the right to be treated equally, regardless of race, gender, marital status, medical diagnosis, social standing, economic level, or religious beliefs.
- **Fidelity:** Nurses should keep commitments to others. Fidelity includes loyalty to agreements and responsibilities accepted as part of the practice of nursing.
- **Beneficence:** It is a nurse’s responsibility to do good. Good care requires a holistic approach to patients, which includes attention to their beliefs, feelings, and wishes.
- **Nonmaleficence:** In addition to doing good, nurses should also strive to do no harm. This includes helping determine whether benefits of treatments outweigh the risks.
- **Veracity:** Nurses should tell the truth and not intentionally deceive or mislead patients.
- **Confidentiality:** Privileged information should be kept private. Communications between the nurse and the patient should not be divulged to third parties.

### Steps of Ethical Decision Making

1. Collect, analyze, and interpret the data.
2. Bring all the data together in a form that puts the dilemma into a clear and sharp focus.
3. Clearly and succinctly state the dilemma.
4. Identify morally relevant facts.
5. Consider possible courses of action.
6. Analyze the advantages and disadvantages of each course of action.
7. Make the decision.
8. Evaluate the decision and the outcome.



## EXERCISE

Exercise is a key element in preventing heart disease, diabetes, and some types of cancer. It can also help reduce the symptoms of certain chronic conditions, such as depression, back pain, and arthritis. Most adults should be getting 30 minutes of aerobic exercise at least 5 days a week and 20 minutes of strength training 2–3 days a week.

- **Aerobic exercise** (e.g., walking, running, swimming, bicycling, and aerobics classes) increases the workload of the heart, lungs, and muscles for a sustained period of time. Benefits include

increased blood flow, improved oxygen consumption, weight loss, increased energy, decreased blood pressure, elevated mood, and blood sugar control.

- **Strength training** (a.k.a. weight training) increases muscle mass. Strength training can be done using a weight bench, hand weights, exercises (e.g., push-ups), or exercise machines. Benefits include pain relief (e.g., from arthritis and back pain), improved balance, bone strengthening, weight loss, elevated mood, and blood sugar control.

## RISK REDUCTION

### Preventing Medication Errors

- Follow the **five rights of medication administration:** right patient, right dose, right route, right time, and right medication.
- Read back and spell back verbal or telephone orders.
- Use bar code scanning, if available.
- Use independent double checks for high-alert medications.
- Ask about drug allergies before giving a new medication.
- Provide patient education. Teach patients about their medications, what they are for, what they look like, and when and how they should take them. Have patients demonstrate understanding.

### Preventing Communication Errors

- During shift change report, or when a patient transfers from one unit or facility to another, make sure to verbally report the patient’s history, current condition, treatment modalities, and recent changes in condition. Allow time for questions.
- When communicating with physicians, use clear, direct statements to describe the situation.
- When communicating with patients:
  - Use simple language; avoid medical jargon.

- Ask patients to repeat back verbal instructions.
- Use an interpreter when necessary.
- Be specific with instructions (e.g., “Check your blood sugar before meals” instead of “Check your blood sugar while fasting”).

### Preventing Falls

- Clean up spills as soon as they happen.
- Make sure the patient’s call light and personal belongings are within reach.
- Make sure the path to the bathroom is clear.
- Provide nonskid footwear.
- Provide adequate lighting.
- Assess fall risk.
- Do not leave at-risk patients unattended.

### Preventing Surgical Errors

- **Preoperative verification:** At scheduling, admission, and handoff and before leaving the pre-op area, verify right person, right procedure, and right site.
- **Time-out:** Just before starting the procedure, verify right patient, right surgical procedure, right surgical site, right patient position, and right equipment.

## INFORMED CONSENT

**Informed consent** is the process by which a patient makes an informed decision about whether to undergo a medical treatment or procedure.

### Components of Informed Consent

There are four components to the informed consent process:

- **Decision-making capacity:** The person signing the consent form must have the ability to make an informed decision.
- **Disclosure:** During the process of obtaining an informed consent, the patient should be given information about his/her diagnosis,

the reason for the treatment or procedure, the potential benefits of the procedure, any potential risks or complications associated with the procedure, any potential risks of not undergoing the procedure, and the risks and benefits of alternative treatments.

- **Comprehension:** The person signing the consent form must have the ability to comprehend the information given during the disclosure.
- **Voluntary participation:** The person signing the consent form must consent voluntarily, without coercion.

## INFECTION PREVENTION & CONTROL

### Hand Hygiene

Hand hygiene is the single most important aspect of infection prevention and control. The Centers for Disease Control and Prevention (CDC) recommends that hand hygiene be performed:

- Before and after direct patient contact
- Before procedures, such as administering intravenous medications
- Before and after contact with vascular access
- Before and after dressing changes
- After contact with blood, body fluids, or contaminated surfaces
- After removing gloves

Hand hygiene can be performed with alcohol-based hand rubs or by washing hands with antimicrobial soap.

### Standard Precautions

The CDC developed the following standard precautions to protect against the transmission of infection. Under standard precautions, all blood, body fluids, secretions and excretions, broken skin, and mucous membranes should be treated as potentially infectious.

- Perform hand hygiene in the following situations:
  - Before touching a patient, even if gloves will be worn
  - Before exiting the patient care area after touching a patient or the patient’s immediate environment
  - After contact with blood, body fluids or excretions, or wound dressings
  - Prior to performing an aseptic task (e.g., accessing a port, preparing an injection)
  - If hands will be moving from a contaminated body site to a clean body site during patient care
  - After glove removal
- Wear gloves when there is a potential for contact with blood, body fluids, mucous membranes, nonintact skin, or contaminated equipment.
- Wear a gown to protect skin and clothing during procedures or activities where contact with blood or body fluids is anticipated.
- Wear a face mask, goggles, or a face shield during any procedure where there may be a potential for splashing.

### Contact Precautions

According to the CDC, the following contact precautions should be applied to patients with stool incontinence, draining wounds, uncontrolled secretions, pressure ulcers, ostomy tubes or bags draining body fluids, or generalized rash or exanthems:

- Perform hand hygiene before touching the patient and before putting on gloves.
- Wear gloves when touching the patient and the patient’s immediate environment or belongings.
- Wear a gown if substantial contact with the patient or patient’s environment is anticipated.
- Perform hand hygiene after removal of personal protective equipment (PPE); use soap and water when hands are visibly soiled or after caring for patients with known or suspected infectious diarrhea.

### Droplet Precautions

CDC guidelines suggest that the following droplet precautions be applied to patients who are known or suspected to be infected with a pathogen that can be transmitted by droplet route:

- Place the patient in a private room with a closed door as soon as possible.
- Use PPE:
  - Wear a face mask for close contact with the patient.
  - Wear gloves, a gown, and goggles if spraying is likely to occur.
- Perform hand hygiene before and after touching the patient and after contact with respiratory secretions and contaminated objects or materials; use soap and water when hands are visibly soiled.
- Instruct the patient to wear a face mask when exiting the room, to avoid close contact with other patients, and to practice respiratory hygiene and cough etiquette.

### Airborne Precautions

According to the CDC, the following airborne precautions should be applied to patients known or suspected to be infected with a pathogen that can be transmitted by airborne route:

- Place the patient in an airborne infection isolation room.
- Wear a fit-tested N-95 or higher level disposable respirator mask, if available, when caring for the patient.
- Wear gloves, a gown, and goggles if spraying is likely to occur.
- Perform hand hygiene before and after touching the patient and after contact with respiratory secretions and contaminated objects or materials; use soap and water when hands are visibly soiled.
- Instruct the patient to wear a face mask when exiting the room, to avoid close contact with other patients, and to practice respiratory hygiene and cough etiquette.

Recommended Immunizations for Birth-6 Years

Birth	1 mo	2 mos	4 mos	6 mos	9 mos	12 mos	15 mos	18 mos	19-23 mos	2-3 yrs	4-6 yrs
HepB	HepB					HepB					
	RV	RV	RV								
	DTaP	DTaP	DTaP					DTaP			DTaP
	Hib	Hib	Hib			Hib					
	PCV	PCV	PCV			PCV					
	IPV	IPV				IPV					IPV
						Influenza (yearly)					
						MMR					MMR
						Varicella					Varicella
						HepA					

Key: Orange shaded boxes indicate the vaccine can be given during shown age range.

Health Screenings

Women

- **Mammogram:** Every 1-2 years starting at age 40
- **Pap test:** Every 2 years starting at age 21
- **Colorectal cancer screening:** As determined by their doctor starting at age 50

Men

- **Colorectal cancer screening:** As determined by their doctor starting at age 50
- **Prostate cancer screening:** As determined by their doctor starting at age 50

Immunization tables source: Centers for Disease Control and Prevention, 2012.

Recommended Immunizations for Ages 7-18

7-10 yrs	11-12 yrs	13-18 yrs
Tdap	Tdap	Tdap
	HPV (3 doses)	HPV
MCV4	MCV4 dose 1	MCV4 dose 1
	Influenza (yearly)	
	PCV	
	HepA	
	HepB	
	IPV	
	MMR	
	Varicella	

Key:  
**Orange:** Indicates when the vaccine is recommended for all children unless a doctor says the child cannot safely receive the vaccine.  
**Green:** Indicates the vaccine should be given if a child is catching up on missed vaccines.  
**Blue:** Indicates the vaccine is recommended for children with certain health conditions that put them at high risk for serious diseases.  
 Note that healthy children can get the HepA series.

Recommended Immunizations for Ages 19+

Vaccine	19-21 yrs	22-26 yrs	27-49 yrs	50-59 yrs	60-64 yrs	≥65 yrs
Influenza	1 dose annually					
Td/Tdap	Substitute 1-time dose of Tdap for Td booster; then boost with Td every 10 yrs					Td/Tdap
Varicella	2 doses					
HPV, female	3 doses					
HPV, male	3 doses	3 doses				
Zoster					1 dose	
MMR	1 or 2 doses				1 dose	
Pneumococcal (polysaccharide)	1 or 2 doses					1 dose
Meningococcal	1 or more doses					
HepA	2 doses					
HepB	3 doses					

Key:  
**Orange:** For all persons in this category who meet the age requirements and who lack documentation of vaccination or have no evidence of previous infection.  
**Blue:** Recommended if some other risk factor is present (e.g., on the basis of medical, occupational, lifestyle, or other indications).  
**Green:** Tdap recommended for ≥65 years of age if contact with <12-month-old child. Either Td or Tdap can be used if no infant contact.

**Vaccine abbreviation key:** DTaP = Diphtheria, pertussis, and tetanus; HepA = Hepatitis A; HepB = Hepatitis B; Hib = *Haemophilus influenzae* type b; HPV = Human papillomavirus; IPV = Polio; MCV4 = Meningococcal conjugate vaccine; MMR = Measles, mumps, rubella; PCV = Pneumococcal conjugate vaccine; RV = Rotavirus; Td = Tetanus and diphtheria; Tdap = Tetanus, diphtheria, and pertussis

NUTRITION

Physiologic Basics

- The consumption of nutrients is necessary to support the physiologic activities of digestion, absorption, and metabolism, as well as to maintain homeostasis.
- Nutrients are classified into three groups:
  - **Energy nutrients:** Release energy for maintenance of homeostasis.
  - **Organic nutrients:** Build and maintain body tissues and regulate body processes.
  - **Inorganic nutrients:** Provide a medium for chemical reactions, transport materials, maintain body temperature, promote bone formation, and conduct nerve impulses.

Diet Therapy

- **Nothing by mouth (NPO):** A type of diet ordered to rest the GI tract, either prior to surgery or certain diagnostic procedures or when the source of the patient's nutritional problem is unidentified.
- **Clear liquid diet:** Consists of liquids that have no residue, such as water, apple juice, and gelatin; dairy products are not allowed.
- **Liquid or full-liquid diet:** Consists of substances that are liquid at room temperature (e.g., ice cream, pudding).
- **Soft diet:** Consists of reduced fiber and cellulose; prescribed to decrease GI mucosal irritation. Foods to be avoided are raw fruits (except bananas), vegetables, seeds, plant fiber, and whole grains; dairy products are limited to 2 servings per day.
- **High-fiber diet:** Consists of foods that are high in fiber and/or cellulose; used to increase the forward motion of indigestible wastes through the colon.
- **Diabetic diet:** Used to control blood sugar. Consists of smaller portions spread throughout the day and a variety of whole grains, fruits, and vegetables. The timing and amount of carbohydrates to be consumed is determined by a dietitian. Foods that should be limited are foods that are high in sugar, fatty foods, salt, and alcohol.
- **Sodium-restricted diet:** Used with patients who have excess fluid volume, hypertension, heart

failure, myocardial infarction, or renal failure; sodium intake may be restricted as follows:

- **Mild:** 2,000-3,000 mg (2-3 g)
- **Moderate:** 1,000 mg (1 g)
- **Strict:** 500 mg (0.5 g)

Parenteral Nutrition

- Provides nutrition via a route outside the alimentary tract.
- Solution is infused directly into the vein to meet daily nutritional needs.
- Total parenteral nutrition (TPN) consists of an intravenous solution containing dextrose, amino acids, fats, essential fatty acids, vitamins, and minerals.

Enteral Nutrition

- Used for patients with a functional GI tract who will not or cannot eat and therefore are at risk for malnutrition.
- Tube feedings are contraindicated in patients with:
  - Diffuse peritonitis
  - Intestinal obstruction
  - Intractable vomiting
  - Severe diarrhea
- Types of enteral feeding tubes:
  - **Large-bore nasogastric tube:** A tube that is inserted through the nostril and passed into the gastric cavity.
  - **Gastrostomy or PEG tube:** A tube that is inserted directly into the gastric cavity.
  - **Nasointestinal tube:** A tube that is inserted through the nose and passed into the intestines (either the duodenum or the jejunum).
  - **Jejunostomy:** A tube that is surgically inserted into the jejunum.
- Types of enteral formulas:
  - **Isotonic:** Contains proteins, fats, and carbohydrates with a high molecular weight and osmolarity equal to that of the body.
  - **Elemental:** Contains monosaccharides and amino acids with minimal triglycerides in hypertonic concentrations.
  - **Fluid restriction formula:** Contains a highly concentrated form of kilocalories.

PAIN MANAGEMENT

Acute vs. Chronic Pain

Pain Type	Physiologic Evidence	Behavioral Evidence
Acute	Increased respirations, increased pulse, increased blood pressure, dilated pupils, diaphoresis	Restlessness, distraction, worry, distress
Chronic	Normal respirations, pulse, blood pressure, pupil size; no diaphoresis	Reduced or no physical activity, depression or despair, feelings of hopelessness

Pain Scales

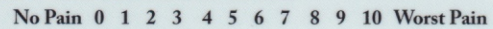
Visual Analog Scale

Ask the patient to put a mark, such as an X, on the scale to show his/her current level of pain.



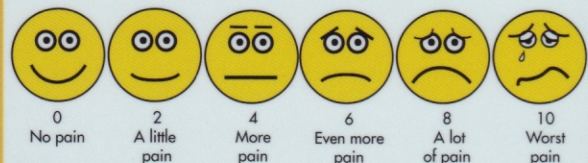
Numerical Scale

Ask the patient to rate his/her pain from 0 (indicating no pain) to 10 (indicating the worst pain possible). The patient may either say the number or circle the number on the scale.



Faces Scale

This scale may be helpful to a child or an adult with language barriers. Ask the patient to choose the face that best shows the severity of his/her own pain on a scale of 0-10.



Pain Medications

Pain medications should be given as prescribed. Pain medication is more effective if given before pain becomes severe. When medications are prescribed PRN, it is important to assess the patient's pain at regular intervals to see if pain medication is needed.

MEDICATION DOSAGE CALCULATIONS

Formulas

Amount to Administer

$$\frac{\text{Dose ordered}}{\text{Dose on hand}} = \text{Amount to administer}$$

Solution Concentration

$$\frac{\text{Dose in solution}}{\text{Volume of solution}} = \text{Solution concentration}$$

IV Dose Rate Calculation

$$\frac{\text{Dose ordered}}{\text{Solution concentration}} = \text{Volume/hour}$$

Oral Medications: Liquids

Use the following formula to calculate dosage for liquids:

$$\frac{\text{Desired}}{\text{Have}} \times \text{Quantity} = x$$

EX: Order: Amoxicillin 500 mg PO daily; Available: Amoxicillin oral suspension 200 mg/5 mL  
Use (D/H) × Q;  
(500/200) × 5 = x  
2.5 × 5 = **12.5 mL**

Oral Medications: Tablets & Capsules

There are two types of capsules:

- A capsule with a hard, two-piece gelatin shell that may, in some cases, be opened to release powder or pellets (to be combined with soft food)
  - A capsule with a soft gelatin shell
- Capsules should never be split, crushed, or altered; scored tablets may be split, but unscored tablets should never be split, crushed, or altered.

Use the following formula to find dosage for tablets and capsules:

$$\frac{\text{Desired}}{\text{Have}} \times \text{Quantity} = x$$

EX: Order: Ibuprofen 1,000 mg PO daily;  
Available: Ibuprofen 200 mg tablets  
Use (D/H) × Q;  
(1,000/200) × 1 = x  
5 × 1 = **5 tablets**

Parenteral Medications (Intravenous, Intramuscular & Subcutaneous)

NOTE: For amounts less than 1 mL, round to the nearest hundredth; for amounts greater than 1 mL, round to the nearest tenth.

Use the following formula to calculate dosage for liquids:

$$\frac{\text{Desired}}{\text{Have}} \times \text{Quantity} = x$$

EX: Order: Bactocill 300 mg IM every 8 hours;  
Available: Bactocill 1 g/3 mL  
First, make any necessary conversions: 1 g = 1,000 mg  
Then use (D/H) × Q;  
(300/1,000) × 3 = x  
0.3 × 3 = 0.9 mL

Since the answer is less than 1 mL, round to the nearest hundredth: **0.90 mL**

IV Flow Rate

$$\frac{\text{Volume (mL)} \times \text{Drop factor (gtt/mL)}}{\text{Time (min)}} = \text{Flow rate (gtt/min)}$$

EX: Nicardipine 10 mg in 25 mL over 1 hour; drop factor = 15

First, convert hours to minutes: 1 hour = 60 minutes

$$\text{Then calculate rate: } \frac{25 \text{ mL} \times 15}{60} = \frac{375}{60} = 6.25$$

Round to the nearest whole number: **6 gtt/min**

Age- & Weight-Adjusted Dosages

Often, doses are adjusted based on weight, especially for pediatric and geriatric patients.

**Geriatric EX:** An 82-year-old man weighs 174 pounds and is ordered amikacin sulfate; ordered dose is 7.5 mg/kg IM bid; available dose is amikacin sulfate 250 mg/mL

Convert weight to kilograms: 2.2 lb = 1 kg, so 174 lb = 79.0909... kg, or 79.1 kg  
To find the dose, multiply 7.5 mg/kg by 79.1 kg:  
7.5 × 79.1 = 593.3 mg  
Then use (D/H) × Q;  
(593.3/250) × 1 = x  
2.373 × 1 = **2.4 mL**

**Pediatric EX:** A 14-month-old child weighs 25 pounds and is ordered oxacillin sodium; ordered dose is 50 mg/kg every 6 hours; available dose is 250 mg/5 mL  
Convert weight to kilograms: 2.2 lb = 1 kg, so 25 lb = 11.3636... kg, or 11.4 kg  
To find the dose, multiply 50 mg/kg by 11.4 kg:  
50 × 11.4 = 570 mg  
Then use (D/H) × Q;  
(570/250) × 5 = x  
2.28 × 5 = **11.4 mL every 6 hours**

MEDICATION ADMINISTRATION ROUTES

- **Oral:** Capsule, tablet, or liquid; absorbed in GI tract.
- **Intravenous (IV):** Injection into bloodstream via vein.
- **Intradermal:** Injection into the dermal layer of the skin.
- **Intramuscular (IM):** Injection into muscle; can use large doses; fast systemic action.
- **Intrathecal:** Injection into spinal canal; affects spinal fluid.
- **Subcutaneous (subcut):** Injection into tissue below dermis.
- **Sublingual:** Absorbed under the tongue.
- **Rectal or vaginal:** Suppositories or creams; usually for local distribution.
- **Inhalation:** Absorbed in lungs; gaseous form; rapid absorption.

LIPID PROFILE

Total cholesterol	<200 mg/dL
HDL	40-60 mg/dL
LDL	<130 mg/dL
Triglycerides	10-150 mg/dL

CONSIDERATIONS ACROSS THE LIFESPAN

Pregnant or Breast-Feeding Women

- Renal excretion rate and hepatic metabolism are accelerated; consider higher doses.
- Intestinal excretion rate is decreased, which leads to a longer absorption time; consider lower doses.
- Assume that all drugs can enter the fetus via the placenta.
- Consult Food and Drug Administration risk categories for every drug before administration.
- Weeks 3-8 present the greatest risk of drug-induced malformation of the fetus.
- After pregnancy, doses should be taken directly after breast-feeding to ensure minimal drug concentration in the breast milk for the next feeding.

Pediatric Patients

- Assume increased drug sensitivity due to immature organ system.
- Infants have irregular gastric patterns; absorption rates may vary.
- Infants and young children have thin skin, which may lead to rapid topical drug absorption.
- An infant's blood-brain barrier is not fully developed, which may lead to increased sensitivity to central nervous system (CNS) drugs and risk of toxicity.
- Neonates absorb IM drugs slower than adults; infants absorb IM drugs faster.

- Infants have reduced protein-binding ability, which can lead to high free concentrations of drugs.
- The liver and kidneys are not fully developed until after the age of 1 year; assume reduced ability for hepatic and renal metabolism in infants.
- In children over 1 year of age, drug metabolism rate is higher than adults.
- Children may have unique side effects to certain drugs, including suppressed growth.

Geriatric Patients

- Assume increased drug sensitivity due to deteriorated organ systems.
- Reactions vary greatly based on individual patient condition.
- Rate of absorption is generally slowed, which could lead to a delayed therapeutic response.
- Hepatic metabolism rate is likely slowed, which could lead to a longer therapeutic response.
- Renal excretion is likely slowed, which could lead to an accumulation of the drug and increased risk of adverse effects.
- Determine creatinine clearance prior to drug administration to assess renal function.
- Intentional failure to follow prescribed regimen is a common problem; longer or more extensive patient education may be required.
- Anticipate, assess, and manage drug interactions carefully.

BLOOD TRANSFUSION REACTIONS

Reaction & Causes	Signs & Symptoms
<b>Transfusion-related lung injury</b> • Antibodies activate granulocytes, causing leakage into lungs	Tachypnea, dyspnea, hypotension, cyanosis, chills, fever, tachycardia
<b>Plasma protein incompatibility</b> • Immunoglobulin A incompatibility	Diarrhea, abdominal pain, dyspnea, fever, chills, flushing, hypotension
<b>Hemolytic</b> • Blood stored improperly • Crossmatching improperly • Intradonor incompatibility • RH or ABO incompatibility	Dyspnea, flushed face, fever, chest pain, shaking, chills, hypotension, flank pain, oliguria, hemoglobinuria, bloody oozing at surgical incision or infusion site, burning feeling along vein getting blood, shock, renal failure
<b>Febrile</b> • Bacterial lipopolysaccharides • Antileukocyte recipient antibodies directed against donor white blood cells	Fever, headache, chills, flushed face, cough, palpitations, increased pulse rate, chest tightness, flank pain
<b>Bacterial contamination</b> • Organisms that can survive cold temperatures (e.g., staphylococcus and pseudomonas)	Fever, chills, abdominal cramping, vomiting, diarrhea, shock, renal failure
<b>Allergic</b> • Donor blood has allergen • Donor blood hypersensitive to certain drugs	Anaphylaxis, nausea, vomiting, fever

COMPLETE BLOOD COUNT (CBC) & DIFFERENTIAL

CBC Component	Adult	
	Male	Female
Red blood cells (RBCs)	4.7-6 × 10 <sup>6</sup> /mcl	4.2-5.4 × 10 <sup>6</sup> /mcl
Hematocrit (Hct)	42%-52%	37%-47%
Hemoglobin (Hgb)	13.5-18 g/dL	12-16 g/dL
RBC indices		
• Mean corpuscular volume (MCV)		78-100 fL
• Mean corpuscular Hgb (MCH)		27-31 pg
• Mean corpuscular Hgb conc. (MCHC)		33-37 g/dL
White blood cells (WBCs)		4K-10.5K/mcl
Differential WBCs		
• Neutrophils		1.5K-6.6K/mcl
• Bands		<1K/mcl
• Eosinophils		<0.7K/mcl
• Basophils		<0.1K/mcl
• Monocytes		<1K/mcl
Lymphocytes		1.5K-3.5K/mcl
• T lymphocytes		60%-80% of lymphocytes
• B lymphocytes		4%-16% of lymphocytes
Platelets		150K-300K/mcl

**COMPREHENSIVE METABOLIC PANEL**

Normal Adult Range*		Conditions with Abnormal Findings	
		Increased	Decreased
Blood urea nitrogen (BUN)	6-20 mg/dL	Congestive heart failure (CHF), excessive protein in the GI tract, GI bleeding, hypovolemia, heart attack, kidney disease, kidney failure, shock, urinary tract obstruction	Liver failure, low protein diet, malnutrition, overhydration
Sodium (Na)	135-145 mEq/L	CHF, dehydration, diabetes, diaphoresis, diarrhea, hypertension, ostomies, toxemia, vomiting	GI malabsorption, diarrhea, ascites in cardiac failure, bowel obstruction, burns, cirrhosis, emphysema
Potassium (K)	3.7-5.2 mEq/L	Acidosis, adrenocortical insufficiency, anemia, anxiety, asthma, burns, dialysis, dysrhythmias, hypoventilation	GI suction, vomiting, diarrhea, intestinal fistulas, alcoholism, alkalosis, bradycardia, colon cancer, chronic cirrhosis, CHF, Crohn's disease, diuretics
Chloride (Cl)	97-107 mEq/L	Alcoholism, respiratory alkalosis, anemia, CHF, dehydration, fever, head trauma	Metabolic alkalosis, burns, CNS disorders, edema, emphysema, GI loss
Carbon dioxide (CO <sub>2</sub> )	23-29 mEq/L	Breathing disorders, Cushing's syndrome, hyperaldosteronism, vomiting	Addison's disease, diarrhea, ethylene glycol poisoning, ketoacidosis, kidney disease, lactic acidosis, metabolic acidosis, methanol poisoning, salicylate toxicity
Glucose	70-100 mg/dL (fasting)	Prediabetes, diabetes, hyperthyroidism, pancreatic cancer, pancreatitis	Hypopituitarism, hypothyroidism, malnutrition, insulin overdose
Creatinine	0.6-1.3 mg/dL	Acute tubular necrosis (ATN), dehydration, diabetic nephropathy, glomerulonephritis, kidney failure, muscular dystrophy, preeclampsia, pyelonephritis, shock, CHF, rhabdomyolysis, urinary tract obstruction	Muscular dystrophy (late stage), myasthenia gravis
Calcium (Ca)	8.5-10.2 mg/dL	Respiratory acidosis, ATN, bacteremia, chronic hepatic disease	GI malabsorption, alkalosis, burns, cachexia, celiac disease, chronic renal disease, diarrhea
Total protein	6.4-8.2 g/dL	Chronic inflammation, HIV, hepatitis B, hepatitis C, multiple myeloma, Waldenström's disease	Agammaglobulinemia, hemorrhage, burns, glomerulonephritis, liver disease, malabsorption, malnutrition, nephrotic syndrome, protein-losing enteropathy
Albumin	3.4-5.4 g/dL	Dehydration	Kidney disease, liver disease
Total bilirubin	0.3-1.9 mg/dL	Cirrhosis, hepatitis, Gilbert's disease, biliary stricture, pancreatic or gallbladder cancer, gallstones	N/A
AST/SGOT	10-34 U/L	Cirrhosis, hepatitis, liver cancer, acute pancreatitis, heart attack, kidney failure, mononucleosis	N/A
ALT/SGPT	7-56 U/L	Cirrhosis, hepatitis, liver cancer, acute pancreatitis, heart attack, mononucleosis	N/A
Alkaline phosphatase	44-147 U/L	Cirrhosis, hepatitis, biliary obstruction, Paget's disease, bone cancer, leukemia, lymphoma, hyperparathyroidism	Malnutrition, protein deficiency, Wilson's disease

\*Ranges may vary by lab.

**DOCUMENTATION**

Documentation is written evidence of:

- The interaction between and among health professionals, patients, families, and health care organizations
  - The administration of tests, procedures, treatments, and patient education
  - The patient's response to diagnostic tests, procedures, treatments, and interventions
- Systematic documentation is critical because it presents the care administered by nurses in a logical manner, as follows:
- Assessment data identify the patient's specific condition or alterations and provide the foundation of the nursing care plan.
  - Risk factors and the identified alteration in health patterns direct the formation of the nursing diagnosis and nursing care priorities.
  - Identifying the nursing diagnosis promotes the development of the patient's goals (short term and long term) and expected outcomes, as well as triggers the creation of nursing actions or interventions.
  - The plan of care identifies the actions necessary to resolve the nursing diagnosis.
  - Implementation, or the act of "nursing," is evidenced by actions the nurse performs to assist the patient in achieving the expected outcomes.

Documentation requirements differ depending on the health care facility:

- All nursing documentation must reflect the nursing process, the individualized context of the patient, and the nursing situation.
- Nursing documentation must be logical, focused, and relevant to care and must represent each phase of the nursing process.

**General Documentation Guidelines**

- Make sure you have the correct patient record or chart and that the patient's name and identifying information are on every page of the record.
- Document as soon as the patient encounter is concluded to ensure accurate recall of data.
- Date and time each entry accurately.
- Sign each entry with your full legal name and professional credentials.
- Do not leave space between entries.
- If an error is made, use a single line to cross out the error; then date, time, and sign the correction; do not erase or use correction fluid.

**TIP**  
From a legal perspective, if it isn't documented, it wasn't done.

- Do not change another person's entry, even if it is incorrect.
- Use quotation marks to indicate direct patient responses.
- Document in chronological order.
- Write legibly.
- Use pens with permanent black ink.
- Document in a complete but concise manner by using phrases and abbreviations (as appropriate).
- Document all telephone calls made or received by you that are related to a patient's care.
- Avoid judgmental language (e.g., "good," "bad," "normal," "abnormal," "appears to be").
- Avoid evaluative statements (e.g., "Patient is uncooperative," "Patient is lazy"); instead, cite specific behaviors or actions that you observed (e.g., "Patient said, 'I hate this place,' and kicked the trash can").
- State time intervals precisely (e.g., "every 3 hours" instead of "occasionally").
- Do not make relative statements (e.g., "a mass the size of an egg"); instead, be specific (e.g., "3 cm x 5 cm mass").
- Draw pictures when appropriate (e.g., location of scars, bruises, skin lesions).
- Refer to findings by using anatomical landmarks, such as LUQ (left upper quadrant).

**Methods of Documentation**

- **Narrative charting** is done in a story format that describes the patient's status, interventions, and treatment, as well as the patient's response to treatment.
- **SOAP** is a structured method of narrative charting. SOAP stands for:
  - Subjective data (what the patient says)
  - Objective data (assessment findings, such as vital signs and laboratory results)
  - Assessment and analysis (the conclusion reached on the basis of the data collected)
  - Plan (actions to be taken to change the status of the patient's problem)
- **PIE** is also a structured method of narrative charting. PIE stands for:
  - Problem
  - Intervention
  - Evaluation
- **Charting by exception (CBE)** is a method of charting that requires the nurse to document only deviations from preestablished norms.

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