BASIC HUMAN NEEDS
A. Maslow's hierarchy of basic human needs.
   1. Human behavior is motivated by a system of needs.
   2. Clients will focus or attempt to satisfy needs at the base of the pyramid before focusing on those higher up (Figure 3-1).
   3. Human needs are universal; however, some may be modified by cultural influence.
   4. The nursing process is always concerned with physiologic needs first; it then progresses to teaching, decreasing anxiety, etc. This is also true for the client with psychosocial needs; the client’s physiologic needs must be met before he or she can progress to the next level.

NURSING PRIORITY Maslow's hierarchy of needs is very useful in answering test questions related to setting priorities. Always remember that the physiologic needs at the base of the pyramid must be satisfied first in order to focus on other needs—and remember that oxygenation is always the first physiologic need or priority.

HEALTH ASSESSMENT
Subjective Health Assessment

ALERT Obtain a health history and conduct a risk assessment; perform a complete physical assessment.

NURSING PRIORITY Ensure proper identification of client when providing care. Maintain client confidentiality.

Health History
A. Demographic data.
   1. Name, address, phone, age, sex, marital status.
   2. Race, religion, usual source of medical care.
B. Chief complaint/reason for visit.
   2. Chief complaint is recorded in client’s own words. Example: “I have been vomiting blood since this morning.”
C. History of the present illness.
   1. Chronologic narrative.
   2. Areas of investigation to evaluate the symptom.
      a. Sequence, chronology, and frequency.
      b. Bodily location and radiation.
      c. Character of the complaint: intensity or severity.
      d. Associated phenomena or manifestations.
      e. Aggravating or alleviating factors.
   3. Includes relevant family history.
D. Medical history.
   1. Perception of illness.
   2. Previous illnesses: hospitalization, surgery, chronic illnesses.
   3. Allergies, status of immunizations.
   4. Accidents and injuries.
   5. Current medications—prescribed and nonprescribed, including herbs and any complementary therapy.
   6. Prenatal, labor and delivery, or neonatal history (recorded for all children under age of 5 and older children with a congenital or developmental problem).
   7. Psychosocial history: sources of stress, coping mechanisms.

ALERT Perform a mental status assessment on nonpsychiatric client (see Chapter 10 for Mental Status Exam).

8. Activities of daily living.
   b. Rest/sleep.
   c. Personal habits (alcohol, smoking, exercise, etc.).
9. Developmental level: school/education, work, family activities, social activities.
   a. Denver II (or DDST-R): a developmental screening test for young children; not an IQ test, but a test to determine what a child can do at a particular age.
   b. Mental Status Exam: purpose is to evaluate the client’s current cognitive processes (see Chapter 10.)
E. Review of systems.
   1. Brief account from the client regarding any recent signs or symptoms associated with the body systems.
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B. Techniques of physical assessment.
1. Inspection.
   a. Careful examination and observation of area are important parts of the assessment.
   b. Each anatomic area is inspected before it is touched by examiner’s hands or instruments.
2. Palpation.
   a. Parts of the hand used during palpation.
      (1) Fingertips for fine, tactile discrimination (e.g., lymph nodes, skin texture).
      (2) Dorsa of hands for skin temperature (dorsal skin is thinner and more sensitive).
      (3) Palmar and ulnar surfaces for vibratory sensation.
      (4) Grasping position (pinching) of fingers for tissue consistency.
   b. Light palpation identifies areas of tenderness and muscle resistance.
   c. Deep palpation is essentially the same as light palpation; however, examiner uses two hands to press more deeply into the client’s abdomen. If there is any tenderness present, perform deep palpation last.
3. Percussion.
   a. Technique of striking body surface lightly but sharply to produce sounds.
   b. Indirect percussion.
      (1) Middle finger of the nondominant hand (pleximeter) is placed against the body surface, with palm and other fingers raised off the skin. Tip of middle finger of dominant hand (plexor) strikes the base of the distal phalanx of the pleximeter in a quick, sharp stroke.
   c. Direct percussion.
      (1) Gentle, direct striking of the body with one or more fingers or with the ulnar surface of the clenched fist.
      (2) Useful in assessing sinuses, kidneys, or the liver.
   d. Percussion sounds.
      (1) Resonance: loud, low note heard over normal lung tissue.
      (2) Hyperresonance: louder, lower, and longer note heard over emphysematous lung.
      (3) Tympany: loud, musical note with drum-like quality, heard over air-filled viscera (e.g., stomach or bowel).
      (4) Flat: soft, high-pitched, short note heard, for example, over the thigh.
      (5) Dull: medium-pitched note of intensity and duration heard over the liver.
4. Auscultation.
   a. Bell of stethoscope is used for low-pitched sounds, such as murmurs and bruits.
   b. Diaphragm of stethoscope is used for high-pitched sounds such as wheezes and crackles.
C. Sequence of the physical examination (Table 3-1).

Nursing Assessment

Comprehensive Physical Assessment

ALERT Perform comprehensive health assessment—physical, psychosocial, and health history. Choose physical assessment equipment and technique appropriate for client.

A. General guidelines.
1. If examiner is right-handed, examination should be conducted from the right side of the bed.
2. Position bed or examining table at appropriate height.
3. Adequately expose areas being examined.
4. Explain each part of the examination to client as examination proceeds.
5. Establish rapport by asking non-personal questions before the physical examination.
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5. Determine whether there are any other problems the client is experiencing that have not been addressed.

HEALTH PROMOTION

Levels of Prevention

Preventive health care is more dynamic than health maintenance; it focuses on health enhancement and health promotion, whereas health maintenance is concerned with maintaining the status quo.

A. Primary: prevention of disease.
   1. Goal is to achieve maximum functioning in each health potential area.
   Examples: Stop smoking, practice safe sex, maintain body weight, limit alcohol intake, follow a regular exercise program and a healthy diet.

   1. Emphasis is on determining intervention priorities.
   Examples: Screening for tuberculosis; glaucoma test, Pap smear, colon-rectal cancer, and testicular self-examination.

   1. Focus is on the prevention of complications and rehabilitation after the disease or condition has already occurred.
   Examples: Have blood drawn for a complete blood count before chemotherapy; initiate speech therapy after a cerebrovascular accident; start cardiac rehabilitation after a heart attack.

ALERT  Implement measures to manage/prevent/lessen complications of client condition.

ALERT  Provide information regarding health maintenance recommendations, teach client actions to maintain health and prevent disease (immunizations, screening, etc.).

HEALTH TEACHING

Principles of Client Education

Box 3-1  STEPS IN CLIENT EDUCATION

1. Assessment—What needs to be taught? How does the client perceive the need to learn? Are there any physical or psychosocial learning barriers? Consider the client’s age.
2. Planning—Establish learning objectives and content to be discussed. Determine how it will best be delivered.
3. Implementation—Determine whether the client is comfortable (physiologic needs are always first). Present the information in a manner the client can understand; provide opportunity for client feedback; provide written information and review it with the client; provide positive feedback.
4. Evaluation—Plan for a return demonstration if skill was taught; follow up with family; plan home visits, etc. to determine client’s use of information.
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3. Try to stimulate as many senses as possible. Use charts, handouts, and pieces of equipment when appropriate.

4. Repetition is an integral part of learning.

5. The more active the client is in the process, the better he or she will retain the information.

6. Plan short sessions; do not overwhelm the client with too much information at one time.

7. Actively involve the family and significant others, when appropriate.

8. Be generous with positive reinforcement.

D. Pediatric factors influencing the learning process.

1. Intellectual development moves from the concrete to the abstract.

2. Nurse needs to assess the developmental level of a child before planning the educational approach.

A. Common characteristics of the adult learner.

1. Self-directed.

2. Client’s background of experience, skills, attitudes, and culture form the basis for any new information received.

3. Level of psychosocial development affects readiness to learn. If a client is in a midlife transition, it may be very difficult for the client to learn new attitudes and skills that threaten his or her self-image. 

   Example: A man in his early forties may have difficulty accepting any education regarding his colostomy.

4. Client wants to apply the learning immediately.

B. Factors contributing to the teaching-learning process.

1. Readiness to learn.

   a. Belief that material is relevant.

   b. Mental capacity to learn and physical ability to perform the skills.

   c. Must have physical and safety needs met.

   d. Comfort.

      (1) Physical comfort: discomorts such as pain, nausea, hunger, and the need to void are distractions that affect the learning process.

      (2) Psychologic comfort: anger, frustration, fear, and guilt severely hamper the learning process.

C. Factors relating to the presentation.

1. State the specific objective of each teaching session; identify exactly what the client is to gain.

2. Use vocabulary and terminology appropriate to client’s understanding and to his or her developmental level. Use correct terms for body parts.

3. Consider client’s background and culture when preparing teaching materials and determine when client is ready to learn.

4. Repetition is an integral part of learning.

5. The more active the client is in the process, the better he or she will retain the information.

6. Plan short sessions; do not overwhelm the client with too much information at one time.

7. Actively involve the family and significant others, when appropriate.

8. Be generous with positive reinforcement.

D. Pediatric factors influencing the learning process.

1. Intellectual development moves from the concrete to the abstract.

2. Nurse needs to assess the developmental level of a child before planning the educational approach.

3. It is important to emphasize to the preschooeler that treatment is not punishment.

   a. Preschooler.

      (1) Frequently experiences fear of injury.

      (2) If under 4 years:

         (a) Generally does not benefit from anatomy and physiology information.

         (b) Needs clarification of reality and fantasy.

         (c) Separation anxiety is a problem; include parents in teaching session.

      (3) Preschoolers are aware of the physical and mechanical causes of problems they can see; unaware of physical and mechanical forces they cannot see.

   b. School-age child.

      (1) Benefits from tours, drawings, anatomically correct dolls.

      (2) Cooperates with treatment and expresses feelings in words.

      (3) Learns well from role playing and puppets.

      (4) Needs to have parents included in teaching session for reinforcement and consistency.

   c. Adolescent.

      (1) Needs to be as independent as possible in management of health problem.

      (2) Present information with a scientific rationale rather than by giving specific directions.

      (3) Needs assistance in coping with loss of independence and self-direction.

      (4) Focus programs to deal with changes in body image and maintaining ego.
E. Special needs of the older client.
   1. Determine functional losses (e.g., hearing or vision impairment, memory loss).
   2. Identify social support to aid the older adult; this often increases compliance with instructions.

**END-OF-LIFE CARE**

A. Provide psychosocial support to client and family.

**ALERT** Provide end-of-life care to clients and families. Assist client and family to cope with end-of-life interventions.

1. Assist client and family to participate in treatment decisions, prepare advance directives.
2. Promote spiritual comfort—encourage/assist client to contact spiritual advisors.
3. Protect client from feeling abandoned or isolated—respond quickly to call lights, check on client often.
4. Encourage family to participate in care—assisting with food, hygiene measures, physical contact.

B. Promote culturally competent care—acknowledge and respect cultural differences and needs.

C. Assist client to understand terms.

**NURSING PRIORITY** It is important that clients understand that full comfort and physical assistance will continue to be provided regardless of their choice to be resuscitated or not.

1. Do not resuscitate or allow natural death (AND): maintain comfort measures, hygiene and pain control; order must be written on chart.
2. Full code: full CPR and resuscitation actions, including medications.
3. Chemical code: medications but no CPR.
4. Hospice care or palliative care.
   a. Does not refer to a place, but rather to a concept of care that provides support for the client who is dying.
   b. Care may be provided in long-term care facility, hospital, or at home.
   c. Criteria for hospice care includes the client’s desire for the service and a physician’s statement that the client will probably not survive beyond the next 6 months (the allowed time frame is somewhat flexible since actual amount of time cannot be predicted).

**Physical Management of Symptoms**

A. Physical symptoms of impending death.
   1. Sensory.
      a. Hearing is usually the last sense to disappear.
      b. Taste, smell are diminished.
      c. Vision is often blurred, blink reflex may be absent.
   2. Integumentary: skin is often cool and clammy; mottling occurs on extremities; cyanosis occurs around mouth and nose and on nail beds.
   3. Respiratory.
      a. Respirations become shallow and irregular; Cheyne Stokes—periods of apnea alternating with deep rapid breathing.
      b. Increased mucus in upper airway causing gurgling, noisy respirations.
      c. Inability to cough or clear airway.
   4. Cardiovascular.
      a. Heart rate may vary from a regular, increased rate to a slowing and irregular heartbeat before death.
      b. Decreased blood pressure and tissue perfusion.
   5. Elimination.
      a. Urinary: output decreases, incontinence occurs.
      b. Bowel: monitor for constipation; bowel incontinence may occur.
      a. Gradual loss of ability to move, loss of facial muscle tone.
      b. Difficulty speaking, unaware of body position.
   7. Neurologic.
      a. Decreased level of consciousness.
      b. Decreased reflexes: gag, cough, swallow.

B. Nursing interventions.
   1. Provide palliative pain management—the prevention or relief of pain when a cure for the client’s illness is not feasible.

   **ALERT** Assess client symptoms related to end of life; ensure client receives appropriate end-of-life symptom management; assess client for nonverbal signs of pain/discomfort; assess, intervene, educate client and family regarding pain management.

   a. Pain medication is frequently administered on an around-the-clock schedule to maintain therapeutic levels of medication; do not delay or deny pain relief measures to a dying client.
   b. Moderate to large amounts of opioids may be required to maintain client’s comfort.
   c. Administer analgesics based on client’s level of pain; medication is increased as client’s pain increases.
   d. Adjuvant medications to increase effectiveness of analgesics—antiemetics, antidepressants, corticosteroids.
   e. A nurse’s or family’s fear that the client will become dependent on, addicted to, or tolerant to the pain medication is inappropriate in provision of pain control in palliative care.

   2. Dehydration: maintain oral hygiene; do not force the client to eat or drink. The option to withhold artificial nutrition or hydration should be made by the client in the advance directive, or by the person designated in advance directive.

   3. Respiratory distress: elevate the head of the bed, offer oxygen, provide medications to decrease apprehension.
4. Elimination.
   a. Utilize incontinence pads, prevent skin irritation, follow facility protocol for indwelling catheters.
   b. Monitor bowel function, assess for impaction, promote normal function within client limitations.
5. Anorexia, nausea and vomiting.
   a. Assess for precipitating cause and administer medications to decrease nausea.
   b. Offer small, frequent meals, but do not focus on client’s need to eat.
6. Determine client’s personal preferences and cultural implications regarding death. Provide family care regarding cultural needs.

**Postmortem Care**

**ALERT** Provide postmortem care.

A. Determine whether there are any tissues or organs to be donated.
B. Determine whether the client’s death should be reported and whether the client’s death necessitates an autopsy and/or release from autopsy.
   1. Death resulting from foul play, homicide, suicide, or accident.
   2. Unattended death; death occurring at a workplace or during incarceration.
   3. Determine legal implications in the state of residence or in the state in which the client died.
C. Perform postmortem care as soon as possible.
   1. Determine whether family wants to participate in post mortem care.
   2. Unless client is to have an autopsy, remove all equipment according to facility policy.
   3. Cleanse the body and cover with a clean sheet. Place a pillow under the head and leave the arms on the outside of the sheet. Deodorize room if necessary.
   4. Offer the family an opportunity to be with the client. Provide privacy in an unrushed atmosphere.
   5. Return all personal belongings to the family. Document what items were taken and by whom.
   6. Attach identifying name tag to the body and to the shroud. Shroud the body according to facility policy.

**BASIC NURSING SKILLS**

**Body Alignment and Range of Motion**

A. Characteristics of correct body alignment in bed.
   1. Head up with eyes looking straight forward.
   2. Neck and back straight.
   3. Arms relaxed and supported at sides.
   4. Legs parallel to hips with knees slightly flexed.
   5. Feet separated and parallel to the legs with the toes pointed upward and slightly outward.

**ALERT** Perform a risk assessment for problems with mobility. Maintain correct body alignment.

B. ROM.
   1. Active ROM.
      a. Client performs exercise without assistance.
      b. Used for client who independently performs activities of daily living but for some reason is immobilized or limited in terms of activity.
      c. Purpose is to maintain muscle tone, decrease venous stasis, prevent muscle atrophy, and prevent contracture.
   2. Passive ROM.
      a. Client cannot actively move.
      b. Cannot contract muscles; therefore muscle strengthening cannot be accomplished.
      c. Purpose is to maintain joint flexibility, prevent contractures, and promote venous return.
C. Principles of ROM exercises.
   1. Stretch muscles by moving the body part; avoid movement to the point of discomfort.
   2. Perform ROM at least twice daily for immobile clients, with a minimum of 4 to 5 repetitions of each exercise.
   3. Always support extremity above and below the joint when performing passive ROM on extremities.
   4. Involve the client in planning the exercise program.
D. Client positions (see Appendix 3-1).

**Asepsis**

**ALERT** Always apply principles of infection control (handwashing, room assignment, isolation, aseptic/sterile technique, standard precautions).

A. Medical asepsis.
   1. Designed to reduce the number of pathogens in an area and decrease the likelihood of their transfer (e.g., by handwashing).
   2. Often referred to as clean technique; wash hands between visits with individual clients.
   3. Included in this category are daily hygiene practices and administration of oral medications, enemas, and tube feedings.
B. Surgical asepsis.
   1. Designed not simply to reduce the number of pathogens but to make the object free of all microorganisms.
   2. Also known as sterile technique.
   3. Surgical asepsis is reserved primarily for sterile dressing changes, sterile catheterizations, and surgical procedures in the operating room (Box 3-2).

**ALERT** Set up a sterile field. Use appropriate supplies to maintain asepsis (gloves, mask, sterile supplies); evaluate whether aseptic techniques are performed correctly.
Wound Care

A wound is a disruption in normal tissue caused by traumatic injury or created surgically.

**Alert** Provide wound care (irrigations, dressings). Monitor wounds for signs of infection.

A. Primary goals.
   1. Promote healing.
   2. Prevent further damage.
   3. Prevent infection.

B. Types of wounds.
   1. Black wounds.
      a. Necrotic devitalized tissue; high risk for infection.
      b. Frequently require sharp or surgical debridement of tissue for healing to occur.
   2. Yellow wounds.
      a. Contain devitalized tissue; require cleaning for healing to occur.
      b. Mechanical debridement requires irrigations and dressing changes. A 19F intravenous (IV) catheter on a 30-mL syringe provides safe pressure for irrigation and removal of devitalized tissue.
      c. Wet-to-dry dressings, wet-to-moist dressings, wound packing, and enzymatic debridement may be used to cleanse yellow wounds.
      d. Hydrocolloidal dressings to retain moisture.
   3. Red wounds.
      a. Require protection of fragile granulation tissue.
      b. Topical antibiotic ointment and nonadhering dressings may be used on shallow wounds.
      c. Wounds should be kept moist (moisture-retention dressings); dry dressings will damage the new granulation tissue.

C. Wound healing.
   1. Primary intention: wound margins are well approximated, as in a surgical incision or a repaired laceration.
   2. Secondary intention.
      a. Traumatic, infected wounds with exudates and wide, irregular margins and extensive tissue loss.
      b. Healing occurs by granulation from the edges inward and/or from the bottom up.
      c. Larger scar formation than with primary healing.
   3. Tertiary intention.
      a. Delayed suturing of the wound after infection is cleared and granulation tissue has been established.
      b. Occurs when a primary wound is infected and left open to heal by secondary intention; then the wound is sutured.

D. Wound healing affected by:
   1. Nutritional status.
      a. Adequate calories and protein are necessary for tissue healing.
      b. The obese client is at increased risk for poor wound healing and effective wound approximation.
   2. Tissue perfusion and oxygenation to wound.
   3. Excessive wound drainage: impairs tissue regeneration and will harbor bacteria.
   4. Diseases: cancer, renal disease, diabetes, and hepatic disease can delay wound healing.
   5. Medications: corticosteroids.
   6. Aging: slowing of tissue regeneration.

**Alert** Promote client wound healing (nutrition, prevention of infection); identify factors that result in delayed wound healing.

E. Nursing intervention.

1. Cleansing of wound (Figure 3-2).
   a. Horizontal wound: cleansed from center of incision outward, then laterally.
   b. Vertical wound: cleansed from top to bottom, then laterally.
   c. Drain or stab wound: cleansed in a circular motion (Figure 3-3).

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**Box 3-2 STERILE TECHNIQUE: PROCEDURES AND GUIDELINES**

**Procedures Requiring Sterile Technique**

- Surgical procedures in the operating room (e.g., transurethral prostatectomy [TURP], appendectomy)
- Biopsies in the operating room, treatment room, or client’s room
- Catheterizations of the heart, bladder, or other body cavities
- Injections: intramuscular (IM), subcutaneous (subQ), intradermal
- Infusions: IV, instillations or infusions of medication or radioactive isotopes into body cavities
- Dressings over catheters inserted into body cavities (e.g., Hickman catheter, subclavian lines, dialysis access sites)
- Dressings of clients with burns, immunological disorders, and skin grafts

**Guidelines for Sterile Field**

- Never turn your back on a sterile field.
- Avoid talking.
- Keep all sterile objects within view (e.g., below waist is not within sterile field).
- Moisture will carry bacteria across/through a cloth or paper barrier.
- Transfer of objects from sterile to contaminated (not sterile) = contaminated.
2. Penrose drain: soft, flexible drain inserted into an open wound to prevent the accumulation of secretions and exudate; frequent dressing changes are preferable to reinforcement of the same dressing (Figure 3-4).

3. Montgomery straps: used when frequent dressing changes are needed; help to prevent skin irritation that could occur with tape removal.

4. Elasticized abdominal binders.

5. Jackson-Pratt catheter or drainage system: bulb must be compressed to allow air to escape and then recapped to maintain suction (Figure 3-5).

6. Hemovac: evacuator must be compressed at least every 4 hours to provide suction; be sure to empty drainage from pouring spout; keep drainage spout sterile when emptying.

7. Negative pressure wound therapy: a device is used to apply localized negative pressure to the wound to assist in closing the wound.
   a. Measure appropriate size foam to cover the wound.
   b. Apply transparent dressing over foam, sealing the wound.
   c. Secure tubing from the vacuum source to the port on transparent dressing.
   d. Dressing and foam are changed every 24 hours to several days.

8. Wet-to-dry dressings.
   a. Purpose is to trap necrotic or nonviable tissue in the dressing as it dries.
   b. Dressing should be moist when applied and allowed to dry for 4 to 6 hours.
   c. When dressing is changed, the packed dressing should be gently removed along with absorbed
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4. Types of heat application.
   a. Moist heat pack.
   b. Pad that circulates warmed water to distribute dry heat to body parts. Cover the source to protect the skin.
   c. Heat lamp or heat cradle.
   d. Sitz bath.

B. Cold applications.
1. Purposes: to promote vasoconstriction, decrease edema or temperature, stop bleeding, or stop pain by numbing pain receptors.
2. Do not use cold applications on areas of decreased circulation, open wounds, or area treated with radiation therapy.
3. Types of cold applications.
   a. Ice bag, ice collar, cold compress, or cold pack.
   b. Hypothermia blanket.
   c. Always cover the source with a cloth or towel to protect the skin.
4. Reduces edema, if applied immediately after an injury.

Specimen Collection
A. General principles.
1. Use sterile equipment.
2. Use the correct container for each specimen; preservatives, anticoagulants, or chemicals may be required.
3. Always observe standard precautions when obtaining specimens; keep outside of container clean to prevent contamination in transfer to the laboratory.
4. Properly label the specimen. Collect the correct amount at the correct time.

B. Types of specimen (refer to appendixes in chapters listed).
1. Urine (see Chapter 23).
2. Stool (see Chapter 18).
3. Sputum and throat (see Chapter 15).
4. Blood (see Chapter 14).

Vital Signs
A. Normal values (Table 3-2).
B. Assessment.
   1. Respirations.
      a. Evaluate an infant’s respiratory pattern before stimulating him or her.
      b. Check thoracic cavity for symmetrical excursion.
      c. Breath sounds: evaluate with adult client in sitting position.
      d. Compare breath sounds on each side of client’s chest.
   2. Pulse.
      a. Irregular radial pulse, weak volume, or low rate should be assessed by taking an apical pulse for a full minute.
      b. Apical pulse: auscultated at the fifth intercostal space at the midclavicular line (point of maximal impulse).
      c. Apical-radial pulse: determined by two people counting both the apical and radial pulses at the same time; provides the pulse deficit, which is the difference in the two values.

ALERT  Obtain specimens for diagnostic testing (e.g., wound cultures, stool, urine).

ALERT  Obtain blood specimens peripherally or through a central line.

ALERT  Do not use hot or cold applications with conditions of impaired circulation (e.g., peripheral vascular disease or diabetes).

ALERT  Assess client’s vital signs. Intervene when vital signs are abnormal (hypotension, hypertension, bradycardia, etc). Be able to compare client’s current vital signs with baseline and know the range of normal for vital signs at different age levels. This is critical in identifying abnormal findings, as well as in evaluating response to treatment and specific criteria for medication administration.
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Table 3-2  NORMAL VITAL SIGNS

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Respiration</th>
<th>Pulse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neonate</td>
<td>30-60 breaths/min</td>
<td>120-140 beats/min</td>
</tr>
<tr>
<td>Child 2 to 4 years</td>
<td>24-32 breaths/min</td>
<td>90-130 beats/min</td>
</tr>
<tr>
<td>Child 6 to 10 years</td>
<td>15-26 breaths/min</td>
<td>70-110 beats/min</td>
</tr>
<tr>
<td>Adult</td>
<td>12-18 breaths/min</td>
<td>60-100 beats/min</td>
</tr>
<tr>
<td></td>
<td>100/60-120/80 mm Hg</td>
<td></td>
</tr>
</tbody>
</table>

d. Weak peripheral pulse: evaluate by means of Doppler ultrasonography.
e. Check apical pulse in neonates, infants, and small children.
3. Temperature.
a. Temperature affected by mouth-breathing and temperature of oral intake.
b. Oral temperature is taken unless otherwise indicated.
4. Blood pressure assessment (Box 3-3).

Box 3-3  BLOOD PRESSURE ASSESSMENT

**Procedure:** Client should be in a sitting position without legs crossed. The inflatable cuff is wrapped snugly around the upper half of the arm. The cuff is inflated 20 to 30 mm Hg above the point at which radial pulsation disappears. As the cuff is deflated, a sound is produced within the brachial artery just below the cuff and is audible with the stethoscope. The sounds (Korotkoff sounds) coincide with each pulse beat. Usually, when the cuff pressure is below diastolic, the sounds will cease or become muffled.

**NURSING PRIORITY** It is important to ascertain and record when the sounds become muffled. If there is any doubt, the blood pressure (BP) may be recorded as a tripartite pressure (120/70/50 mm Hg), implying that the sound became muffled at 70 mm Hg and disappeared at 50 mm Hg.

**Nursing Implications:** Size of cuff should be 20% wider than the diameter of the limb. If the cuff is too large (e.g., on a child's arm), the BP obtained will be substantially lower than the true BP. If the cuff is too small (e.g., on an obese person's arm), the BP obtained will be higher than the true BP. The difference in BP between the right and left arms is normally 5 to 10 mm Hg.

**Goal:** To prevent complications.
A. Cardiovascular system.
1. Assessment of physical effects.
   a. Orthostatic hypotension.
   b. Decrease in cardiac reserve.
   c. Venous stasis.
   d. Formation of thrombi.
   e. Increase in cardiac workload.
2. Nursing implications.
   a. Position body to decrease venous stasis.
   b. Change position frequently.
   c. Passive and active ROM.
   d. Begin activity gradually; allow client to sit before standing.
   e. Have client use bedside commode when possible to decrease effects of Valsalva maneuver.
B. Respiratory system.
1. Assessment of physical effects.
   a. Decrease in thoracic excursion.
   b. Decrease in ability to mobilize secretions.
   c. Decrease in oxygen/carbon dioxide exchange.
   d. Increase in pulmonary infections.
2. Nursing implications.
   a. Elevate head of bed.
   b. Maintain adequate hydration: 2400-3000 mL/day if tolerated.
   c. Have client turn, cough, and breathe deeply at regular intervals (every 2 hours while awake).
   d. Promote increase in activity as soon as possible: have client sit up in chair at bedside.
   e. Evaluate pulmonary secretions for infection.

**IMMOBILITY**

Immobility is the therapeutic or unavoidable restriction of a client’s physical activity.
A. Causes of restricted movement.
1. Spinal cord injury or neurologic damage.
2. Presence of severe pain (e.g., from arthritis, surgery, or injury).
B. Therapeutic reasons for restricted movement.
1. To decrease pain.
2. To immobilize a wound.
3. To limit exercise and activity for clients with cardiac problems.
4. To reduce effects of gravity on the vascular bed and reduce edema formation.

**Adverse Physical Effects of Immobility**

**ALERT** Apply knowledge of client’s pathophysiology when measuring and assessing vital signs.

**ALERT** Identify complications of immobility. Provide measures to prevent complications of immobility.
C. Urinary system.
   1. Assessment of physical effects.
      a. Urinary stasis.
      b. Increased calcium level, stasis, and infection precipitate stone formation.
      c. Urinary tract infections.
   2. Nursing implications.
      a. Have client sit or stand to void if possible.
      b. Establish/maintain voiding schedule.
D. Musculoskeletal system.
   1. Assessment of physical effects.
      b. Muscle weakness and atrophy.
      c. Loss of motion in joints leads to fibrosis and contractures.
   2. Nursing implications.
      a. Perform ROM exercises.
      b. Active contraction and relaxation of large muscles.
      c. Position body to maintain proper alignment.
      d. Encourage daily weight-bearing exercise when possible.
E. Gastrointestinal system.
   1. Assessment of physical effects.
      ALERT Identify factors that interfere with elimination.
      a. Anorexia.
      b. Ineffective movement of feces through colon: constipation and fecal impaction.
      c. Diarrhea caused by impaction.
   2. Nursing implications.
      a. Establish bowel program: every other day or three times a week.
      b. Encourage diet with adequate protein, fiber, and liquids.
      c. Check for impaction.
F. Integumentary system.
   1. Assessment of physical effects.
      ALERT Identify client with potential for skin breakdown; maintain client skin integrity; manage client with impaired skin integrity.
      a. Decrease in tissue perfusion leading to decubitus ulcer.
      b. Decrease in sensation in area of increased pressure.
   2. Nursing implications.
      a. Maintain cleanliness.
      b. Promote circulation through frequent repositioning.
      c. Protect bony prominences when turning.
      d. Prevent creation of pressure areas by tight clothing, cast, braces.
      e. Perform frequent visual inspection of pressure areas.

Adverse Psychologic Effects of Immobility
A. Assessment of psychologic effects.
   1. Depression, increased anxiety.
   2. Feelings of helplessness.
   3. Intellectual and sensory deprivation.
   4. Change in body image.
B. Nursing implications.
   1. Maintain sensory stimulation.
   2. Encourage family, social contact.
   3. Promote reality orientation.
   4. Encourage family to bring items from home such as pictures, bed clothes, toys.
   5. Encourage verbalization of feelings.
   6. Provide opportunities for client to make choices and participate in care.
   7. Arrive counseling as appropriate: vocational, sexual, financial.

ALERT Evaluate client’s response to immobility and response to interventions to prevent complications of immobility.

PAIN
• Clients have the right to appropriate assessment and pain management.
• Physiologic and behavioral signs of pain should not replace the client’s ability to report the pain unless client is unable to communicate.
• Pain can exist even when there is no identifiable physical cause; it is a totally subjective personal experience.
• Different clients experience different pain levels, even in response to same type of pain stimulus.
• Pain is an early warning system; its presence triggers awareness that something is wrong in the body.
• Unrelieved pain causes adverse physical and psychologic response.

ALERT Plan measures to care for clients with anticipated or actual alterations in comfort.

Classification of Pain
• Acute pain: has an identifiable cause; is protective; short, predictable duration (lasting less than 3 months); immediate onset; reversible or controllable with treatment. Most often has an identifiable source such as postoperative pain that disappears as the wound heals.
• Chronic pain: lasts more than 6 months; continual or persistent and recurrent. Pain may not go away; periods of decreased and increased pain. Origin of pain may not be known.
• Nociceptive pain: somatic pain affecting skeletal muscles, joints, and ligaments; generally diffuse and less localized; visceral pain arises from internal organs and may be caused by a tumor or obstruction.
• Neuropathic pain: caused by damage or peripheral nerves or to the CNS; can result from trauma, metabolic disease, or neurologic disease.
• Referred pain: pain that does not occur at the point of injury. For example, pain related to myocardial ischemia may be felt in the left arm or shoulder; cholecystitis may be felt as shoulder pain.
• Phantom pain: pain that follows the amputation of a body part; may be described as throbbing, cramping, or burning in the body part amputated.

**Pain Characteristics** (Figure 3-6, Box 3-4)

**ALERT** Assess and document client’s discomfort and pain levels.

A. Pattern of pain.
   1. Pain onset and duration: when it started, precipitating causes, and how long it lasts.
   2. Breakthrough pain: transient; may be moderate to severe and occurs beyond current analgesic treatment; usually rapid onset and very intense.

B. Area of pain.
   1. Ask the client to identify the pain site.
   2. Pain may be referred from the precipitating site to another location—shoulder pain with cholecystitis, left arm pain with MI.
   3. Sciatica pain follows a nerve pathway of the sciatic nerve, generally down the back of the thigh and inside the leg.

C. Intensity of pain: use a pain scale to help the client communicate the pain intensity.

<table>
<thead>
<tr>
<th>Box 3-4 MNEMONIC TO EVALUATE PAIN</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>P</strong>: Provoking or palliative factors</td>
</tr>
<tr>
<td><strong>Q</strong>: Quality</td>
</tr>
<tr>
<td><strong>R</strong>: Region</td>
</tr>
<tr>
<td><strong>S</strong>: Severity</td>
</tr>
<tr>
<td><strong>T</strong>: Timing</td>
</tr>
</tbody>
</table>

**PHYSIOLOGIC FACTORS**
- Organic origin
- Integrity of nervous system, including endogenous opioids
- Concomitant physical influences (stress, fatigue)
- Age
- Type of pain
- Location
- Intensity
- Duration
- Frequency
- Quality
- Threshold
- Tolerance
- Genetics

**PSYCHOSOCIAL INFLUENCES**
- Family and occupational roles
- Personal beliefs
- Spiritual belief system
- Cultural/societal influences
- Sexual identity and stereotypes
- Demographic factors

**COGNITIVE**
- Past experience
- Meaning of pain experience
- Attention paid to sensation/distraction
- Expectations
- Coping mechanisms
- Knowledge
- Values/attitudes
- Communication skills

**FIGURE 3-6** Considerations of the pain experience. (From Black J, Hawks J: Medical-surgical nursing: clinical management for positive outcome, ed 7, Philadelphia, 2005, Saunders.)
B. Assess attitudes and beliefs that may affect effective treatment of the pain. Some clients may believe that taking pain medications will cause “addiction”; other clients may believe that complaining of pain is a sign of weakness.

C. Avoid stereotyping clients by assuming that members of a specific cultural group will or will not exhibit more or less pain.

D. Nursing considerations of pain control associated with a client’s culture.
   1. Identify what the pain means to the client; for example, a woman in labor will perceive the pain differently than a client who experiences pain as an indication of advanced disease.
   2. Identify cultural implications regarding how a client responds to or expresses pain; some clients moan and complain loudly; others may be very quiet and stoic.
   3. Individualize pain control based on client’s response to pain.
   4. Establish a communication method for the client to express the level of pain and effectiveness of pain control (e.g., pain rating scale, FACES scale, pictures, images).
   5. Expression of pain is subjective; accept client’s perception of pain and expression of pain and facilitate nursing care to meet client’s cultural needs when providing pain control.

**ALERT** Assess importance of client culture/ethnicity when planning/providing/evaluating care.

**Non-Drug Pain Relief Measures**

A. Relaxation techniques.

**NURSING PRIORITY** Low levels of anxiety or pain are easier to reduce or control than higher levels. Consequently, pain relief measures should be used before pain becomes severe.

1. Relaxed muscles result in a decreased pain level.
2. Relaxation response requires quiet environment, comfortable position, and a focus of concentration.
3. Identify relaxation method that is most effective for client—music, imagery meditation for progressive muscle relaxation.
4. Meditation: focuses attention away from pain.


B. Hypnosis: produces a state of altered consciousness characterized by extreme responsiveness to suggestion.

C. Biofeedback: provides client with information about changes in bodily functions of which he or she is usually unaware (e.g., blood pressure, pulse).

D. Cutaneous stimulation: alleviates pain through stimulation of skin.
   1. Use of pressure, massage, bathing, and heat or cold therapy to promote relaxation.
      a. Applied to different areas of the body.
      b. Contralateral stimulation: when stimulation of the skin near the pain site is ineffective, the side opposite the painful area is stimulated for pain relief.

E. Therapeutic touch: holistic approach in which touch is used to realign energy fields (laying on of hands).

F. Transcutaneous electric nerve stimulation (TENS).
   1. Delivers an electrical current through electrodes applied to the skin surface of the painful region or to a peripheral nerve.
   2. Instruct client to adjust TENS unit intensity until it creates a pleasant sensation and relieves the pain.

G. Acupuncture: most common complementary therapy.
   1. Requires insertion of thin metal needles into the body at designated points to relieve pain.
   2. Is effective in pain management, as well as nausea and vomiting associated with postoperative and chemotherapy.
   3. Encourage client to review the credentials of the practitioner, who should have a master's degree in oriental medicine and be registered to practice in the state.

H. Nursing intervention for pain relief (nonpharmacologic).
   1. Change positions frequently and support body parts.
   2. Encourage early ambulation after surgery.
   3. Elevate swollen body parts.
   4. Check drainage tubes to ensure that they are not stretched, kinked, or pulled.

**Medications for Pain Relief**

A. Nurse-administered as-needed (PRN) analgesic medications (see Appendixes 3-2 and 3-3).

**NURSING PRIORITY** Plan pain medication administration schedule. Use a preventive approach to pain relief by giving analgesics before the pain occurs—or at least before it reaches severe intensity.

1. Steps in administering PRN medications.
   a. Assess client to determine source, quality, and characteristics of pain.
   b. Analyze nursing assessment data; determine most appropriate nursing intervention.
   c. Check client’s chart.
      (1) Determine the last medication received and how it was administered.
      (2) The time administered.
      (3) Client’s response to previous medication.
   d. Select appropriate medication.
      (1) Use nonopioid analgesics for mild to moderate pain.
      (2) Avoid combinations of opioids for older adults.
(3) IV medications act more rapidly for acute pain relief.
(4) Avoid IM injections in older adults.
(5) Sustained-release and extended-release oral medications work well for chronic pain management and will provide pain management over a longer period of time.

e. Decrease stimuli in room; determine other factors influencing discomfort.

f. Assess client’s response to pain intervention at regular intervals and document nursing actions.

ALERT Determine client’s need for PRN medications; review pertinent data before medication administration (vital signs, lab results, allergies, potential interactions); evaluate appropriateness/accuracy of medication order for client. Provide pharmacologic pain management appropriate for age and diagnosis; evaluate and document client’s use of and response to pain medication.

2. Types of medications.
   a. Narcotic analgesics (opioids) are used for relieving severe pain (see Appendix 3-2).
   b. Nonnarcotic analgesics act at peripheral sites to reduce pain (see Appendix 3-3).

B. Patient-controlled analgesia (PCA).
   1. Client controls pain by delivery of IV infusion of medication through a PCA pump.

OLDER ADULT PRIORITY Analgesics tend to last longer in older adults; there is an increased risk for side effects and toxic effects. Recommendation from the American Geriatric Society is to “start low” and “go slow”—but provide adequate pain relief for older adults.

2. Confused clients are not good candidates; surgical clients should be oriented to PCA procedure before surgery.

3. PCA is effective in pediatrics; ability to comprehend the procedure is more important than the age.

4. PCA pump procedure.
   a. Pain should be under control when PCA is initiated.
   b. Delivers a specific amount of medication as controlled by client.
   c. Parameters for bolus dose of medication should be available for episodes of increased pain (dressing changes, chest tube insertion, etc.) as well as for the client who goes to sleep and awakens with severe pain unrelieved by PCA.
   d. Dose interval is usually 6 to 8 minutes with lockout time of 1 hour.
   e. Only one dose can be administered over 6 to 8 minutes for a lockout time of 10 mg in 1 hour. Even though the client may push the button several times in succession, only 1 dose will be given every 6 to 8 minutes and a total of only 10 mg can be give in 1 hour.

f. Example: PCA morphine 1 mg/1 mL, 1.5 mg of morphine every 8 minutes with a lockout of 10 mg over 1 hour.

g. Check the PCA pump every 4 hours for correct settings and to determine how much pain medication is being used.

h. Instruct any family member or significant others not to administer medication (document that you have done this). Explain that PCA works on the principle that when the client is uncomfortable, he or she will use the PCA.

NURSING PRIORITY PCA pumps are part of the High-Alert Medications and Patient Safety protocols from The Joint Commission. PCA protocols include double-checks of the drug, pump setting, and dosage. Watch the decimals! An order for morphine 0.5 mg could be mistakenly entered in the PCA pump as 5 mg.

5. Advantages of PCA.
   a. More effective pain control.
   b. Decreased client anxiety (no waiting for medication).
   c. Increased client independence.
   d. Decreased level of sedation.
   e. Clients tend to use fewer narcotics.

C. Patient-controlled epidural analgesia (PCEA).
   1. Injection of medication through a small catheter into the epidural space of the spinal cord; common pain medications are morphine and fentanyl.

   a. Relieves pain without causing sympathetic and motor nerve block.
   b. May be an intermittent (patient- or nurse-controlled) or constant infusion.
   c. Client may experience numbness, tingling and coolness when analgesia is initiated.
   d. Requires the use of High-Alert Medications.

2. Complications.
   a. Opioid medications: nausea and vomiting, constipation, respiratory depression, and pruritus.
   b. Urinary retention may occur: palpate suprapubic area; client may require urinary catheterization.
   c. Catheter dislodgement and migration: client begins to experience pain even with additional medication; catheter should be securely taped and labeled.
   d. Lower extremity motor or sensory deficits can be the result of a hematoma or infection; notify the health care provider.

3. Monitor every 15 minutes for initial response; then every hour after stabilization.

D. Perineural local anesthetic infusion.
   1. Utilizes an infusion pump, which provides local anesthetic (bupivacaine or ropivacaine) to a nerve root or a group of nerves.

   a. Catheter or tubing may be placed in a surgical wound and positioned near the nerve root; catheter is usually not sutured.
b. May be continuous or on demand; usually left in place for about 48 hours.
2. May be used in conjunction with oral analgesics.

**Barriers to Pain Management**

A. Addiction: the need to take pain medication for reason other than therapeutic relief of pain.
B. Physical dependence: the occurrence of withdrawal syndrome when the medication is abruptly decreased. When opioid medications are no longer needed for pain relief, a tapering schedule should be initiated to decrease the symptoms of the withdrawal syndrome.
C. Tolerance: characterized by the need to increase the medication to achieve the same reduction of pain. If opioid tolerance is suspected, use of another type of opioid is recommended.

**Palliative Pain Relief**

A. The prevention or relief of pain when a cure for the client's illness is not feasible.

**Box 3-6 OLDER ADULT CARE FOCUS**

- Older clients at increased risk for developing postoperative complications because of the decreased response of the immune system (which delays healing) and the increased incidence of chronic disease.
  - Cardiovascular: decreased cardiac output and peripheral circulation, along with arrhythmias and increased incidence of arteriosclerosis and atherosclerosis, can lead to hypotension or hypertension, hyperthermia, and cardiac problems.
  - Respiratory: decreased vital capacity, reduced oxygenation, and decreased cough reflex can lead to an increased risk for atelectasis, pneumonia, and aspiration.
  - Renal: decreased renal excretion of wastes and renal blood flow along with increased incidence of nocturia can lead to fluid overload, dehydration, and electrolyte imbalance.
  - Musculoskeletal: increased incidence of arthritis and osteoporosis can lead to trauma on bones and joints with positioning in the operating room if pressure points and limbs are not padded.
  - Sensory: decreased visual acuity and reaction time can lead to safety problems associated with falls and injuries.

The older client may require repeated explanation, clarification, and positive reassurance. Older clients often have a poor nutritional status, which can directly influence healing and postoperative recovery.

**PERIOPERATIVE CARE**

**Preoperative Care**

**ALERT** Determine whether client is prepared for a procedure or surgery.

A. Client profile.
1. Age: older adult clients are more likely to have chronic health problems, as well as age-related factors; infants have more difficulty maintaining homeostasis than adults and children (Box 3-6).
2. Obesity predisposes client to postoperative complications of infection and wound dehiscence.
3. Preoperative interview.
   a. Chronic health problems and previous surgical procedures and experiences.
   b. Past and current drug therapy, including over-the-counter medications (vitamins, herbal remedies, homeopathic medications).

**Older Adult Priority** Analgesics tend to last longer in older adults; this increases the risk for side effects and toxic effects.

**Older Adult Priority** Older clients have less physiologic reserve (the ability of an organ to return to normal after a disturbance in its equilibrium) than younger clients.


**PRIORITY** Older clients have less physiologic reserve (the ability of an organ to return to normal after a disturbance in its equilibrium) than younger clients.
c. History of drug allergies and dietary restrictions.
d. Client’s perception of illness and impending surgery.
e. Discomfort or symptoms client is currently experiencing.
f. Religious affiliation.
g. Family or significant others.

4. Psychosocial needs: fear of the unknown is the primary cause of preoperative anxiety.

1 Older Adult Priority The older client may require repeated explanation, clarification, and positive reassurance.

5. Medications: may predispose client to operative complications.
   b. Antidepressants: monoamine oxidase inhibitors increase hypotensive effects of anesthetic agents.
   c. Tranquilizers: increase the risk for hypotension; may be used to enhance anesthetic agent.
   d. Thiazide diuretics: create electrolyte imbalance, particularly in potassium level.
   e. Steroids: prolonged use impairs the physiologic response of the body to stress and decrease wound healing and decreases the inflammatory response necessary for wound healing.

6. Check results of routine diagnostic laboratory studies.
   a. Complete blood count: serum electrolytes, coagulation studies, serum creatinine, blood urea nitrogen, and fasting glucose.
   b. Urinalysis.
   c. Chest x-ray.
   d. Electrocardiogram for clients over 40 years of age.
   e. Coagulation studies for clients with known problems or to establish a baseline.

B. Preoperative teaching: goal is to decrease the client’s anxiety and prevent postoperative complications.

Alert Provide pre- and/or postoperative education.

1. Preoperative teaching content.
   a. Deep breathing and coughing exercises.
   b. Turning and extremity exercises.
   c. Pain medication administration policy.
   d. Adjunct equipment used for breathing: nebulizer, oxygen mask, spirometer.
   e. Explanation of NPO (nothing by mouth) policy.
   f. Antiemblism stockings and/or pneumatic compression device to decrease venous stasis.

2. Pediatric implications in preoperative teaching.
   a. Plan the teaching content around the child’s developmental level and previous experiences.
   b. Use concrete terms and visual aids.
   c. Plan teaching session at a time in the child’s schedule when he or she will be most receptive to learning.

   d. Use correct terms for body parts and clarify terms with which the child is unfamiliar.
   e. Introduce anxiety-provoking information last (increased anxiety may decrease comprehension).
   f. Use role playing to either explain procedures to the child or to allow the child to do a return demonstration.
   g. Fear of anesthesia is very common in children.
   h. Include the parents in the teaching process.

C. Physical preparation of client.

1. Skin preparation: purpose is to reduce bacteria on the skin (may be done in surgical suite or in the preoperative holding area).
   a. Area of preparation is always longer and wider than area of incision.
   b. Antiseptic soap is used to cleanse area.

   a. Food and fluid restriction: NPO orders may be individualized for each client. Client may be NPO for 6 to 8 hours before surgery or NPO from midnight on the night before surgery. Trend is to allow clear liquids up to 2 hours preoperatively. Always check physician orders and agency policy.
   b. Enemas or cathartics: may be administered the evening before surgery to prevent fecal contamination in the peritoneal cavity.

3. Promote sleep and rest: sleep-aid medication may be given to promote rest (e.g., barbiturate).

4. In older adults, evaluate status of teeth, presence of bridges and dentures; in children, evaluate for presence of loose teeth.

D. Legal implications (see Chapter 4).

1. Each surgical procedure must have the voluntary, informed, and written consent of the client or the person legally responsible for the client.

   Alert Provide written materials in client’s spoken language if possible. Describe components of informed consent (purpose of procedure, risks of procedure). Participate in obtaining informed consent. Ensure that client has given informed consent for treatment.

2. Physician: gives the client a full explanation of the procedure, including complications, risks, and alternatives.

3. Client’s informed consent record (permit) must be signed by the client or guardian. A witness signs to validate this is the client’s signature. The witness is frequently a staff nurse. Depending on facility policy, the surgeon may also be required to sign the consent form.

Nursing Priority Determine that the client understands relevant information before procedure/surgery; do not witness the client’s signature on an informed consent form until you verify that the client has received the relevant information.
4. The signed consent record (permit) is part of the permanent chart record and must accompany the client to the operating room.

**Day of Surgery**

**ALERT** Monitor a client before, during, and after a procedure/surgery.

A. Nursing responsibilities.
1. Routine hygiene care.
2. Vital signs within 1 hour before “on call” to surgery, or per agency policy.
3. Remove jewelry; wedding bands may be taped on finger.
4. Remove contact lenses, fingernail polish, depending on agency policy.
5. Dress client in patient gown.
6. Determine whether dentures and removable bridge work need to be removed before surgery.
7. Continue NPO status.
8. Check client’s identification for two identifiers.
   a. The first identifier should reliably identify the client for whom service or treatment is intended, for example, the client’s name.
   b. The second identifier is used to match the service or treatment to that individual—for example, the client’s hospital identification number.
9. Identify family and significant others who will be waiting for information regarding client’s progress.
10. Check the chart for completeness regarding laboratory reports, consent form, significant client observations, history, and physical exam records.
11. Allow parent to accompany child as far as possible.

B. Preoperative medications (see Appendix 3-4).

**NURSING PRIORITY** Explain to client the purpose of preoperative medications and advise client not to get out of bed. Side rails should be up and the call light within reach.

1. Purpose.
   a. Induce anesthesia rapidly.
   b. Reduce anxiety.
2. Nursing responsibilities.

**NURSING PRIORITY** The operative permit or informed consent record must be signed before the client receives the preoperative medication.

a. Confirm that all consent forms are signed and that the client understands the procedure.
b. Ask client to void before administration of medication.
c. Obtain baseline vital signs.
d. Administer medication 45 minutes to 1 hour before surgery or as ordered.
e. Raise the side rails and instruct the client not to get out of bed.
f. Observe for side effects of medication.

C. The “time out” or protocol for preventing wrong site, wrong procedure, wrong person surgery must occur in the location where the procedure is done. The surgical team are involved in the positive identification of the client, the intended procedure, and the site of the procedure.

**ALERT** Prepare client for surgery or procedure, monitor client before, during and after surgery or procedure; assess client’s response to surgery and/or treatment.

**Anesthesia**

A. General anesthesia.
1. Intravenous anesthesia: used as an induction agent before the inhalation agent is administered.
2. Inhalation anesthesia: used to progress client from stage II to stage III of anesthesia.

B. Regional anesthesia: used to anesthetize one region of the body; client remains awake and alert throughout the procedure.
1. Topical: anesthetizing medication applied to mucous membrane or skin; blocks peripheral nerve endings.
2. Local infiltration: injection of anesthetic agent; only blocks peripheral nerves around area.
3. Peripheral nerve block: anesthetizes individual nerves or nerve plexuses (digital, brachial plexus); does not block the autonomic nerve fiber; medication is injected to block peripheral nerve fibers.
4. Spinal anesthesia: local anesthetics are injected into the subarachnoid space; may be used with almost any type of major procedure performed below the level of the diaphragm.
5. Epidural anesthesia: anesthetic agent is introduced into the epidural space; cerebral spinal fluid cannot be aspirated.

C. Nursing considerations for regional anesthesia (spinal/epidural) (Table 3-3).

D. Conscious sedation: the administration of an IV medication to produce sedation, analgesia, and amnesia.
1. Characteristics.
   a. Client can respond to commands, maintains protective reflexes, and does not need assistance in maintaining an airway.
   b. Amnesia most often occurs after the procedure.
   c. Slurred speech and nystagmus indicate the end of conscious sedation.

**ALERT** Determine that client and family understand relevant information before administration of conscious sedation. Assist with preparing client for conscious sedation. Monitor client physiologic response during and after conscious sedation.
Table 3-3  NURSING CARE OF THE CLIENT UNDERGOING REGIONAL ANESTHESIA

<table>
<thead>
<tr>
<th>Problem</th>
<th>Nursing Interventions</th>
</tr>
</thead>
</table>
| Preparation for procedure    | 1. Explain procedure.  
2. Do preoperative preparation and have surgical client sign consent form.  
3. Assess client for effectiveness as anesthesia is initiated.  
4. Client will remain awake throughout procedure. |
| Hypotension                  | 1. Report BP less than 100 mm Hg systolic or any significant decrease.  
2. Place client flat.  
3. Administer oxygen.  
4. Increase IV rate if client is not prone to heart failure. |
| Respiratory paralysis        | 1. Avoid extreme Trendelenburg position before level of anesthesia is set.  
2. Evaluate client’s respiratory status.  
3. Have ventilatory support equipment available. |
| Nausea and vomiting          | 1. Antiemetics.  
2. Anticipate nausea if client becomes hypotensive.  
3. Suction, or position client to prevent aspiration. |
| Loss of bladder tone         | 1. Evaluate for bladder distention. |
| Trauma to extremities        | 1. Support extremity during movement.  
2. Remove legs from stirrups simultaneously. |
| Headache                     | 1. Ensure adequate hydration before, during, and after procedure.  
2. Maintain recumbent position 6 to 12 hr after procedure.  
3. Administer analgesics. |

BP: Blood pressure.

2. Nursing implications.  
   a. Perform baseline assessment before procedure; implications for care are the same as those for a client receiving general anesthesia.  
   b. Client is assessed continuously; vital signs are recorded every 5 to 15 minutes.  
   c. Monitor level of consciousness; client should not be unconscious, but relaxed and comfortable.  
   d. Client should respond to physical and verbal stimuli; protective airway reflexes should remain intact.  
   e. Potential complications include loss of gag reflex, aspiration, hypoxia, hypercapnia, and cardiopulmonary depression.  
3. Does not require extensive postoperative recovery time.

Immediate Postoperative Recovery

ALERT Provide postoperative care.

A. Admission of client to recovery area.  
   1. Position client to promote patent airway and prevent aspiration.  
   2. Perform baseline assessment.  
      a. Vital signs, quality of respirations, pulse oximetry, pulse rate and rhythm, general skin color.  
      b. Type and amount of fluid infusing.  
      c. Special equipment; status of dressings.  
   3. Determine specifics regarding the operation from the operating room nurse.

B. Nursing management during recovery.  
Goal: To maintain respiratory function.

ALERT Assess client’s response to surgery; evaluate client’s response to postoperative interventions to prevent complications; intervene to prevent aspiration.

1. Client’s overall tolerance of surgery.  
2. Type of surgery performed, type of anesthetic agents used.  
3. Results of procedure: Was the condition corrected?  
4. Any specific complications to watch for.  
5. Status of fluid intake and urinary output.  
6. Common postoperative complications (Table 3-4).

NURSING PRIORITY The client’s respiratory status is a priority concern on admission to the postoperative recovery area and throughout the postoperative recovery period.

1. Leave airway in place until pharyngeal reflex (gag reflex) has returned.  
2. Position client on side (lateral Sims’ position) or on the back with the head turned to the side to prevent aspiration.  
3. Suction excess secretions and prevent aspiration.  
4. Encourage coughing and deep breathing.  
5. Administer humidified oxygen.  
6. Auscultate breath sounds.
### Table 3-4 COMMON POSTOPERATIVE COMPLICATIONS

<table>
<thead>
<tr>
<th>Complication</th>
<th>Signs and Symptoms</th>
<th>Nursing Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atelectasis</td>
<td>Dyspnea, decreased or absent breath sounds over affected area, asymmetrical chest expansion, hypoxia</td>
<td>Prevention: have client turn, cough, and breathe deeply; provide adequate hydration; encourage ambulation. Position client on unaffected side. Maintain humidification, oxygen (see Chapter 15).</td>
</tr>
<tr>
<td>Shock</td>
<td>Decreasing blood pressure, weak pulse, restless, confusion, oliguria</td>
<td>Initiate IV access, keep NPO, maintain bed rest. Position supine with legs elevated and knees straight. Monitor ventilation and vital signs frequently (see Chapter 16).</td>
</tr>
<tr>
<td>Wound infection</td>
<td>Poor wound healing, redness, tenderness, fever, tachycardia, leukocytosis, purulent drainage</td>
<td>Prevention: identify high-risk clients; maintain sterile technique with dressing changes. Culture incision to determine organism. Evaluate progress and prevent spread of infection.</td>
</tr>
<tr>
<td>Wound dehiscence</td>
<td>Unintentional opening of the surgical incision</td>
<td>Evaluate for hemorrhage; use measures to prevent further pressure at incision site.</td>
</tr>
<tr>
<td>Wound evisceration</td>
<td>Protrusion of a loop bowel through the surgical wound</td>
<td>Cover bowel with sterile saline solution–soaked dressing. Do not attempt to replace loop of bowel. Notify physician; client will most likely return to surgery for further exploration.</td>
</tr>
<tr>
<td>Urinary retention</td>
<td>Inability to void after surgery; bladder may be palpable; voiding small amounts, dribbling</td>
<td>Determine preoperative risks: medications, length of surgery, history of prostate problems. Determine amount of fluid intake and when to anticipate client to void—generally within 8 hr. Palpate suprapubic area, run tap water, provide privacy. Catheterize if necessary.</td>
</tr>
<tr>
<td>Gastric dilatation, paralytic ileus</td>
<td>Nausea, vomiting, abdominal distension, decreased bowel sounds</td>
<td>Prevention: Older adult clients are at increased risk; encourage activity as soon as possible; maintain nasogastric tube suction and NPO status; if NG tube is not present, may begin early feeding of clear liquids to increase intestinal motility; maintain IVs with hydrating solution. See Chapter 18.</td>
</tr>
</tbody>
</table>

**Goal:** To maintain cardiovascular stability.

**ALERT** Plan and implement interventions to prevent complications after surgery. Intervene to manage potential circulatory complications; monitor for signs of bleeding; intervene to manage potential circulatory complications (hemorrhage, embolus, shock).

1. Check vital signs every 15 minutes until condition is stable.
2. Report blood pressure that is continually dropping 5 to 10 mm Hg with each reading.
3. Report increasing consistent bradycardia or tachycardia.
4. Evaluate quality of pulse and presence of dysrhythmia.
5. Evaluate adequacy of cardiac output and tissue perfusion.

**Goal:** To maintain adequate fluid status.

**NURSING PRIORITY** Antidiuretic hormone secretion is increased in the immediate postoperative period. Administer fluids with caution; it is easy to cause fluid overload in a client.

1. Evaluate blood loss in surgery and response to fluid replacement.
2. Maintain rate of IV infusion; maintain I&O record.
3. Monitor urine output and possible bladder distention.
4. Evaluate hydration and electrolyte status.
5. Observe amount and character of drainage on dressings or drainage in collecting containers.
6. Assess amount and character of gastric drainage if nasogastric tube is in place.
7. Evaluate amount and characteristics of any emesis.
Goal: To maintain respiratory function.
1. Have client turn, cough, and breathe deeply every 2 hours.
2. Use incentive spirometry to promote deep breathing.
3. Administer nebulizer treatment and bronchodilator.
4. Maintain adequate hydration to keep mucus secretions thin and easily mobilized.
5. Encourage deep breathing with ambulation.

Goal: To maintain adequate nutrition and elimination.
1. Assess for return of bowel sounds, normal peristalsis, and passage of flatus.
2. Assess client with a nasogastric tube for return of peristalsis.
3. Assess client's tolerance of oral fluids; usually begin with clear liquids.
4. Encourage intake of fluids, unless contraindicated.
5. Progress diet as client's condition and appetite indicate or as ordered.
6. Record bowel movements; normal bowel function should return on the second or third postoperative day (provided that the client is eating).
7. Assess urinary output.
   a. Client should void 8 to 10 hours after surgery.
   b. Assess urine output; should be at least 30 mL/hr.
   c. Promote voiding by allowing client to stand or use bedside commode.
   d. Avoid catheterization if possible.

Goal: To maintain fluid and electrolyte balance.
1. Assess for adequate hydration.
   a. Moist mucous membranes.
   b. Adequate urine output with normal urine specific gravity.
   c. Good skin turgor.
2. Assess lab reports of serum electrolytes.
3. Assess character and amount of gastric drainage through the nasogastric tube.
4. Assess urine output as it correlates with fluid intake; maintain good intake and output records.
5. Evaluate lab data for indications of decreased renal function.

Goal: To promote comfort.
1. Determine nonpharmacologic pain relief measures.
2. Administer analgesics and or monitor patient controlled analgesia.
## Appendix 3-1  POSITIONING AND BODY MECHANICS

<table>
<thead>
<tr>
<th>POSITION</th>
<th>PLACEMENT</th>
<th>USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fowler’s</td>
<td>Head of bed at 45- to 60-degree angle;</td>
<td>The height may be determined by client preference or tolerance; frequently used for client with respiratory compromise.</td>
</tr>
<tr>
<td></td>
<td>hips flexed</td>
<td>Cardiac, respiratory, neurosurgical conditions.</td>
</tr>
<tr>
<td>Semi-Fowler’s</td>
<td>Head of bed at 30- to 45-degree angle;</td>
<td>Postoperative, gastrointestinal conditions.</td>
</tr>
<tr>
<td></td>
<td>hips flexed</td>
<td>Thoracic percussion, vibration, and drainage procedure. Compromises respiratory function; client should not be left in position for extended time.</td>
</tr>
<tr>
<td>Low Fowler’s</td>
<td>Head of bed at 15- to 30-degree angle;</td>
<td>May be used for client in shock: promotes movement of fluids from lower extremities into circulation. Minimizes respiratory compromise.</td>
</tr>
<tr>
<td></td>
<td>hips may or may not be flexed</td>
<td>For client comfort; increases uterine and renal perfusion in pregnancy and prevents supine vena cava syndrome during labor.</td>
</tr>
<tr>
<td>Trendelenburg</td>
<td>Head of bed lowered and foot raised; knee</td>
<td>Prevents pressure ulcer; used for comfort.</td>
</tr>
<tr>
<td></td>
<td>gatch straight</td>
<td></td>
</tr>
<tr>
<td>Modified Trendelenburg</td>
<td>Head of bed of slightly elevated; legs</td>
<td>For examination of female reproductive tract and rectum, cystoscopy, and surgical procedures.</td>
</tr>
<tr>
<td></td>
<td>elevated about 20 degrees; knees should be</td>
<td>To promote drainage after tonsillectomy; to prevent contractures in clients with above-the-knee amputation, to protect client with imperforate anus, or spina bifida.</td>
</tr>
<tr>
<td></td>
<td>straight</td>
<td></td>
</tr>
<tr>
<td>Lateral (side-lying)</td>
<td>Head of bed lowered; pillows under arm and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>legs and behind back; flex knee of anterior</td>
<td></td>
</tr>
<tr>
<td></td>
<td>side</td>
<td></td>
</tr>
<tr>
<td>Semi-prone (Sims’)</td>
<td>Head of bed lowered; client placed on side</td>
<td></td>
</tr>
<tr>
<td></td>
<td>with dependent shoulder lifted out and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>lying partially on abdomen; place pillow</td>
<td></td>
</tr>
<tr>
<td></td>
<td>under flexed arm and under upper flexed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>knees</td>
<td></td>
</tr>
<tr>
<td>Lithotomy</td>
<td>On back with thigh flexed against abdomen and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>legs supported by stirrups</td>
<td></td>
</tr>
<tr>
<td>Prone</td>
<td>Head of bed flat, client on abdomen, head</td>
<td></td>
</tr>
<tr>
<td></td>
<td>turned to side</td>
<td></td>
</tr>
<tr>
<td>Supine</td>
<td>Bed in flat position, small pillow under head</td>
<td></td>
</tr>
</tbody>
</table>

**ALERT**  Position client to prevent complications after tests, treatments, or procedures.

**Body Mechanics—Prevention of Injury**
- Use lift equipment and ask for adequate assistance.
- Manual lifting of a client should be avoided. If it is necessary to manually lift most or all of the client’s weight, obtain adequate assistance or use safe client handling equipment.
- Ergonomics of lifting:
  1. Avoid twisting; keep your head and neck aligned with your spine.
  2. Place feet wide apart for good base of support; knees should be flexed.
  3. Position yourself close to the bed or close to the client.
  4. Use arms and legs to assist in lifting client, not your back.
- Use pull sheet or slide board to move client to side of bed and/or to move up in bed.

**KEY POINTS: Logrolling the Client**
- Spinal immobilization—use a team approach.
- Maintain proper alignment on head and back areas while turning.
- Before moving client, place a pillow between client’s knees.
- Move client in one coordinated movement, using a turn/lift sheet.

**KEY POINTS: Assisting the Client to Move Up in Bed**
- Use a draw sheet or a lift sheet.
- Never pull a client up in bed by his arms or by putting pressure under his arms.

- Lower the head of the bed so that it is flat or as low as the client can tolerate; raise the bed frame to a position that does not require leaning.
- If more than one person is needed for assistance, obtain a lifting device.
- Determine the client’s strong side and have him or her assist with the move.
- Instruct the client to bend legs, put feet flat on bed, and push.
- Move client to the side of the bed (bed wheels locked) closest to the edge where the client will be getting up.
- Assist client out of bed on his strongest side.
- Raise head of bed to assist client in pivoting to the side of the bed.
- Move client to edge of bed and place hands under his legs and shift his weight forward, pivot his body so he is sitting position and his feet are flat on the floor.
- Have client reach across chair and grasp arm.
- Stabilize client by positioning your foot at the outside edge of client’s foot.
Appendix 3-2  ANALGESICS

**General Nursing Implications**
— Assess pain parameters, blood pressure, pulse, and respiratory status before and periodically after administration.
— Administer before pain is severe for better analgesic effect.
— Elderly or debilitated clients may require decreased dosage.

### MEDICATIONS  SIDE EFFECTS  NURSING IMPLICATIONS

<table>
<thead>
<tr>
<th>Narcotic Analgesics</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Respiratory depression</strong></td>
<td><strong>Orthostatic hypotension</strong></td>
<td><strong>NURSING PRIORITY</strong> Advise clients using fentanyl patches not to expose patch to heat (hot tub, heating pad) since this will accelerate the release of the fentanyl.</td>
</tr>
<tr>
<td><strong>Sedation, dizziness, lightheadedness, dysphoria</strong></td>
<td><strong>Constipation</strong></td>
<td><strong>OLDER ADULT PRIORITY</strong> Prevent problems with constipation.</td>
</tr>
<tr>
<td><strong>Tolerance, physical and psychological dependence</strong></td>
<td><strong>May decrease awareness of bladder stimuli</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Seizure with Demerol</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Strong Opioid Analgesics</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Morphine sulfate</strong></td>
<td><strong>Respiratory depression</strong></td>
<td><strong>NURSING PRIORITY</strong> Morphine is most commonly used for PCA.</td>
</tr>
<tr>
<td><strong>Meperidine (Demerol)</strong></td>
<td><strong>Orthostatic hypotension</strong></td>
<td><strong>2. Demerol: Not commonly used for control of chronic pain due to neurotoxic effect; use with caution in children and older adult clients because of increased risk for toxicity and seizures.</strong></td>
</tr>
<tr>
<td><strong>Fentanyl (Fentanyl, Sublimaze, Duragesic)</strong></td>
<td><strong>Sedation, dizziness, lightheadedness, dysphoria</strong></td>
<td><strong>3. Morphine is not commonly used following biliary tract surgery.</strong></td>
</tr>
<tr>
<td><strong>Hydromorphone (Dilaudid)</strong></td>
<td><strong>Constipation</strong></td>
<td><strong>4. All opioids: Use with caution in clients who have respiratory compromise.</strong></td>
</tr>
<tr>
<td><strong>Oxycodone (Percodan, combination with ibuprofen; Percocet, Tylox combinations with acetaminophen; OxyContin)</strong></td>
<td><strong>May decrease awareness of bladder stimuli</strong></td>
<td><strong>5. Pediatric implications: Medication dosage is calculated according to body surface area and weight.</strong></td>
</tr>
<tr>
<td><strong>Hydrocodone (Vicodin, Lorcet combinations with acetaminophen; Vicoprofen, combination with ibuprofen)</strong></td>
<td></td>
<td><strong>6. Assess voiding and encourage client to void every 4 hours.</strong></td>
</tr>
<tr>
<td><strong>Propoxyphene (Darvon, Darvocet)</strong></td>
<td></td>
<td><strong>7. Requires documentation as indicated by Controlled Substance Act.</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Moderate to Strong Opioid Analgesics</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Codeine</strong></td>
<td><strong>Sedation, euphoria, respiratory depression, constipation, urinary retention, cough suppression</strong></td>
<td><strong>1. Usually administered by mouth.</strong></td>
</tr>
<tr>
<td><strong>Hydromorphone (Dilaudid)</strong></td>
<td></td>
<td><strong>2. Codeine is an extremely effective cough suppressant.</strong></td>
</tr>
<tr>
<td><strong>Oxycodone (Percodan, combination with ibuprofen; Percocet, Tylox combinations with acetaminophen; OxyContin)</strong></td>
<td></td>
<td><strong>3. Do not confuse hydromorphone with morphine.</strong></td>
</tr>
<tr>
<td><strong>Propoxyphene (Darvon, Darvocet)</strong></td>
<td></td>
<td><strong>4. Warn client to avoid activities requiring alertness until effects of drug are known.</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>5. Medications are often in various strength combinations with acetaminophen and/or ibuprofen. Advise client not to take additional acetaminophen or ibuprofen.</strong></td>
</tr>
</tbody>
</table>

---

**Tips for Moving Clients**
- Use a turn sheet to provide more support for client.
- Encourage client to assist in move by using the side rails and strong side of his or her body.
- Pivot client into chair using your leg muscles instead of your back muscles.
- Assist client to move back and up in the chair for better position.

**Alert** Maintain correct body alignment.

**Tips for Moving Clients**
- No-lift policy: use of equipment and assistance whenever a client requires most of his weight to be supported or lifted by someone.
- Observe additional assistance and/or use lift equipment to help in moving the client.
- Use trochanter roll made from bath blankets to align the client’s hips to prevent external rotation.
- Use foam bolsters to maintain side-lying positions.
- Use folded towels, blankets, or small pillows to position client’s hands and arms to prevent dependent edema.

---

**Chapter 3**  Concepts of Nursing Practice

**Appendix 3-2**  ANALGESICS

**General Nursing Implications**
— Assess pain parameters, blood pressure, pulse, and respiratory status before and periodically after administration.
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<td></td>
<td><strong>May decrease awareness of bladder stimuli</strong></td>
<td><strong>5. Pediatric implications: Medication dosage is calculated according to body surface area and weight.</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>6. Assess voiding and encourage client to void every 4 hours.</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>7. Requires documentation as indicated by Controlled Substance Act.</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>8. Instruct client to change position slowly to minimize orthostatic hypotension.</strong></td>
</tr>
</tbody>
</table>

---

**Tips for Moving Clients**
- Use a turn sheet to provide more support for client.
- Encourage client to assist in move by using the side rails and strong side of his or her body.
- Pivot client into chair using your leg muscles instead of your back muscles.
- Assist client to move back and up in the chair for better position.

**Alert** Maintain correct body alignment.

**Tips for Moving Clients**
- No-lift policy: use of equipment and assistance whenever a client requires most of his weight to be supported or lifted by someone.
- Observe additional assistance and/or use lift equipment to help in moving the client.
- Use trochanter roll made from bath blankets to align the client’s hips to prevent external rotation.
- Use foam bolsters to maintain side-lying positions.
- Use folded towels, blankets, or small pillows to position client’s hands and arms to prevent dependent edema.
**Nonsteroidal Antiinflammatory Drugs (NSAIDs) and Acetaminophen:**

**General Nursing Implications**
- Give with a full glass of water, either with food or just after eating.
- Store in childproof containers and out of reach of small children.
- Do not exceed recommended doses.
- Discontinue 1-2 weeks before elective surgery.
- NSAIDs prolong bleeding time by decreasing platelet aggregation; may increase anticoagulant activity of warfarin products.
- Avoid in clients with history of peptic ulcer disease or bleeding problems.
- May compromise renal blood flow and precipitate renal impairment.
- Do not crush enteric-coated tablets; if available, administer as enteric or buffered tablets.

**Uses:**
- Fever: acetaminophen, aspirin, ibuprofen;
- Inflammation: aspirin, naproxen;
- Arthritis: aspirin, ibuprofen, naproxen, piroxicam, sulindac;
- Dysmenorrhea: ibuprofen, naproxen

---

**Medications: Nonsteroidal Antiinflammatory Drugs (NSAIDs) and Acetaminophen:**

<table>
<thead>
<tr>
<th>Medication</th>
<th>Side Effects</th>
<th>Nursing Implications</th>
</tr>
</thead>
</table>
3. Assess for bleeding tendencies.  
4. Prophylactic use for colon cancer.  
5. Prophylactic use for cardiovascular problems due to the antiplatelet aggregation properties. |
| Naloxone (Narcan): IV, IM, subQ | Hypotension, hypertension, dysrhythmias            | 1. Assess respiratory status, blood pressure, pulse, and level of consciousness until narcotic wears off. Repeat doses may be necessary if effect of narcotic outlasts the effect of the narcotic antagonist.  
2. Remember that narcotic antagonists reverse analgesia along with respiratory depression. Titrate dose accordingly and monitor pain level.  
3. *Uses:* Used to reverse CNS and respiratory depression in narcotic overdose.  
4. *Contraindications and precautions:* Use with caution in narcotic-dependent clients; may cause severe withdrawal symptoms. |

---

**Nursing Priority:**
- Advise client that CDC warns against giving aspirin to children or adolescents with a viral infection or influenza.
- Aspirin is the only NSAID used to protect against MI and stroke.
### Appendix 3-3 Nonsteroidal Antiinflammatory Drugs (NSAIDs) and Acetaminophen—cont’d

<table>
<thead>
<tr>
<th><strong>Medications</strong></th>
<th><strong>Side Effects</strong></th>
<th><strong>Nursing Implications</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ibuprofen (Motrin, Nuprin, Advil): PO</td>
<td>Dyspepsia (heartburn, nausea, epigastric distress) Dizziness, rash, dermatitis</td>
<td>1. Do not exceed 3.2 g per day in adults and older adult clients. 2. Avoid taking with aspirin.</td>
</tr>
<tr>
<td>Naproxen (Naprosyn); Naproxen sodium (Anaprox, Aleve): PO</td>
<td>Headache, dyspepsia, dizziness, drowsiness</td>
<td>1. Avoid tasks requiring alertness until response is established. 2. Take with food to decrease GI irritation. 3. Primarily used for pain control.</td>
</tr>
<tr>
<td>Acetaminophen (Tylenol, Datril, Tempra): PO</td>
<td>Anorexia, nausea, diaphoresis Toxicity: vomiting, RUQ tenderness, elevated liver function tests Antidote: acetylcysteine (Mucomyst, Acetadote)</td>
<td>1. Maximum dose of acetaminophen, 4 g per day. 2. Does not have antiinflammatory properties. 3. Overdose can cause severe liver injury; client should consult physician if he or she drinks more than 3 alcoholic beverages every day. 4. Has not been conclusively linked to bleeding problems.</td>
</tr>
<tr>
<td>Piroxicam (Feldene): PO Sulindac (Clinoril): PO</td>
<td>Dyspepsia, nausea, dizziness, diarrhea, nephrotoxicity</td>
<td></td>
</tr>
</tbody>
</table>

**Nursing Priority:** Frequently used in combination with OTC medications. Teach client to read labels to prevent overdosing.

---

### Appendix 3-4 Preoperative Medications

<table>
<thead>
<tr>
<th><strong>Medications</strong></th>
<th><strong>Side Effects</strong></th>
<th><strong>Nursing Implications</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Benzodiazepines:</strong> Decrease anxiety and promote amnesia before or during surgery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lorazepam (Ativan): PO, IM, IV</td>
<td>Drowsiness, ataxia, confusion, fatigue May produce paradoxical effects in elderly</td>
<td>1. Decrease stimuli in the room after administration. 2. Offer emotional support to the anxious client. 3. Maintain bed rest after administration to reduce effects of hypotension. 4. A Schedule IV drug.</td>
</tr>
<tr>
<td>Midazolam hydrochloride (Versed): PO, IM, IV</td>
<td>Decreased respirations; pain at IM or IV site; nausea, vomiting</td>
<td>1. Commonly used for conscious sedation and amnesia prior to procedures. 2. Continuous monitoring during parenteral administration.</td>
</tr>
<tr>
<td>Diazepam (Valium): PO, IM, IV</td>
<td>Same as for Ativan</td>
<td></td>
</tr>
</tbody>
</table>

**Histamine (H2 Receptor Antagonists):** Decrease gastric acid secretion, increase gastric pH

| Cimetidine (Tagamet) Famotidine (Pepcid) Ranitidine (Zantac) | See Appendix 18-5 | |

**Anticholinergic:** Prevent bradycardia, decrease secretions

| Atropine: PO, IM, IV Scopolamine: PO, IM Glycopyrrolate (Robinul): PO, IM, IV | Flushed face Dilated pupils Increased cardiac rate Urinary retention | 1. Children and older adult are at increased risk for side effects. 2. Advise clients regarding atropine flush. 3. Administer with caution to clients with glaucoma, MI, or CHF. 4. Postural hypotension may result if client ambulates after administration. 5. Monitor for urinary retention and decreased bowel sounds. |

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*CHF: Congestive heart failure; IV: intravenously; IM, intramuscularly; MI, myocardial infarction; PO, by mouth (orally).*  
▲ High-Alert Medication.
Study Questions  Concepts of Nursing Practice

1. The nurse is preparing to take a blood pressure on a client who is obese. What is the most effective method for obtaining an accurate blood pressure reading from this client?
   1. Obtain a cuff that covers the upper one-third of the client’s arm.
   2. Position the cuff approximately 4 inches above the antecubital space.
   3. Use a cuff that is wide enough to cover the upper two-thirds of the client’s arm.
   4. Identify the Korotkoff sounds, and take a systolic reading at 10 mm Hg after the first sound.

2. The nurse is caring for a client who is dying. How will the nurse provide psychosocial comfort for the family and the client in the period before death?
   1. Encourage family to sit at the bedside, touch, and talk to the client.
   2. Discourage more than one family member at a time in the room.
   3. Discuss with the family the importance of not upsetting the client by talking to him.
   4. Administer pain medication so the client will not be upset by family visits.

3. The nurse is preparing a client for surgery. Which of the following items on the client’s presurgery lab results would indicate a need to contact the surgeon?
   1. Platelet count of 325,000 mm\(^3\)
   2. Total cholesterol of 325 mg/dL
   3. Blood urea nitrogen (BUN) 17 mg/dL
   4. Hemoglobin 9.5 g/dL

4. The nurse has received a report on assigned clients. In planning the initial assessment of each client, what is the best approach?
   1. A thorough history of the hospitalization should be reviewed for trends in care, responses to therapy, and currency of medication orders.
   2. An assessment should be done to determine the client’s current status, the development of complications, and whether any changes in nursing care are necessary.
   3. A complete head-to-toe physical examination should be conducted with emphasis on current health care problems.
   4. All laboratory results for the past 24 hours should be reviewed to determine changes that have occurred in the client’s condition and to plan effective nursing care.

5. Which of the following clients would be at an increased risk for the development of a pulmonary embolus?
   1. A man with a fractured femur who is in skeletal traction
   2. An elderly woman with a fractured hip who is in physical therapy
   3. A woman who gave birth 2 days ago and is going home
   4. A man who had a lung resection 3 days ago

6. In the recovery room, the postoperative client suddenly becomes restless with circumoral cyanosis. What is the first nursing action?
   1. Begin administration of oxygen through a nasal cannula.
   2. Call for assistance.
   3. Reposition the head and determine patency of airway.
   4. Insert an oral airway and suction the nasopharynx.

7. A 1-year-old infant has ibuprofen (Advil) ordered every 6 hours. It has been 6 hours since the last dose, and his parent has requested that the child receive his pain medication. When the nurse enters the room, the child is asleep. The parent requests that the pain medication be given because the child is still restless in sleep. What is the best nursing action?
   1. Refuse to awaken the child.
   2. Wake the child and give the medication.
   3. Tell the parent to call as soon as the child awakens.
   4. Explain the purpose and use of pain medications to the parent.

8. The nurse is preparing the preoperative client for surgery. Which of the following statements indicate to the nurse that the client is knowledgeable about his impending surgery? Select all that apply:
   1. “After surgery, I will need to wear the pneumatic compression device while sitting in the chair.”
   2. “The skin prep area is going to be longer and wider than the anticipated incision.”
   3. “I cannot have anything to drink or eat after midnight on the night before the surgery.”
   4. “To ensure my safety, a time-out for identification will be conducted in the operating room before surgery.”
   5. “I will be given the consent form, and I will sign it after I get to the operating room.”

9. The nurse is designing a teaching plan for a 3-year-old in preparation for a surgical procedure. What teaching strategies should be included in the plan of care? Select all that apply:
   1. Include the child’s parents in the teaching.
   2. Intellectual development moves from abstract to concrete.
   3. Prevent separation anxiety.
   4. Provide anatomy and physiology information.
   5. A “no” response from the child means he or she is not ready to learn.

10. A client is scheduled for major surgery. What is most important for the nurse to do before surgery?
    1. Remove all jewelry or tape wedding rings.
    2. Verify that all laboratory work is complete.
    3. Inform family or next of kin of recovery procedure.
    4. Check that consent forms are signed.
11. A client is admitted with a diagnosis of terminal cancer, and he is experiencing severe pain. The doctor has written an order for pain medication every 3 hours PRN. How will the nurse plan to administer the pain medication?
   1. Wait until the client complains of pain; then administer medication.
   2. Evaluate the client and determine need for pain medication every 3 hours.
   3. Administer the pain medication every 3 hours.
   4. Try to increase time between injections during the night.

12. The nurse is caring for a first-day postoperative surgical client. Prioritize the client’s desired dietary progression by numbering the following from 1 to 4 (with 1 being the first step and 4 being the last step).
   1. Full liquid
   2. NPO
   3. Clear liquid
   4. Soft

13. The nurse is admitting a woman who is scheduled for a total hip replacement. What is the most effective way to initiate the health interview?
   1. Sit quietly until the client initiates the conversation.
   2. Start the interview with easy questions to build a rapport.
   3. Determine whether there are any family available to assist her.
   4. Do not dwell on the diagnosis and its effect on the client.

14. At the beginning of the shift, the nurse receives a report on a client. He is receiving IV therapy at 125 mL/hr. The nasogastric tube is patent and draining green drainage at about 75 mL/hr. New physician orders include the following:
   - Vancomycin (Vancocin) 500 mg IVPB in 50 mL D5W over 60 minutes, every 8 hours.
   - Metoclopramide (Reglan) 10 mg IVPB in 50 mL D5W over 30 minutes, every 8 hours.
   - One unit packed red blood cells to run concurrent with the IV; infuse unit over 4 hours.
   - Irrigate the nasogastric tube with 30 mL NS every 2 hours.

   How many milliliters should the nurse document as the intake for the 8-hour shift?
   Answer: _____ mL

15. A postoperative patient receives a dinner tray with gelatin, pudding, and vanilla ice cream. Based on the foods on the client’s tray, what would the nurse anticipate the client’s current diet order to be?
   1. Bland diet
   2. Soft diet
   3. Full liquid diet
   4. Regular diet

16. What is important for the nurse to do in order to obtain a comprehensive medical history?
   1. Ask a family member to be present.
   2. Ask the most difficult questions first.
   3. Ask about the family dynamics last.
   4. Document events and dates in chronologic order.

17. The nurse is conducting a teaching session for a client with a new diagnosis of diabetes. At the beginning of the session, what is most important for the nurse to do?
   1. Make sure the client understands the purpose and objectives of the teaching session.
   2. Determine whether the client is comfortable or needs to go to the bathroom before teaching begins.
   3. Introduce the client to the equipment that will be discussed during the teaching session.
   4. Review with the client the importance of learning how to manage his or her diabetic condition.

18. To prevent complications of immobility, what would be the most effective activities to implement for a client on the first postoperative day after a colon resection?
   1. Turn, cough, and deep-breathe every 30 minutes around the clock.
   2. Get the client out of bed and ambulate to a bedside chair.
   3. Provide passive range of motion three times a day.
   4. Immobility is not a concern on the first postoperative day.

19. A client has requested medication for his incisional pain. He had an exploratory laparotomy 12 hours ago. What would be the first nursing action?
   1. Check the medication administration record (MAR) for the last time he received something for pain.
   2. Check the physician’s orders for the currency of the pain medication order.
   3. Determine from the nurses’ notes the level of pain control over the past 12 hours.
   4. Assess the client’s pain and determine whether the pain is appropriate to his surgical procedure.

Answers and rationales to these questions are in the section at the end of the book titled Chapter Study Questions: Answers and Rationales.