

Kevin's Review - 100 NCLEX Practice Questions

1. Diazepam (Valium) is prescribed to a client with alcohol withdrawal. Which of the following statements made by the client indicates an understanding of the treatment regimen?

- A. "This medication causes a blurring of vision".
- B. "This medication will cause a decreased platelet and white blood cell count in my blood".
- C. "I'll have my physician lower my dosage once I start to feel okay".
- D. "Drinking grapefruit can decrease the side effects with this medication".

Correct Answer: D. "Drinking grapefruit can decrease the side effects with this medication".

Diazepam (Valium) can cause side effects such as sleepiness and drowsiness. Meanwhile, grapefruit can reduce the metabolism of this drug. This can result in the increased pharmacologic effects of Valium as well as its side effects.

- **Option A:** Blurred vision is a recognized adverse effect of valium.
- **Option B:** Long-term use of valium causes thrombocytopenia and neutropenia.
- **Option C:** Usually, a client who is prescribed with valium begins to take a low dosage and it will be adjusted over time to reach the right dosage. Once the patient feels okay, the physician will give the smallest dosage that provides the desired effect of the medication.

2. A client with microcytic anemia is having trouble selecting food items from the hospital menu. Which food is best for the nurse to suggest for satisfying the client's nutritional needs and personal preferences?

- A. Egg yolks
- B. Brown rice
- C. Vegetables
- D. Tea

Correct Answer: B. Brown rice

Brown rice is a source of iron from plant sources (nonheme iron). Other sources of non-heme iron are whole-grain cereals and bread, dark green vegetables, legumes, nuts, dried fruits (apricots, raisins, dates), oatmeal, and sweet potatoes. Brown rice is a highly nutritious food. It is a whole grain that is relatively low in calories (216 calories per cup), high in fiber, gluten-free, and can be incorporated into a variety of dishes. The USA Rice Federation notes that brown rice contains no trans-fat or cholesterol. It has only trace amounts of fat and sodium.

- **Option A:** Egg yolks have iron but it is not as well absorbed as iron from other sources. Eggs have 1.89 mg of iron, which increases energy and boosts the immune system. The protein in eggs helps to lower blood pressure, optimize bone health and increase muscle mass.
- **Option C:** Vegetables are a good source of vitamins that may facilitate iron absorption. Vitamin C helps the stomach absorb iron. Eating leafy greens with foods that contain vitamin C such as oranges, red peppers, and strawberries may increase iron absorption. Some greens are good sources of both iron and vitamin C, such as collard greens and Swiss chard.
- **Option D:** Tea contains tannin, which combines with nonheme iron, preventing its absorption. Tea interferes with iron absorption and can lead to iron deficiency anemia when consumed in large

quantities. The fact that iron absorption can be reduced by tea consumption has been recognized for many years with the inhibitory effects predominantly facilitated by the marked iron-binding properties of the phenolic compounds bearing catechol groups in tea.

3. Which of the following is a bulk-forming agent?

- A. Glycerin
- B. FiberCon
- C. Lactulose
- D. Milk of Magnesia

Correct Answer: B. FiberCon

FiberCon is the bulk-forming agent. Polycarbophil is used to treat constipation. It is known as a bulk-forming laxative. It increases the bulk in the stool, an effect that helps to cause movement of the intestines. It also works by increasing the amount of water in the stool, making the stool softer and easier to pass. Choices A and B are incorrect because they are hyperosmotic agents.

- **Option A:** This medication is used as a moisturizer to treat or prevent dry, rough, scaly, itchy skin and minor skin irritations (e.g., diaper rash, skin burns from radiation therapy). Emollients are substances that soften and moisturize the skin and decrease itching and flaking.
- **Option C:** Lactulose is used in preventing and treating clinical portal-systemic encephalopathy; first used in clinical practice in 1966. Its chief mechanism of action is by decreasing the intestinal production and absorption of ammonia. Lactulose, also known as 1,4 beta galactoside-fructose, is a non-absorbable synthetic disaccharide made up of galactose and fructose. The human small intestinal mucosa does not have the enzymes to split lactulose, and hence lactulose reaches the large bowel unchanged. Lactulose is metabolized in the colon by colonic bacteria to monosaccharides, and then to volatile fatty acids, hydrogen, and methane.
- **Option D:** Milk of Magnesia is a saline laxative. This medication is used for a short time to treat occasional constipation. It is a laxative (osmotic-type) that is thought to work by drawing water into the intestines, an effect that helps to cause movement of the intestines. This medication is also used to treat symptoms caused by too much stomach acid such as heartburn, upset stomach, or indigestion. It is an antacid that works by lowering the amount of acid in the stomach.

4. Disparities in health outcomes between the rich and the poor illustrates: a (an)

- A. Illness attributed to natural, impersonal, and biological forces.
- B. Creation of own interpretation and descriptions of biological and psychological malfunctions.
- C. Influence of socioeconomic factors in morbidity and mortality.
- D. Combination of naturalistic, religious, and supernatural modalities.

Correct Answer: C. Influence of socioeconomic factors in morbidity and mortality.

Disparities in health outcomes between the rich and the poor illustrate the influence of socioeconomic factors in morbidity and mortality. Social factors such as poverty and lack of universal medical insurance compromise the health status of the poor and unemployed. Health and health care disparities refer to differences in health and health care between groups that are closely linked with

social, economic, and/or environmental disadvantage. Disparities occur across many dimensions, including race/ethnicity, socioeconomic status, age, location, gender, disability status, and sexual orientation.

- **Option A:** A complex and interrelated set of individual, provider, health system, societal, and environmental factors contribute to disparities in health and health care. Individual factors include a variety of health behaviors from maintaining a healthy weight to following medical advice. Provider factors encompass issues such as provider bias and cultural and linguistic barriers to patient-provider communication.
- **Option B:** Health and health care disparities are commonly viewed through the lens of race and ethnicity, but they occur across a broad range of dimensions. For example, disparities occur across socioeconomic status, age, geography, language, gender, disability status, citizenship status, and sexual identity and orientation.
- **Option D:** A “health care disparity” typically refers to differences between groups in health insurance coverage, access to and use of care, and quality of care. Health and health care disparities often refer to differences that are not explained by variations in health needs, patient preferences, or treatment recommendations and are closely linked with social, economic, and/or environmental disadvantage.

5. Halfway through the administration of blood, the female client complains of lumbar pain. After stopping the infusion Nurse Hazel should:

- A. Increase the flow of normal saline
- B. Assess the pain further
- C. Notify the blood bank
- D. Obtain vital signs.

Correct Answer: A. Increase the flow of normal saline

The blood must be stopped at once, and then normal saline should be infused to keep the line patent and maintain blood volume. Treatment is to stop the transfusion, leave the IV in place, intravenous fluids with normal saline, keeping urine output greater than 100 mL/hour, diuretics may also be needed and cardiorespiratory support as appropriate. A hemolytic workup should also be performed which includes sending the donor blood and tubing as well as post-transfusion labs (see below for list) from the recipient to the blood bank.

- **Option B:** Assessing the pain further could delay any interventions that are needed to be done. Fatal hemolysis is extremely rare, occurring only in 1 out of nearly 2 million transfusions. It is the result of ABO incompatibility, and the recipient’s antibodies recognize and induce hemolysis in donor’s transfused cells. Patients will develop an acute onset of fevers and chills, low back pain, flushing, dyspnea as well as becoming tachycardic and going into shock.
- **Option C:** The blood bank can be notified after stopping the infusion first. According to the American Association of Blood Banks (AABB), febrile reactions are the most common, followed by transfusion-associated circulatory overload, allergic reaction, TRALI, hepatitis C viral infection, hepatitis B viral infection, human immunodeficiency virus (HIV) infection, and fatal hemolysis which is extremely rare, only occurring almost 1 in 2 million transfused units of RBC.
- **Option D:** Vital signs could be obtained after stopping the infusion and infusing normal saline. There are multiple complications of blood transfusions, including infections, hemolytic reactions, allergic reactions, transfusion-related lung injury (TRALI), transfusion-associated circulatory overload, and electrolyte imbalance.

6. Clonidine (Catapres) can be used to treat conditions other than hypertension. Nurse Sally is aware that the following conditions might the drug be administered?

- A. Phencyclidine (PCP) intoxication
- B. Alcohol withdrawal
- C. Opiate withdrawal
- D. Cocaine withdrawal

Correct Answer: C. Opiate withdrawal

Clonidine is used as adjunctive therapy in opiate withdrawal. Symptomatic treatment in opioid withdrawal includes loperamide for diarrhea, promethazine for nausea/vomiting, and ibuprofen for myalgia. Clonidine can be given to reduce blood pressure. Opioid withdrawal syndrome is a life-threatening condition resulting from opioid dependence. Opioids are a group of drugs used for the management of severe pain. They are also commonly used as psychoactive substances around the world.

- **Option A:** Benzodiazepines and neuroleptic agents are typically used to treat PCP intoxication. Benzodiazepines are the preferred medication for chemical sedation in patients with PCP toxicity. Lorazepam 2 to 4 mg intravenous (IV) or intramuscular (IM), or diazepam 5 to 10 mg IV or IM are recommended. Benzodiazepines are also the first-line treatment for PCP-induced hypertension and seizures. Hyperthermia from PCP toxicity is due to psychomotor agitation and can be successfully treated with benzodiazepines as well.
- **Option B:** Benzodiazepines, such as chlordiazepoxide (Librium), and neuroleptic agents, such as haloperidol, are used to treat alcohol withdrawal. The hallmark of management for severe symptoms is the administration of long-acting benzodiazepines. The most commonly used benzodiazepines are intravenous diazepam (Valium) or intravenous lorazepam (Ativan) for management. Patients with severe withdrawal symptoms may require escalating doses and intensive care level monitoring.
- **Option D:** Antidepressants and medications with dopaminergic activity in the brain, such as fluoxetine (Prozac), are used to treat cocaine withdrawal. Central nervous system (CNS) stimulants like cocaine and amphetamine can also produce withdrawal symptoms. Like opioids, the withdrawal symptoms are mild and not life-threatening. Often the individual will develop marked depression, excessive sleep, hunger, dysphoria, and severe psychomotor retardation but all vital functions are well preserved. Recovery is usually slow, and depression can last for several weeks.

7. Following a tonsillectomy, a female client returns to the medical-surgical unit. The client is lethargic and reports having a sore throat. Which position would be most therapeutic for this client?

- A. Semi-Fowler's
- B. Supine
- C. High-Fowler's
- D. Side-lying

Correct Answer: D. Side-lying

Because of lethargy, the post-tonsillectomy client is at risk for aspirating blood from the surgical wound. Therefore, placing the client in the side-lying position until he awake is best. The semi-Fowler's, supine, and high-Fowler's position don't allow for adequate oral drainage in a lethargic post-tonsillectomy client and increase the risk of blood aspiration.

- **Option A:** Semi-Fowler's would not be able to facilitate effective drainage. Bleeding is one of the most common and feared complications following tonsillectomy with or without adenoidectomy. A study from 2009 to 2013 involving over one hundred thousand children showed that 2.8% of children had unplanned revisits for bleeding following tonsillectomy, 1.6% percent of patients came through the emergency department, and 0.8% required a procedure.
- **Option B:** Supine position predisposes the patient to aspiration. Frequency is higher at night with 50% of bleeding occurring between 10pm-1am and 6am-9am; this is thought to be from changes in circadian rhythm, vibratory effects of snoring on the oropharynx, or drying of the oropharyngeal mucosa from mouth breathing. Risk of bleeding in patients with known coagulopathies may be significantly higher.
- **Option C:** Tonsillectomy can be either extracapsular or intracapsular. The "hot" extracapsular technique with monopolar cautery is the most popular technique in the United States.

8. Fluconazole (Diflucan) can be administered to a client with:

- A. Pneumococcal meningitis
- B. Oral thrush
- C. Cryptococcal meningitis
- D. Pneumococcal pneumonia

Correct Answer: C. Cryptococcal meningitis

Fluconazole (Diflucan) is a drug given for the treatment of cryptococcal meningitis. The combination of amphotericin B and flucytosine has proved the most effective measure to clear the infection, and it showed a greater survival benefit over amphotericin alone. However, due to its cost, flucytosine is often unavailable in poor-resource settings where the disease burden is significant. A and D are incorrect because pneumococcal meningitis and pneumonia are not caused by fungal infections.

- **Option A:** Antibiotics and supportive care are critical in all cases of bacterial meningitis. The type of antibiotic is based on the presumed organism causing the infection. The clinician must take into account patient demographics and past medical history in order to provide the best antimicrobial coverage.
- **Option B:** Oral thrush is treated with a more mild antifungal, such as nystatin. Oral candidiasis or thrush is an infection of the oral cavity by *Candida albicans*. It was first described in 1838 by pediatrician Francois Veilleux. Oral candidiasis is generally obtained secondary to immune suppression, whether a patient's oral cavity has decreased immune function or if it is systemic.
- **Option D:** Antibiotic treatment for invasive pneumococcal infections typically includes 'broad-spectrum' antibiotics until results of antibiotic sensitivity testing are available. Broad-spectrum antibiotics work against a wide range of bacteria. Once the sensitivity of the bacteria is known, a more targeted (or 'narrow-spectrum') antibiotic may be selected.

9. The fetal heartbeat should be monitored every 15 minutes during the 2nd stage of labor. The characteristic of a normal fetal heart rate is:

- A. The heart rate will decelerate during a contraction and then go back to its pre-contraction rate after the contraction.
- B. The heart rate will accelerate during a contraction and remain slightly above the pre-contraction rate at the end of the contraction.
- C. The rate should not be affected by the uterine contraction.
- D. The heart rate will decelerate at the middle of a contraction and remain so for about a minute after the contraction.

Correct Answer: A. The heart rate will decelerate during a contraction and then go back to its pre-contraction rate after the contraction.

The normal fetal heart rate will decelerate (go down) slightly during a contraction because of the compression on the fetal head. However, the heart rate should go back to the pre-contraction rate as soon as the contraction is over since the compression on the head has also ended.

- **Option B:** The presence of accelerations is considered a reassuring sign of fetal well-being. An acceleration pattern preceding or following a variable deceleration (the “shoulders” of the deceleration) is seen only when the fetus is not hypoxic.
- **Option C:** Uterine contractions can compress the blood vessels in the uterus, potentially interfering in the transfer of oxygen to the placenta and the baby. Contractions can also compress the umbilical cord, which may affect the flow of oxygenated blood to the baby.
- **Option D:** Early decelerations are caused by fetal head compression during uterine contraction, resulting in vagal stimulation and slowing of the heart rate. This type of deceleration has a uniform shape, with a slow onset that coincides with the start of the contraction and a slow return to the baseline that coincides with the end of the contraction.

10. The nurse is reviewing the healthcare record of a male client scheduled to be seen at the health care clinic. The nurse determines that which of the following individuals is at the greatest risk for the development of an integumentary disorder?

- A. An adolescent
- B. An older female
- C. A physical education teacher
- D. An outdoor construction worker

Correct Answer: D. An outdoor construction worker

Prolonged exposure to the sun, unusual cold, or other conditions can damage the skin. The outdoor construction worker would fit into a high-risk category for the development of an integumentary disorder.

- **Option A:** An adolescent may be prone to the development of acne, but this does not occur in all adolescents.

- **Option B:** Immobility and lack of nutrition would increase the older person's risk but the older client is not at as high a risk as to the outdoor construction worker.
- **Option C:** The physical education teacher is at low or no risk of developing an integumentary problem.

11. A male client who has been treated for chronic renal failure (CRF) is ready for discharge. Nurse Billy should reinforce which dietary instruction?

- A. "Be sure to eat meat at every meal."
- B. "Monitor your fruit intake, and eat plenty of bananas."
- C. "Increase your carbohydrate intake."
- D. "Drink plenty of fluids, and use a salt substitute."

Correct Answer: C. "Increase your carbohydrate intake."

In a client with CRF, unrestricted intake of sodium, protein, potassium, and fluid may lead to a dangerous accumulation of electrolytes and protein metabolic products, such as amino acids and ammonia. Therefore, the client must limit intake of sodium; meat, which is high in protein; bananas, which are high in potassium; and fluid, because the failing kidneys can't secrete adequate urine.

- **Option A:** The amount of protein the client should have depended on his body size, activity level, and health concerns. Some doctors recommend that people with kidney disease limit protein or change their source of protein. This is because a diet very high in protein can make the kidneys work harder and may cause more damage.
- **Option B:** Healthy sources of carbohydrates include fruits and vegetables. Unhealthy sources of carbohydrates include sugar, honey, hard candies, soft drinks, and other sugary drinks. Some carbohydrates are high in potassium and phosphorus, which the client may need to limit depending on his stage of kidney disease.
- **Option D:** Sodium (salt) is a mineral found in almost all foods. Too much sodium can make the client thirsty, which can lead to swelling and raise blood pressure. This can damage the kidneys more and make the heart work harder. Salt substitutes are high in potassium and should be avoided. Extra carbohydrates are needed to prevent protein catabolism.

12. Which patient should be assigned to the traveling nurse, new to neurologic nursing care, who has been in the neurologic unit for 1 week?

- A. A 34-year-old patient newly diagnosed with multiple sclerosis (MS).
- B. A 68-year-old patient with chronic amyotrophic lateral sclerosis (ALS).
- C. A 56-year-old patient with Guillain-Barre syndrome (GBS) in respiratory distress.
- D. A 25-year-old patient admitted with C4 level spinal cord injury (SCI).

Correct Answer: B. A 68-year-old patient with chronic amyotrophic lateral sclerosis (ALS)

The traveling nurse is relatively new to neurologic nursing and should be assigned to patients whose conditions are stable and not complex.

- **Option A:** The newly diagnosed patient will need to be transferred to the ICU. Multiple sclerosis (MS) is an immune-mediated inflammatory disease that attacks myelinated axons in the central

nervous system, destroying the myelin and the axon in variable degrees and producing significant physical disability within 20–25 years in more than 30% of patients. The hallmark of MS is symptomatic episodes that occur months or years apart and affect different anatomic locations.

- **Option C:** The patient with GBS is in respiratory distress and should be assigned to an experienced neurological nurse. Guillain-Barré syndrome (GBS) is a rare disorder in which a person's own immune system damages their nerve cells, causing muscle weakness and sometimes paralysis. GBS can cause symptoms that usually last for a few weeks.
- **Option D:** The patient with C4 SCI is at risk for respiratory arrest. A C4 spinal cord injury occurs when damage is dealt about mid-way down the cervical spinal cord — the topmost portion of the spinal cord that is located in the neck and upper shoulders.

13. In which step of the nursing process would the nurse ask a patient if the medication she administered relieved his pain?

- A. Assessment
- B. Analysis
- C. Planning
- D. Evaluation

Correct Answer: D. Evaluation

In the evaluation step of the nursing process, the nurse must decide whether the patient has achieved the expected outcome that was identified in the planning phase. This final step of the nursing process is vital to a positive patient outcome. Whenever a healthcare provider intervenes or implements care, they must reassess or evaluate to ensure the desired outcome has been met. Reassessment may frequently be needed depending upon the overall patient's condition. The plan of care may be adapted based on new assessment data.

- **Option A:** Assessment is the first step and involves critical thinking skills and data collection; subjective and objective. Subjective data involves verbal statements from the patient or caregiver. Objective data is measurable, tangible data such as vital signs, intake and output, and height and weight.
- **Option B:** Analysis can be a part of diagnosing. The formulation of a nursing diagnosis by employing clinical judgment assists in the planning and implementation of patient care. The North American Nursing Diagnosis Association (NANDA) provides nurses with an up to date list of nursing diagnoses. A nursing diagnosis, according to NANDA, is defined as a clinical judgment about responses to actual or potential health problems on the part of the patient, family, or community.
- **Option C:** The planning stage is where goals and outcomes are formulated that directly impact patient care based on EDP guidelines. These patient-specific goals and the attainment of such assist in ensuring a positive outcome. Nursing care plans are essential in this phase of goal setting. Care plans provide a course of direction for personalized care tailored to an individual's unique needs. Overall condition and comorbid conditions play a role in the construction of a care plan. Care plans enhance communication, documentation, reimbursement, and continuity of care across the healthcare continuum.

14. A young, handsome man with a diagnosis of antisocial personality disorder is being discharged from the hospital next week. He asks the nurse for her

phone number so that he can call her for a date. The nurse's best response would be:

- A. "We are not permitted to date clients."
- B. "No, you are a client and I am a nurse."
- C. "I like you, but our relationship is professional."
- D. "It's against my professional ethics to date clients."

Correct Answer: C. "I like you, but our relationship is professional."

This accepts the client as a person of worth rather than being cold or implying rejection. However, the nurse maintains a professional rather than a social role. Maintain a neutral, calm, and respectful manner, although with some clients this is easier said than done. Helps a client see himself or herself as respected as a person even when behavior might not be appropriate.

- **Option A:** Keep in mind clients with personality disorders might defend against feelings of low-self-esteem through blaming, projection, anger, passivity, and demanding behaviors. Many behaviors seen in PD clients cover a fragile sense of self. Often these behaviors are the crux of clients' interpersonal difficulties in all their relationships.
- **Option B:** Focus questions in a positive and active light; helps client refocus on the present and look to the future. For example, "What can you do differently now?" or "What have you learned from that experience?". Allows the client to look at past behaviors differently, and gives the client a sense that he or she has choices in the future.
- **Option D:** Give the client honest and genuine feedback regarding your observations as to his or her strengths, and areas that could use additional skills. Feedback helps give clients a more accurate view of self, strengths, areas to work on, as well as a sense that someone is trying to understand them.

15. A female client with a severe staphylococcal infection is receiving the aminoglycoside gentamicin sulfate (Garamycin) by the I.V. route. The nurse should assess the client for which adverse reaction to this drug?

- A. Aplastic anemia
- B. Ototoxicity
- C. Cardiac arrhythmias
- D. Seizures

Correct Answer: B. Ototoxicity

The most significant adverse reactions to gentamicin and other aminoglycosides are ototoxicity (indicated by vertigo, tinnitus, and hearing loss) and nephrotoxicity (indicated by urinary cells or casts, oliguria, proteinuria, and reduced creatinine clearance). These adverse reactions are most common in elderly and dehydrated clients, those with renal impairment, and those receiving concomitant therapy with another potentially ototoxic or nephrotoxic drug. Gentamicin isn't associated with aplastic anemia, cardiac arrhythmias, or seizures.

- **Option A:** Aplastic anemia is not associated with gentamicin. The gentamicin is prone to accumulate in the renal proximal tubular cells and can cause damage. Hence, mild proteinuria and reduction of the glomerular filtration rate are potential consequences of gentamicin use, achieving

14% of gentamicin users in a review

- **Option C:** Cardiac arrhythmias are not an adverse effect of Gentamicin. Characteristically, gentamicin reaches high concentrations in the renal cortex and the inner ear. The latter may be injured, leading to auditory and, especially, vestibular dysfunction. The first manifestation of cochlear damage is often high-pitched tinnitus, which may last a few weeks after the gentamicin is interrupted.
- **Option D:** Seizures are not an adverse effect of Gentamicin. The neuromuscular blockade, although a rare event, is a serious adverse effect of virtually all aminoglycosides. The known risk factors are concurrent conditions (e.g., myasthenia gravis) or medications (e.g., vecuronium) that interfere with the neuromuscular junction.

16. A nurse is caring for a client with severe burns of the face and head. The nurse will place the client in which position?

- A. Trendelenburg.
- B. Head of bed elevated.
- C. Supine position.
- D. Prone position.

Correct Answer: B. Head of bed elevated.

For clients with burns on the face and head, the best position is to elevate the head of the bed to reduce the occurrence of facial edema. Elevation will encourage drainage of fluid and allow it to be reabsorbed by the body. The swollen part should be higher than the rest of the limb so that gravity can assist.

- **Option A:** Placing the patient in Trendelenburg position would aggravate the facial edema. Physiochemical changes in the extracellular spaces cause protein denaturation, increasing the oncotic pressures, increasing local edema. It is also important to be aware of the requirement for fluid resuscitation, which increases the hydrostatic gradient, ultimately pushing more fluid into the extracellular space, compounding the tissue edema from the initial insult.
- **Option C:** If the client has facial swelling it is extremely important to maintain an upright position. The client should avoid lying flat as this encourages fluid collection in the face and head which can lead to difficulty opening the eyes and may also affect breathing.
- **Option D:** If the patient is placed in a prone position, fluid would accumulate in the face. Burns cause a local cytokine-mediated inflammatory response, creating hyperpermeability of the microvasculature, leading to tissue swelling. For the patient who sustains any facial burns or inhalation injuries, local swelling can occur rapidly and immediately.

17. For a diabetic male client with a foot ulcer, the doctor orders bed rest, a wet to-dry dressing change every shift, and blood glucose monitoring before meals and bedtime. Why are wet-to-dry dressings used for this client?

- A. They contain exudate and provide a moist wound environment.
- B. They protect the wound from mechanical trauma and promote healing.
- C. They debride the wound and promote healing by secondary intention.

D. They prevent the entrance of microorganisms and minimize wound discomfort.

Correct Answer: C. They debride the wound and promote healing by secondary intention

For this client, wet-to-dry dressings are most appropriate because they clean the foot ulcer by debriding exudate and necrotic tissue, thus promoting healing by secondary intention.

- **Option A:** Moist, transparent dressings contain exudate and provide a moist wound environment.
- **Option D:** Hydrocolloid dressings prevent the entrance of microorganisms and minimize wound discomfort.
- **Option B:** Dry sterile dressings protect the wound from mechanical trauma and promote healing.

18. One staff suggests that they review the pattern of nursing care that they are using, which is described as a:

- A. Job description
- B. System used to deliver care
- C. Manual of procedure
- D. Rules to be followed

Correct Answer: B. System used to deliver care

A system used to deliver care. In the 70's it was termed as methods of patient assignment; in the early 80's it was called modalities of patient care then patterns of nursing care in the '90s until recently authors called it nursing care systems. Ideally, nursing care delivery models match the number and type of caregivers to patient care needs determine who is going to perform what tasks, who is responsible, and who makes decisions and detail assignments, responsibilities, and authority to accomplish patient care.

- **Option A:** A job description or JD lists the main features of a specific job. The description typically includes the person's main duties, responsibilities, and working conditions. It also includes the job title and to whom the person holding that job has to report.
- **Option C:** A procedure manual contains the institution's best practices that define the systematic approach to implementing policy expectations, plans, and work routines — also known as procedures.
- **Option D:** Rules can be described as the guidelines or instructions for doing something correctly. these are the principles that govern the conduct or behavior of a person in an organization or country. On the other hand, regulations refer to the directives or statutes enforced by law, in a particular country.

19. A nurse is planning care for a client with hyperthyroidism. Which nursing interventions are appropriate? Select all that apply.

- A. Instill isotonic eyedrops as necessary.
- B. Provide several small, well-balanced meals.
- C. Provide rest periods.
- D. Keep the environment warm.

- E. Encourage frequent visitors and conversation.
- F. Weigh the client daily.

Correct Answer: A, B, C, & F.

Hyperthyroidism may manifest as weight loss despite an increased appetite, palpitation, nervousness, tremors, dyspnea, fatigability, diarrhea or increased GI motility, muscle weakness, heat intolerance, and diaphoresis. A patient with hyperthyroidism classically presents with signs and symptoms that reflect this state of increased metabolic activity.

- **Option A:** If the client has exophthalmos (a sign of hyperthyroidism), the conjunctivae should be moistened often with isotonic eye drops. This protects the exposed cornea if the patient is unable to close eyelids completely because of edema or fibrosis of fat pads and/or exophthalmos.
- **Option B:** Hyperthyroidism results in increased appetite, which can be satisfied by frequent, small, well-balanced meals. Encourage the client to eat and increase the number of meals and snacks. Give or suggest high-calorie foods that are easily digested.
- **Option C:** The nurse should provide the client with rest periods to reduce metabolic demands. The client should be weighed daily to check for weight loss, a possible consequence of hyperthyroidism.
- **Option D:** Because metabolism is increased in hyperthyroidism, heat intolerance may result. Therefore, the nurse should provide a cool environment, not a warm one, to promote client comfort.
- **Option E:** Because metabolism is increased in hyperthyroidism, excitability may result. The nurse should provide a quiet environment, not a busy one. Provide for a quiet environment; cool room, decreased sensory stimuli, soothing colors, quiet music.

20. A child has recently been diagnosed with Duchenne muscular dystrophy (DMD). The parents are receiving genetic counseling prior to planning another pregnancy. Which of the following statements includes the most accurate information?

- A. Duchenne's is an X-linked recessive disorder, so daughters have a 50% chance of being carriers and sons a 50% chance of developing the disease.
- B. Duchenne's is an X-linked recessive disorder, so both daughters and sons have a 50% chance of developing the disease.
- C. Each child has a 1 in 4 (25%) chance of developing the disorder.
- D. Sons only have a 1 in 4 (25%) chance of developing the disorder.

Correct Answer: A. Duchenne's is an X-linked recessive disorder, so daughters have a 50% chance of being carriers and sons a 50% chance of developing the disease.

The recessive Duchenne gene is located on one of the two X chromosomes of a female carrier. If her son receives the X bearing the gene he will be affected. Thus, there is a 50% chance of a son being affected. Daughters are not affected, but 50% are carriers because they inherit one copy of the defective gene from the mother. The other X chromosome comes from the father, who cannot be a carrier.

- **Option B:** DMD carriers are females who have a normal dystrophin gene on one X chromosome and an abnormal dystrophin gene on the other X chromosome. Most carriers of DMD do not themselves have signs and symptoms of the disease, but a minority do.

- **Option C:** Advances in molecular biology techniques illuminate the genetic basis underlying all MD: defects in the genetic code for dystrophin, a 427-kd skeletal muscle protein (Dp427). These defects result in the various manifestations commonly associated with MD, such as weakness and pseudohypertrophy.
- **Option D:** Minor variations notwithstanding, all types of MD have in common progressive muscle weakness that tends to occur in a proximal-to-distal direction, though there are some rare distal myopathies that cause predominantly distal weakness. The decreasing muscle strength in those who are affected may compromise the patient's ambulation potential and, eventually, cardiopulmonary function.

21. When planning care for a female client using ritualistic behavior, Nurse Gina must recognize that the ritual:

- A. Helps the client focus on the inability to deal with reality.
- B. Helps the client control the anxiety.
- C. Is under the client's conscious control.
- D. Is used by the client primarily for secondary gains.

Correct Answer: B. Helps the client control the anxiety

The rituals used by a client with obsessive-compulsive disorder help control the anxiety level by maintaining a set pattern of action. Obsessive-compulsive disorder (OCD) is often a disabling condition consisting of bothersome intrusive thoughts that elicit a feeling of discomfort. To reduce the anxiety and distress associated with these thoughts, the patient may employ compulsions or rituals. These rituals may be personal and private, or they may involve others to participate; the rituals are to compensate for the ego-dystonic feelings of the obsessional thoughts and can cause a significant decline in function.

- **Option A:** Obsessions are defined as intrusive thoughts or urges that cause significant distress; the patient attempts to neutralize this distress by diverting thoughts or performing rituals. Compulsions are actions the patient feels pressured to do in response to the anxiety/distress producing obsessions or to prevent an uncomfortable situation from occurring. These compulsions may be illogical or excessive.
- **Option C:** The obsessions are time-consuming or cause clinically significant distress or impairment in social, occupational, or other important areas of functioning. The obsessive-compulsive symptoms do not arise from the physiological effects of a substance (e.g., a drug of abuse, a medication) or another medical condition.
- **Option D:** The most common obsessions include fears of contamination, fears of aggression/harm, sexual fears, religious fears, and need to make things "just right." The compensatory compulsions for these obsessions include washing and cleaning, checking, reassurance-seeking, repeating, and ordering, and arranging.

22. Kathleen is admitted to the psychiatric clinic for treatment of anorexia nervosa. To promote the client's physical health, the nurse should plan to:

- A. Severely restrict the client's physical activities.
- B. Weigh the client daily, after the evening meal.
- C. Monitor vital signs, serum electrolyte levels, and acid-base balance.

D. Instruct the client to keep an accurate record of food and fluid intake.

Correct Answer: C. Monitor vital signs, serum electrolyte levels, and acid-base balance.

An anorexic client who requires hospitalization is in poor physical condition from starvation and may die as a result of arrhythmias, hypothermia, malnutrition, infection, or cardiac abnormalities secondary to electrolyte imbalances. Therefore, monitoring the client's vital signs, serum electrolyte level, and acid-base balance is crucial. Work-up includes a thorough medical history (comprehensive review of systems, family and social history, medications including non-prescribed, past medical and psychiatric history, prior abuse) and physical exam (looking for complications above).

- **Option A:** This may worsen anxiety. Treatment for anorexia nervosa is centered on nutrition rehabilitation and psychotherapy. Outpatient treatment includes intensive therapy (2 to 3 hours per weekday) and partial hospitalization (6 hours per day). Pediatric patients benefit from family-based psychotherapy to explore underlying dynamics and restructure the home environment.
- **Option B:** This is incorrect because a weight obtained after breakfast is more accurate than one obtained after the evening meal. Diagnose by history, physical, and lab work that rules out other conditions that can make people lose weight. Treatment includes gaining weight (sometimes in a hospital if severe), therapy to address body image, and management of complications from malnourishment.
- **Option D:** This would reward the client with attention for not eating and reinforce the control issues that are central to the underlying psychological problem; also, the client may record food and fluid intake inaccurately. Patient and family education is key to preventing high morbidity. The dietitian should educate the family on the importance of nutrition and limiting exercise. The mental health nurse should educate the patient on changes in behavior, easing stress, and overcoming any emotional issues.

23. A client is frustrated and embarrassed by urinary incontinence. Which of the following measures should Nurse Ginny include in a bladder retraining program?

- A. Establishing a predetermined fluid intake pattern for the client.
- B. Encouraging the client to increase the time between voidings.
- C. Restricting fluid intake to reduce the need to void.
- D. Assessing present elimination patterns.

Correct Answer: D. Assessing present elimination patterns

The guidelines for initiating bladder retraining include assessing the client's intake patterns, voiding patterns, and reasons for each accidental voiding. Bladder training is an important form of behavior therapy that can be effective in treating urinary incontinence. The goals are to increase the amount of time between emptying the bladder and the amount of fluids the bladder can hold. It also can diminish leakage and the sense of urgency associated with the problem.

- **Option A:** Lowering the client's fluid intake won't reduce or prevent incontinence. The recommended amount of fluids consumed (all types) in 24 hours totals 6-8 glasses. The benefits of adequate fluid intake include prevention of dehydration, constipation, UTI, and kidney stone formation.
- **Option B:** A voiding schedule should be established after assessment. Bladder training requires following a fixed voiding schedule, whether or not the client feels the urge to urinate. If he feels an urge to urinate before the assigned interval, he should use urge suppression techniques — such as

relaxation and Kegel exercises.

- **Option C:** The client should actually be encouraged to drink 1.5 to 2 L of water per day. Keeping a diary of the bladder activity is very important. This helps the health care provider determine the correct place to start the training and to monitor the progress throughout the program.

24. A nurse is caring for a client admitted to the ER with DKA. In the acute phase the priority nursing action is to prepare to:

- A. Administer regular insulin intravenously
- B. Administer 5% dextrose intravenously
- C. Correct the acidosis
- D. Apply an electrocardiogram monitor

Correct Answer: A. Administer regular insulin intravenously

Lack (absolute or relative) of insulin is the primary cause of DKA. Intravenous insulin by continuous infusion is the standard of care. A more recent prospective randomized trial demonstrated that a bolus is not necessary if patients are given hourly insulin infusion at 0.14 U/kg/hr.

- **Option B:** Isotonic fluids have been well established for more than 50 years as preferred fluids. Colloids vs. crystalloids were compared for critically ill patients, in a 2013 meta-analysis, and crystalloid was found to be non-inferior.
- **Option C:** Treatment consists of insulin administration (regular insulin), IV fluid administration (normal saline initially), and potassium replacement, followed by correcting acidosis. Immediate fluid resuscitation is vital to correct hypovolemia, restore tissue perfusion, and to clear ketones. Hydration improves glycemic control independent of insulin.
- **Option D:** Applying an electrocardiogram monitor is not a priority action. Hourly point-of-care testing (POCT) glucose should be performed. Initial VBG or ABG monitoring, followed by as-needed precipitating events.

25. A client with pleural effusion is scheduled to have a thoracentesis. The nurse on duty will assist the client to which position during the procedure?

- A. Lying in bed on the unaffected side with the head of the bed elevated about 45°.
- B. Forward side-lying position with head of bed flat.
- C. Lying in bed on the affected side with the head of the bed elevated about 45°.
- D. Supine position with both arms extended.

Correct Answer: A. Lying in bed on the unaffected side with head of bed elevated about 45°.

During thoracentesis, to facilitate removal of pleural fluid from the pleural space, position the client sitting on the edge of the bed, leaning over a bedside table with the feet supported on a stool, or lying in bed on the unaffected side with head of bed elevated about 45°.

- **Option B:** Patient lies between supine and prone with legs flexed in front of the patient. Arms should be comfortably placed beside the patient, not underneath. However, the head of the bed should be elevated to facilitate drainage of pleural fluid from the pleural space.

- **Option C:** The patient should lie on the unaffected side. The patient is moved to the extreme side of the bed, the ipsilateral hand is placed behind the head, and a towel roll is placed under the contralateral shoulder. This measure facilitates dependent drainage and provides good access to the posterior axillary space.
- **Option D:** Patients who are alert and cooperative are most comfortable in a seated position, leaning slightly forward and resting the head on the arms or hands or on a pillow, which is placed on an adjustable bedside table. This position facilitates access to the posterior axillary space, which is the most dependent part of the thorax. Unstable patients and those who are unable to sit up may be supine for the procedure.

26. The nurse is teaching the client how to use a metered-dose inhaler (MDI) to administer a Corticosteroid drug. Which of the following client actions indicates that he is using the MDI correctly? Select all that apply.

- A. The inhaler is held upright.
- B. Head is tilted down while inhaling the medication.
- C. Client waits 5 minutes between puffs.
- D. Mouth is rinsed with water following administration.
- E. Client lies supine for 15 minutes following administration.

Correct Answers: A & D.

Inhaled respiratory medications are often taken by using a device called a metered-dose inhaler, or MDI. The MDI is a pressurized canister of medicine in a plastic holder with a mouthpiece. When sprayed, it gives a reliable, consistent dose of medication.

- **Option A:** Remove the cap and hold the inhaler upright. Each inhaler consists of a small canister of medicine connected to a mouthpiece. The canister is pressurized. As the client presses down on the inhaler, it releases a mist of medicine. The client breathes that mist into the lungs. It's important to use the inhaler correctly.
- **Option B:** Tilt the head back slightly and breathe out all the way. Keep the chin up and the inhaler upright (not aimed at the roof of the mouth or the tongue).
- **Option C:** Repeat puffs as directed by the doctor. Wait 1 minute before taking the second puff. A delay of 10–20 minutes between successive doses of the bronchodilator drug has been suggested in order to let the first act to improve the penetration and effect of the second dose, but again the evidence that this works is inconclusive. Many patients may forget to take a second dose with such a long interval.
- **Option D:** Some inhalers (steroid) also recommend rinsing the mouth out with water and gargling with water (spit out the water) after use. If using this inhaler for a corticosteroid preventer medication, with or without a spacer, rinse the mouth with water and spit after inhaling the last dose to reduce the risk of side-effects
- **Option E:** The client does not have to be in the supine position after administration. Proper instruction by a trained person with a placebo aerosol is essential to teach the correct inhaler technique. This should be followed subsequently by regular checks to locate any faults that may develop. Inevitably, some patients will be unable to use an MDI, and for them, spacer attachments, or dry powder inhalers are preferable since they place fewer demands on patients' skill. Even these devices, however, must be used properly to achieve a satisfactory effect.

27. In a client with Crohn's disease, which of the following symptoms should not be a direct result of antibiotic therapy?

- A. Decrease in bleeding.
- B. Decrease in temperature.
- C. Decrease in body weight.
- D. Decrease in the number of stools.

Correct Answer: C. Decrease in body weight

A decrease in body weight may occur during therapy due to inadequate dietary intake, but isn't related to antibiotic therapy. Effective antibiotic therapy will be noted by a decrease in temperature, number of stools, and bleeding. For people with Crohn's, antibiotics may help lower the amount and change the composition of bacteria in the intestines, which may relieve symptoms.

- **Option A:** Antibiotics also work to control infections. They may aid in healing abscesses and fistulas. Abscesses are small pockets of infection, and they can contain fluid, dead tissue, and bacteria. Fistulas are unusual connections between your intestines and other body parts, or between two loops of your intestines. Abscesses and fistulas occur when your bowels are inflamed or injured.
- **Option B:** Metronidazole is used alone or in combination with ciprofloxacin, metronidazole (Flagyl) is commonly used to treat complications such as abscesses and fistulas. It may also help reduce disease activity and prevent a recurrence.
- **Option D:** Rifaximin (Xifaxan) has been used for years to treat diarrhea. However, it has recently emerged as a promising treatment for Crohn's. Possible side effects may include skin rash or hives; bloody urine or diarrhea, and fever.

28. A nurse cares for a patient who has a nasogastric tube attached to low suction because of a suspected bowel obstruction. Which of the following arterial blood gas results might be expected in this patient?

- A. pH 7.52, PCO₂ 54 mmHg.
- B. pH 7.42, PCO₂ 40 mmHg.
- C. pH 7.25, PCO₂ 25 mmHg.
- D. pH 7.38, PCO₂ 36 mmHg.

Correct Answer: A. pH 7.52, PCO₂ 54 mmHg.

A patient on nasogastric suction is at risk of metabolic alkalosis as a result of loss of hydrochloric acid in gastric fluid. Of the answers given, only answer A (pH 7.52, PCO₂ 54 mm Hg) represents alkalosis. Normal range for pH range from 7.35-7.45. CO₂ level has a normal range of 35 to 45 mmHg. Normal range for HCO₃ is 22-26 mmol/L. The lower the number, the more acidotic the patient is. The higher the pH, the more base is in the blood sample.

- **Option B:** This result is a normal blood gas value. Arterial blood gas analysis assesses a patient's partial pressure of oxygen (PaO₂), providing information on the oxygenation status; the partial pressure of carbon dioxide (PaCO₂), providing information on the ventilation status (chronic or acute respiratory failure, and is changed by hyperventilation (rapid or deep breathing) and hypoventilation (slow or shallow breathing); and acid-base status.

- **Option C:** This result represents respiratory acidosis. Arterial blood gas interpretation is best approached systematically. Interpretation leads to an understanding of the degree or severity of abnormalities, whether the abnormalities are acute or chronic, and if the primary disorder is metabolic or respiratory in origin. Several articles have described simplistic ways to interpret ABG results. However, the Romanski method of analysis is most simplistic for all levels of providers. This method assists with determining the presence of an acid-base disorder, its primary cause, and whether compensation is present.
- **Option D:** This result is borderline normal with slightly low PCO₂. The PaCO₂ indicates whether the acidosis or alkalemia is primarily from a respiratory or metabolic acidosis/alkalosis. PaCO₂>40 with a pH<7.4, indicates a respiratory acidosis, and <40 and pH<7.4 indicates a respiratory alkalosis (but is often from hyperventilation from anxiety or compensation for a metabolic acidosis).

29. An experienced LPN, under the supervision of the team leader RN, is providing nursing care for a patient with a respiratory problem. Which actions are appropriate to the scope of practice of an experienced LPN? Select all that apply.

- A. Auscultate breath sounds
- B. Administer medications via metered-dose inhaler (MDI)
- C. Complete in-depth admission assessment
- D. Initiate the nursing care plan
- E. Evaluate the patient's technique for using MDI's

Correct Answers: A and B.

Appropriate decisions relating to the successful assignment of care are accurately based on the needs of the patient, the skills of the staff, the staffs' position description or job descriptions, the employing facility's policies and procedures, and legal aspects of care such as the states' legal scopes of practice for nurses, nursing assistants and other members of the nursing team.

- **Option A:** The experienced LPN is capable of gathering data and making observations, including noting breath sounds and performing pulse oximetry. The scope of practice for the licensed practical or vocational nurse will most likely include the legal ability of this nurse to perform data collection, plan, implement, and evaluate care under the direct supervision and guidance of the registered nurse.
- **Option B:** Administering medications, such as those delivered via MDIs, is within the scope of practice of the LPN. Based on the basic entry educational preparation differences among these members of the nursing team, care should be assigned according to the level of education of the particular team member.
- **Option C:** Scopes of practice should be considered prior to the assignment of care. All states have scopes of practice for advanced nurse practitioners, registered nurses, licensed practical nurses and unlicensed assistive personnel like nursing assistants and patient care technicians.
- **Option D:** The staff members' levels of education, knowledge, past experiences, skills, abilities, and competencies are also evaluated and matched with the needs of all of the patients in the group of patients that will be cared for. Some staff members may possess greater expertise than others.
- **Option E:** Independently completing the admission assessment, initiating the nursing care plan, and evaluating a patient's abilities require additional education and skills. These actions are within the scope of practice of the professional RN.

30. Barbara with bipolar disorder is being treated with lithium for the first time. Nurse Clint should observe the client for which common adverse effect of lithium?

- A. Polyuria
- B. Seizures
- C. Constipation
- D. Sexual dysfunction

Correct Answer: A. Polyuria

Polyuria commonly occurs early in the treatment with lithium and could result in fluid volume deficit. Before starting treatment with lithium, it is essential to get kidney function tests and thyroid function tests. Lithium is not recommended in patients with renal impairment. It is also not recommended in patients with cardiovascular disease. Avoid all diuretics. If the patient has severe renal dysfunction or failure, or severely altered mental status, then start with hemodialysis.

- **Option B:** Rarely, toxicity can cause pseudotumor cerebri and seizures. Lithium toxicity has no antidote. Treatment for lithium toxicity is primarily hydration and to stop the drug. Give hydration with normal saline, which will also enhance lithium excretion. 20 to 30 mg of propranolol given 2 to 3 times per day may help reduce tremors.
- **Option C:** It is also important to monitor patients for dehydration and lower the dose when there are signs of infection, excessive sweating, or diarrhea. Toxic levels are when the drug level is more than 2 mEq/L. Monitoring should be done every 1 to 2 weeks until reaching the desired therapeutic levels. Then, check lithium levels every 2 to 3 months for six months.
- **Option D:** Lithium has a very narrow therapeutic index, and toxic levels are when the drug is above 2 mEq/L, which is very close to its therapeutic range. Lithium toxicity can cause interstitial nephritis, arrhythmia, sick sinus syndrome, hypotension, T wave abnormalities, and bradycardia.

31. For which of the following research questions would qualitative methods be most appropriate?

- A. Which pain medications decrease the need for sleep medication in elderly patients?
- B. What is the meaning of health for migrant farm-worker women?
- C. Under what conditions does a decubitus ulcer heal most quickly?
- D. How does frequency of medication administration impact the degree of pain experienced following knee replacement surgery?

Correct Answer: B. What is the meaning of health for migrant farm-worker women?

This question seeks to explore a phenomenon (health) for a specific population. Qualitative research involves collecting and analyzing non-numerical data (e.g., text, video, or audio) to understand concepts, opinions, or experiences. It can be used to gather in-depth insights into a problem or generate new ideas for research.

- **Option A:** Qualitative research is used to understand how people experience the world. While there are many approaches to qualitative research, they tend to be flexible and focus on retaining

rich meaning when interpreting data.

- **Option C:** Qualitative research often tries to preserve the voice and perspective of participants and can be adjusted as new research questions arise. Open-ended responses mean that researchers can uncover novel problems or opportunities that they wouldn't have thought of otherwise.
- **Option D:** Quantitative methods allow the researcher to test a hypothesis by systematically collecting and analyzing data, while qualitative methods allow you to explore ideas and experiences in depth.

32. Osmotic pressure is created through the process of:

- A. Osmosis
- B. Diffusion
- C. Filtration
- D. Capillary dynamics

Correct Answer: B. Diffusion

In diffusion, the solute moves from an area of higher concentration to one of lower concentration, creating osmotic pressure. There is a form of passive transport called facilitated diffusion. It occurs when molecules such as glucose or amino acids move from high concentration to low concentration facilitated by carrier proteins or pores in the membrane.

- **Option A:** Osmotic pressure is related to the process of osmosis. Osmosis is a form of passive transport when water molecules move from low solute concentration (high water concentration) to high solute or low water concentration across a membrane that is not permeable to the solute.
- **Option C:** Filtration is created by hydrostatic pressure. Filtration is a process used to separate solids from liquids or gases using a filter medium that allows the fluid to pass through but not the solid. The term "filtration" applies whether the filter is mechanical, biological, or physical. The fluid that passes through the filter is called the filtrate.
- **Option D:** Capillary dynamics are related to fluid exchange at the intravascular and interstitial levels. Capillary dynamics are controlled by the four Starling forces. Oncotic pressure is a form of osmotic pressure exerted by proteins either in the blood plasma or interstitial fluid. ... The net filtration pressure is the balance of the four Starling forces and determines the net flow of fluid across the capillary membrane.

33. A nurse is preparing to assess the uterine fundus of a client in the immediate postpartum period. When the nurse locates the fundus, she notes that the uterus feels soft and boggy. Which of the following nursing interventions would be most appropriate initially?

- A. Massage the fundus until it is firm.
- B. Elevate the mother's legs.
- C. Push on the uterus to assist in expressing clots.
- D. Encourage the mother to void.

Correct Answer: A. Massage the fundus until it is firm.

If the uterus is not contracted firmly, the first intervention is to massage the fundus until it is firm and to express clots that may have accumulated in the uterus. Uterine atony refers to the corpus uteri myometrial cells inadequate contraction in response to endogenous oxytocin that is released in the course of delivery. Risk factors for uterine atony include prolonged labor, precipitous labor, uterine distension (multi-fetal gestation, polyhydramnios, fetal macrosomia), fibroid uterus, chorioamnionitis, indicated magnesium sulfate infusions, and prolonged use of oxytocin.

- **Option B:** Elevating the mother's legs will not manage the uterine atony. Ineffective uterine contraction, either focally or diffusely, is additionally associated with a diverse range of etiologies including retained placental tissue, placental disorders (such as morbidly adherent placenta, placenta previa, and abruptio placentae), coagulopathy (increased fibrin degradation products) and uterine inversion.
- **Option C:** Pushing on an uncontracted uterus can invert the uterus and cause massive hemorrhage. It leads to postpartum hemorrhage as delivery of the placenta leaves disrupted spiral arteries which are uniquely void of musculature and dependent on contractions to mechanically squeeze them into a hemostatic state. Uterine atony is a principal cause of postpartum hemorrhage, an obstetric emergency. Globally, this is one of the top 5 causes of maternal mortality.
- **Option D:** Encouraging the client to void will not assist in managing uterine atony. If the uterus does not remain contracted as a result of the uterine massage, the problem may be distended bladder and the nurse should assist the mother to urinate, but this would not be the initial action. Contraction of the myometrium that mechanically compresses the blood vessels supplying the placental bed provides the principal mechanism uterine hemostasis after delivery of the fetus, and the placenta is concluded. The process is complemented by local decidual hemostatic factors such as tissue factor type-1 plasminogen activator inhibitor as well as by systemic coagulation factors such as platelets, circulating clotting factors.

34. A client is receiving a radiation implant for the treatment of bladder cancer. Which of the following interventions is appropriate?

- A. Flush all urine down the toilet.
- B. Restrict the client's fluid intake.
- C. Place the client in a semi-private room.
- D. Monitor the client for signs and symptoms of cystitis.

Correct Answer: D. Monitor the client for signs and symptoms of cystitis.

Cystitis is the most common adverse reaction of clients undergoing radiation therapy; symptoms include dysuria, frequency, urgency, and nocturia. Document the color of the patient's urine. Be aware that patients who complain of dysuria may require a urinalysis to rule out infection.

- **Option A:** Urine of clients with radiation implants for bladder cancer should be sent to the radioisotopes lab for monitoring. Teaching is a primary responsibility of nursing care for radiation patients. Patients and families must know what to expect, get a chance to ask questions, and have those questions answered to their satisfaction.
- **Option B:** It is recommended that fluid intake be increased. A dehydrated patient may require I.V. fluids. Teach the patient to report dehydration signs and symptoms, such as weakness, dizziness, and decreased urine output. If the patient reports diarrhea or vomiting, assess for volume depletion and check orthostatic vital signs and weight.
- **Option C:** Clients with radiation implants require a private room. Helping patients and families manage side effects is a key nursing responsibility. Unlike the systemic side effects of

chemotherapy, radiation side effects are specific to the treatment site. Make sure the patient receives an explanation of the treatment and its potential side effects.

35. In basal body temperature (BBT) technique, the sign that ovulation has occurred is an elevation of body temperature by

- A. 1.0-1.4 degrees centigrade
- B. 0.2-0.4 degrees centigrade
- C. 2.0-4.0 degrees centigrade
- D. 1.0-4.0 degrees centigrade

Correct Answer: B. 0.2-0.4 degrees centigrade

The release of the hormone progesterone in the body following ovulation causes a slight elevation of basal body temperature of about 0.2 – 0.4 degrees centigrade.

- **Option A:** Basal body temperature (BBT) is defined as the lowest natural, non-pathologic body temperature recorded after a period of rest. Women have used charting average basal body temperatures over the length of a menstrual period has been a tool to determine if ovulation has occurred or not.
- **Option C:** Ideally, charting the daily basal body temperature will show a noticeable increase of approximately 0.5 to 1 degrees F shortly after ovulation. This increase then sustains until the start of menstruation in which BBT then decreases back to baseline.
- **Option D:** For most accurate results, temperatures need to be recorded at the same time every day, immediately upon waking up. Measurements are also subject to environmental influences such as a fever secondary to an infectious process, emotional stressors, alcohol consumption, and the addition or discontinuation of oral contraception from a daily regimen.

36. Which of the following parameters would Nurse Max monitor to evaluate the effectiveness of thickened feedings for an infant with gastroesophageal reflux (GER)?

- A. Urine
- B. Vomiting
- C. Weight
- D. Stools

Correct Answer: B. Vomiting

Thickened feedings are used with GER to stop the vomiting. Therefore, the nurse would monitor the child's vomiting to evaluate the effectiveness of using the thickened feedings. The feeding management strategy has been shown to represent an effective approach in otherwise healthy infants with both GER and GERD. It involves modifying feeding frequency and volume, ensuring the intake of feed per kilogram of weight is appropriate. There is some evidence for the efficacy of feed thickeners on reducing visible regurgitation

- **Option A:** No relationship exists between feedings and urine. Patients with GER and GERD may also benefit from changing body position, by keeping them upright or even in the prone position,

especially in the postprandial period.

- **Option C:** If feedings are ineffective, this should be noted before there is any change in the child's weight. Identify the amount of weight loss needed for optimal body size and frame. Provides a basis for dietary planning.
- **Option D:** If the first-line management fails to improve symptoms, current pediatric guidelines advise for a 2–4 weeks trial with cow's milk protein-free diet, by either excluding milk from the maternal diet in breastfed infants or by using hydrolyzed formula in non-breast fed infants.

37. A client is sent to the psychiatric unit for forensic evaluation after he is accused of arson. His tentative diagnosis is antisocial personality disorder. In reviewing the client's record, the nurse would expect to find:

- A. A history of consistent employment
- B. A below-average intelligence
- C. A history of cruelty to animals
- D. An expression of remorse for his actions

Correct Answer: C. A history of cruelty to animals

- Option C: A history of cruelty to people and animals, truancy, and setting fires with a diagnosis of conduct disorder in children, which becomes a diagnosis of antisocial personality disorder in adults.
- Option A: A client with an antisocial personality disorder does not hold consistent employment.
- Option B: IQ is usually higher than average.
- Option D: A client with antisocial personality disorder lacks guilt or remorse for wrong-doing.

38. Mitomycin (Mutamycin) is prescribed to a client with colorectal cancer. All of which are the routes of administration, except?

- A. Oral
- B. Intravenous
- C. Intravesical
- D. Intraarterial

Correct Answer: A. Oral

Mitomycin (Mutamycin) is an antitumor antibiotic used in the treatment of anal, bladder, breast, cervical, colorectal, head and neck, and non-small cell lung cancer.

- **Option A:** There is no pill form of this medication.
- **Options B, C, & D:** These are the routes of medication.

40. Katrina, a newly admitted is extremely hostile toward a staff member she has just met, without apparent reason. According to Freudian theory, the nurse should suspect that the client is experiencing which of the following phenomena?

- A. Intellectualization
- B. Transference
- C. Triangulation
- D. Splitting

Correct Answer: B. Transference

Transference is the unconscious assignment of negative or positive feelings evoked by a significant person in the client's past to another person. Transference occurs when a person redirects some of their feelings or desires for another person to an entirely different person. Transference can also happen in a healthcare setting. For example, transference in therapy happens when a patient attaches anger, hostility, love, adoration, or a host of other possible feelings onto their therapist or doctor. Therapists know this can happen. They actively try to monitor it.

- **Option A:** Intellectualization is a defense mechanism in which the client avoids dealing with emotions by focusing on facts. The development of patterns of excessive thinking or over-analyzing, which may increase the distance from one's emotions. For example, someone who is diagnosed with a terminal illness does not show emotion after the diagnosis is given but instead starts to research every source they can find about the illness.
- **Option C:** Triangulation refers to conflicts involving three family members. Triangulation or triangling is defined in the AAMFT Family Therapy Glossary as the "process that occurs when a third person is introduced into a dyadic relationship to balance either excessive intimacy, conflict, or distance and provide stability in the system" (Evert et al. 1984 p. 32).
- **Option D:** Splitting is a defense mechanism commonly seen in clients with personality disorder in which the world is perceived as all good or all bad. Failing to reconcile both positive and negative attributes into a whole understanding of a person or situation, resulting in all-or-none thinking. Splitting is commonly associated with a borderline personality disorder.

41. A nurse is changing the central line dressing of a client receiving parenteral nutrition (PN) and notes that there is redness and drainage at the insertion site. The nurse next assesses which of the following?

- A. Time of last dressing change.
- B. Allergy.
- C. Client's temperature.
- D. Expiration date.

Correct Answer: C. Client's temperature.

Redness at the catheter insertion site is a possible sign of infection. The nurse would next assess for other signs of infection. Of the options given, the temperature is the next item to assess. TPN requires a chronic IV access for the solution to run through, and the most common complication is an infection of this catheter. Infection is a common cause of death in these patients, with a mortality rate of approximately 15% per infection, and death usually results from septic shock.

- **Option A:** Assess skin integrity and wound healing. Skin integrity changes and wound healing are used as parameters in monitoring the effectiveness of TPN feeding.

- **Option B:** TPN composition is based on the calculated nutritional needs of the client. Before the therapy is started, a thorough baseline assessment will be completed by health care members which include physicians, nurses, dieticians, and pharmacists. Changes in fluid balance, weight, and caloric intake are used to assess TPN effectiveness.
- **Option D:** Administer TPN at the ordered rate; if the infusion is interrupted, infuse 10% dextrose in water until the TPN infusion is restarted. This substitute infusion provides needed fluid in addition to protecting the client from sudden hypoglycemia; hypoglycemia can result when the high glucose concentration to which the client has metabolically adjusted is suddenly withdrawn.

42. The nurse is caring for a client who has had a gastroscopy. Which of the following symptoms may indicate that the client is developing a complication related to the procedure? Select all that apply.

- A. The client complains of a sore throat.
- B. The client has a temperature of 100°F.
- C. The client appears drowsy following the procedure.
- D. The client complains of epigastric pain.
- E. The client experiences hematemesis.

Correct Answer: B, D, and E.

Following a gastroscopy, the nurse should monitor the client for complications, which include perforation and the potential for aspiration. An elevated temperature, complaints of epigastric pain, or the vomiting of blood (hematemesis) are all indications of a possible perforation and should be reported promptly.

- **Option A:** A sore throat is a common occurrence following a gastroscopy. Before the procedure, the throat will be numbed with a local anesthetic spray. The local anesthetic spray is then given and a small plastic mouth guard placed in the mouth, to hold it open and protect the teeth.
- **Option B:** During a gastroscopy, there's a very small risk of the endoscope tearing the lining of the esophagus, stomach, or the first section of the small intestine (duodenum). This is known as perforation.
- **Option C:** Clients are usually sedated to decrease anxiety and the nurse would anticipate that the client will be drowsy following the procedure. Possible complications that can occur include a reaction to the sedative, which can cause problems with breathing, heart rate, and blood pressure.
- **Option D:** Signs of perforation can include neck, chest, or stomach pain, a high temperature of 38°C or above, breathing difficulties, and neck, chest, or stomach pain. If the perforation isn't severe, it can usually be left to heal by itself.
- **Option E:** Sometimes, during a gastroscopy, the endoscope can accidentally damage a blood vessel, causing it to bleed. However, significant bleeding is very rare. Signs of bleeding can include vomiting and passing black or "tar-like" poo.

43. A client with shortness of breath has decreased to absent breath sounds on the right side, from the apex to the base. Which of the following conditions would best explain this?

- A. Acute asthma

- B. Chronic bronchitis
- C. Pneumonia
- D. Spontaneous pneumothorax

Correct Answer: D. Spontaneous pneumothorax

A spontaneous pneumothorax occurs when the client's lung collapses, causing an acute decrease in the amount of functional lung used in oxygenation. The sudden collapse was the cause of his chest pain and shortness of breath.

- **Option A:** An asthma attack would show wheezing breath sounds.
- **Option B:** Bronchitis would have rhonchi.
- **Option C:** Pneumonia would have bronchial breath sounds over the area of consolidation.

44. Mrs. Ramirez, a 68-year-old retired schoolteacher, visits the optometrist due to challenges she's experiencing while reading in dim light. The optometrist explains that age-related changes can impact the number and functionality of certain light-sensitive cells in the retina. As Mrs. Ramirez used to teach biology, she recalls the importance of rods and cones in vision and asks for a refresher about their specific roles. The optometrist sees this as a teaching opportunity and questions her about the functions of rods in the retina. During a nursing assessment, a patient expresses curiosity about the role of rods in vision. To provide a comprehensive answer, which of the following best describes the functions of rods in the retina? Select all that apply.

- A. Rods are very sensitive to light and can function in very dim light, but they do not provide color vision.
- B. Rods require much more light, and they do provide color vision.
- C. Rods contain a photosensitive pigment called rhodopsin, which is made up of the colorless protein opsin in loose chemical combination with a yellow pigment called retinal.
- D. Rods play a crucial role in detecting fine details and high-resolution visual acuity.
- E. Rods in the retina provide high-resolution color vision in bright light conditions.

Correct Answer: A and C.

The sensory retina contains photoreceptor cells called rods and cones, which respond to light. Rods are very sensitive to light and can function in very dim light, but they do not provide color vision. Rod cells contain a photosensitive pigment called rhodopsin, which is made up of the colorless protein opsin in loose chemical combination with a yellow pigment called retinal.

- **Option A:** This is correct. Rods are highly sensitive and can function even in low-light conditions. They're primarily responsible for our night vision. However, they do not discern color.
- **Option C:** This is also correct. Rhodopsin, found in rods, undergoes a chemical change when exposed to light, initiating the process that results in vision.
- **Option B:** This statement is not accurate regarding rods. This description is more appropriate for cones, which are responsible for color vision and function best in brighter light conditions.

- **Option D:** This statement is more appropriate for cones, particularly the foveal cones, which provide sharp, central vision and help in discerning fine details.
- **Option E:** This statement is incorrect. In reality, rods are more sensitive to low light conditions and do not provide color vision; that function is primarily attributed to the cones in the retina.

45. Mr. Peterson, 35, is admitted for bipolar illness, manic phase, after assaulting his landlord in an argument over Mr. Peterson is staying up all night playing loud music. Mr. Peterson is hyperactive, intrusive, and has rapid, pressured speech. He has not slept in three days and appears thin and disheveled. Which of the following is the most essential nursing action at this time?

- A. Providing a meal and beverage for Mr. Peterson to eat in the dining room.
- B. Providing linens and toiletries for Mr. Peterson to attend to his hygiene.
- C. Consulting with the psychiatrist to order a hypnotic to promote sleep.
- D. Providing for client safety by limiting his privileges.

Correct Answer: D. Providing for client safety by limiting his privileges.

Mr. Peterson has been assaultive with the landlord, and it is reasonable to expect that he may be with peers and staff. His mental illness produces a hyperactive state and poor judgment and impulse control. External controls such as limiting of unit privileges will assist in feelings of security and safety. Maintain a consistent approach, employ consistent expectations, and provide a structured environment. Clear and consistent limits and expectations minimize potential for client's manipulation of staff.

- **Option A:** Food and fluids are necessary. However, Mr. Peterson's hyperactivity does not allow him to sit quietly to eat. Finger foods "on the run" will provide needed nourishment. Encourage frequent high-calorie protein drinks and finger foods (e.g., sandwiches, fruit, milkshakes). Constant fluid and calorie replacement are needed. The client might be too active to sit at meals. Finger foods allow "eating on the run".
- **Option B:** When hyperactivity decreases, then approach Mr. Peterson's. regarding hygiene and grooming needs. Give simple step-by-step reminders for hygiene and dress (e.g., "Here is your toothbrush. Put the toothpaste on the brush"). Distractibility and poor concentration are countered by simple, concrete instructions.
- **Option C:** Medications will be ordered. However, a thorough evaluation must be done first. Chart, in nurse's notes, behaviors; interventions; what seemed to escalate agitation; what helped to calm agitation; when as-needed (PRN) medications were given and their effect; and what proved most helpful. Staff will begin to recognize potential signals for escalating manic behaviors and have a guideline for what might work best for the individual client.

46. Katie is admitted to the intensive care unit of Nurseslabs Medical Center for diabetic ketoacidosis. Which of the following is of primary importance when caring for the child?

- A. Giving I.V. NPH insulin in high doses
- B. Evaluating the child for cardiac abnormalities

- C. Limiting fluids to prevent aggravating cerebral edema
- D. Monitoring and recording the child's vital signs for hypertension

Correct Answer: B. Evaluating the child for cardiac abnormalities.

As the fluid volume deficit is improved, total body potassium deficiency may occur, leaving the child vulnerable to hypokalemia and, afterward, cardiac arrest. The nurse should monitor the cardiac cycle for prolonged QT interval, low T wave, and depressed ST segment, which indicate weakened heart muscle and potential irregular heartbeat.

- **Option A:** Regular insulin is the only insulin that can be given I.V. NPH is an intermediate-acting insulin; continuous low-dose infusion of rapid-acting insulin is preferred. Short-acting or regular insulin should be administered as a continuous IV infusion to treat hyperglycemia and clear ketonemia. Bolus dosing of insulin has NO role in DKA treatment in children
- **Option C:** I.V. fluids should be given to correct dehydration. IV fluids should also be given to treat shock, acidosis, and dehydration. Strict “ins and outs” fluid balance assessments should be kept.
- **Option D:** Hypertension is more likely to happen secondary to dehydration. DKA patients will have an ileus and have vague, diffuse abdominal pain. Dehydration, thirst, and polyuria are common at the time of presentation due to glycosuria and osmotic diuresis.

47. Mr. Lim who is diagnosed with moderate dementia has frequent catastrophic reactions during shower time. Which of the following interventions should be implemented in the plan of care? Select all that apply.

- A. Assign consistent staff members to assist the client.
- B. Accomplish the task quickly, with several staff members assisting.
- C. Schedule the client's shower at the same time of day.
- D. Sedate the client 30 minutes prior to showering.
- E. Tell the client to remain calm while showering.
- F. Use a calm, supportive, quiet manner when assisting the client.

Answer: A, C, and F

Maintaining a consistent routine with the same staff members will help decrease the client's anxiety that occurs whenever changes are made. A calm, quiet manner will be reassuring to the client, also helping to minimize anxiety. Maintain a regular daily schedule routine to prevent problems that may result from thirst, hunger, lack of sleep, or inadequate exercise. Limit decisions that the patient makes. Be supportive and convey warmth and concern when communicating with the patient. The patient may be unable to make even the simplest choice decisions and this will result in frustration and distraction. By avoiding this, the patient has an increased feeling of security. Patients frequently have feelings of loneliness, isolation and depression, and they respond positively to a smile, friendly voice, and gentle touch.

- **Option B:** Moving quickly with several staff members will increase the client's anxiety and may precipitate a catastrophic reaction. Assess a patient's ability to cope with events, interests in surroundings and activity, motivation, and changes in memory pattern. The elderly may have a decrease in memory for more recent events and more active memory for past events and more active memory for past events and reminisce about the pleasant ones. The patient may exhibit assertiveness or aggressiveness to compensate for feelings of insecurity, or develop more narrowed interests and have difficulty accepting changes in lifestyle.

- **Option D:** The use of sedation is not indicated and may increase the risk of client injury from the side effect of drowsiness. Assess and identify a patient's previous history of grooming and bathing, and attempt to maintain similar care. Promotes familiarity with routine bathing time and type of bath or shower, and lessens further confusion and agitation. Ensure all needed items are present in the bathroom prior to the patient's arrival. Ensure that water temperature in the tube is appropriate. Prevents the need to leave the patient unattended, which may result in injury. Elderly are easily child and have fragile skin that is susceptible to scalding.
- **Option E:** Telling the client to remain calm is inappropriate because a client with dementia cannot respond to such a direction. Divert attention to a client when agitated or dangerous behaviors like getting out of bed by climbing the fence bed to promote safety and prevent risk for injury. Eliminate or minimize sources of hazards in the environment. Maintain security by avoiding a confrontation that could improve the behavior or increase the risk for injury.

48. Cataracts result in the opacity of the crystalline lens. Which of the following best explains the functions of the lens?

- A. The lens controls stimulation of the retina.
- B. The lens orchestrates eye movement.
- C. The lens focuses light rays on the retina.
- D. The lens magnifies small objects.

Correct Answer: C. The lens focuses light rays on the retina.

The lens allows light to pass through the pupil and focus light on the retina. The lens is a curved structure in the eye that bends light and focuses it for the retina to help you see images clearly. The crystalline lens, a clear disk behind the iris, is flexible and changes shape to help you see objects at varying distances.

- **Option A:** Retinal tissue is stimulated by light but also responds to mechanical disturbances. Flashing lights usually are caused by separation of the posterior vitreous. As the vitreous gel separates from the retina, it stimulates the retinal tissue mechanically, resulting in the release of phosphenes and the sensation of light.
- **Option B:** Because only a small portion of the retina, the fovea, is actually employed for distinct vision, it is vitally important that the motor apparatus governing the direction of gaze be extremely precise in its operation, and rapid.
- **Option D:** The lens works much like a camera lens, bending and focusing light to produce a clear image. The crystalline lens is a convex lens that creates an inverted image focused on the retina. The brain flips the image back to normal to create what you see around you. In a process called accommodation, the elasticity of the crystalline lens allows you to focus on images at far distances and near with minimal disruption.

49. What effect does hemoglobin amount have on oxygenation status?

- A. No effect
- B. More hemoglobin reduces the client's respiratory rate.
- C. Low hemoglobin levels cause reduced oxygen-carrying capacity.
- D. Low hemoglobin levels cause increased oxygen-carrying capacity.

Correct Answer: C. Low hemoglobin levels cause reduces oxygen-carrying capacity

Hemoglobin carries oxygen to all tissues in the body. If the hemoglobin level is low, the amount of oxygen-carrying capacity is also low. More hemoglobin will increase oxygen-carrying capacity and thus increase the total amount of oxygen available in the blood. If the client has been tachypneic during exertion, or even at rest, because oxygen demand is higher than the available oxygen content, then an increase in hemoglobin may decrease the respiratory rate to normal levels.

- **Option A:** Hemoglobin behavior is concerted in that hemoglobin with three sites occupied by oxygen is in the quaternary structure associated with the R state. The remaining open binding site has an affinity for oxygen more than 20-fold as great as that of fully deoxygenated hemoglobin binding its first oxygen.
- **Option B:** The vast majority of oxygen transported in the blood is bound to hemoglobin within red blood cells, while a small amount is carried in blood in the dissolved form. The unloading of oxygen from hemoglobin at target tissues is regulated by a number of factors including oxygen concentration gradient, temperature, pH, and concentration of the compound 2,3-Bisphosphoglycerate.
- **Option D:** The most important measures of effective oxygen transportation are hemoglobin concentration and the oxygen saturation level, the latter often measured clinically using pulse oximetry. Insults to oxygen-carrying capacity or oxygen delivery must be rapidly corrected to prevent irreversible damage to tissues.

50. The nurse is teaching a patient to prepare a syringe with 40 units of U-100 NPH insulin for self-injection. The patient's first priority concerning self-injection in this situation is to:

- A. Assess the injection site.
- B. Select the appropriate injection site.
- C. Check the syringe to verify that the nurse has removed the prescribed insulin dose.
- D. Clean the injection site in a circular manner with an alcohol sponge.

Correct Answer: C. Check the syringe to verify that the nurse has removed the prescribed insulin dose

When the nurse teaches the patient to prepare an insulin injection, the patient's first priority is to validate the dose accuracy. The next steps are to select the site, assess the site, and clean the site with alcohol before injecting the insulin.

- **Option A:** The site the client chooses for the injection should be clean and dry. If the skin is visibly dirty, clean it with soap and water. DO NOT use an alcohol wipe on the injection site. Choose where to give the injection. Keep a chart of places that have been used, so the client does not inject the insulin in the same place all the time. Ask the doctor for a chart.
- **Option B:** The insulin needs to go into the fat layer under the skin. If the skin tissues are thicker, the client may be able to inject straight up and down (90° angle). Check with the provider before doing this.
- **Option D:** To give an insulin injection, the client needs to fill the right syringe with the right amount of medicine, decide where to give the injection, and know how to give the injection.

51. Chloride helps maintain acid-base balance by performing which of the following roles?

- A. Participating in the chloride shift.
- B. Following sodium to maintain serum osmolarity.
- C. Maintaining the balance of cations in the ICF and ECF.
- D. Separating carbonic acid.

Correct Answer: A. Participating in the chloride shift.

To maintain acid-base balance, chloride shifts into and out of red blood cells in exchange for bicarbonate. In the presence of an acid-base imbalance, chloride levels change independently of sodium. Because of its inverse relationship with bicarbonate, chloride losses result in an increase in bicarbonate, and chloride gains result in a decrease in bicarbonate.

- **Option B:** Sodium ions are reabsorbed at the membrane, and hydrogen ions are expelled into the filtrate. The hydrogen ions combine with bicarbonate, forming carbonic acid, which dissociates into CO₂ gas and water.
- **Option C:** The kidneys help maintain the acid–base balance by excreting hydrogen ions into the urine and reabsorbing bicarbonate from the urine. Acid–base homeostasis concerns the proper balance between acids and bases; it is also called body pH. The body is very sensitive to its pH level, so strong mechanisms exist to maintain it.
- **Option D:** This reaction can and does occur without an enzyme; however, carbonic anhydrase is an enzyme that assists with this process. It catalyzes the first reaction above to form carbonic acid which can then freely dissociate into bicarbonate and a hydrogen ion. Carbonic anhydrase is located in red blood cells, renal tubules, gastric mucosa, and pancreatic cells.

52. The primary physiological alteration in the development of asthma is:

- A. Bronchial inflammation and dyspnea
- B. Hypersecretion of abnormally viscous mucus
- C. Infectious processes causing mucosal edema
- D. Spasm of bronchial smooth muscle

Correct Answer: D. Spasm of bronchial smooth muscle

Asthma is the presence of bronchial spasms. This spasm can be brought on by allergies or anxiety. Asthma is a condition of acute, fully reversible airway inflammation, often following exposure to an environmental trigger. The pathological process begins with the inhalation of an irritant (e.g., cold air) or an allergen (e.g., pollen), which then, due to bronchial hypersensitivity, leads to airway inflammation and an increase in mucus production.

- **Option A:** The primary physiological alteration is not inflammation. Airway obstruction occurs due to the combination of inflammatory cell infiltration; mucus hypersecretion with mucus plug formation; and smooth muscle contraction.
- **Option B:** There is the production of abnormally viscous mucus, not a primary alteration. If not corrected rapidly, asthma may become more difficult to treat, as the mucus production prevents the inhaled medication from reaching the mucosa. The inflammation also becomes more edematous. This process is resolved (in theory complete resolution is required in asthma, but in practice, this is

not checked or tested) with beta-2 agonists (e.g., salbutamol, salmeterol, albuterol) and can be aided by muscarinic receptor antagonists (e.g., ipratropium bromide), which act to reduce the inflammation and relax the bronchial musculature, as well as reducing mucus production

- **Option C:** The infection is not primary to asthma. These irreversible changes may become irreversible over time due to basement membrane thickening, collagen deposition, and epithelial desquamation, and airway remodeling occurs in chronic disease with smooth muscle hypertrophy and hyperplasia.

53. Which of the following therapies is not included in the medical management of a client with peritonitis?

- A. Broad-spectrum antibiotics
- B. Electrolyte replacement
- C. I.V. fluids
- D. Regular diet

Correct Answer: D. Regular diet

The client with peritonitis usually isn't allowed anything orally until the source of peritonitis is confirmed and treated. In bacterial peritonitis, the type of antibiotic therapy administered depends on the infecting organism. Keep the patient N.P.O., administer supplemental parenteral fluids and electrolytes as prescribed, and administer medication to manage pain as ordered. Insert a nasogastric (NG) tube to decompress the bowel.

- **Option A:** The client also requires broad-spectrum antibiotics to combat the infection. The primary focus of management is the identification and targeted treatment of offending agent(s) via antibiotics and/or surgical intervention. The non-operative measure includes broad-spectrum antibiotic administration with appropriate stewardship, tailoring the regimen to accomplish increased efficacy targeting the identified microorganisms.
- **Option B:** I.V. fluids are given to maintain hydration and hemodynamic stability and to replace electrolytes. Enteral nutrition is preferred to intravenous as soon as possible. The use of low-dose steroids for 7 days is indicated if the state of shock persists despite adequate resuscitation, or if there is poor response to vasopressors or adrenal insufficiency.
- **Option C:** Crystalloids are used, and a patient may easily require three to six liters in the first hours, depending on the state of the patient and the illness. Blood glucose is also closely monitored, aiming to maintain values around 220 mg/dL.

54. Which of the following should be included when developing a teaching plan to prevent urinary tract infection? Select all that apply.

- A. Maintaining adequate fluid intake
- B. Avoiding urination before and after intercourse
- C. Emptying bladder with urination
- D. Wearing underwear made of synthetic material such as nylon
- E. Keeping urine alkaline by avoiding acidic beverages
- F. Avoiding bubble baths and tight clothing

Correct Answer: A, C, & F

Even with proper antibiotic treatment, most UTI symptoms can last several days. In women with recurrent UTIs, the quality of life is poor. About 25% of women experience such recurrences. Many cases of uncomplicated UTIs will resolve spontaneously, without treatment, but many patients seek therapy for symptom relief.

- **Option A:** Fluid intake helps dilute urine and minimize infection potential. Even without treatment, most UTIs will spontaneously resolve in about 20% of women; especially if increased hydration is used. The likelihood that a healthy female will develop acute pyelonephritis is very small.
- **Option B:** Void before and after intercourse (if sexually active). Sexual intercourse is a common cause of a UTI as it promotes the migration of bacteria into the bladder. Although there is no proof of prevention, women should urinate after sexual intercourse because bacteria in the bladder can increase by ten-fold after intercourse.
- **Option C:** Emptying the bladder fully with each urination prevents stasis. People who frequently void and empty the bladder tend to have a lower risk of a UTI. Frequent urination and high urinary volumes are also known to decrease the risk of UTI.
- **Option D:** Children and teens should wear cotton underwear. The majority of organisms causing a UTI are enteric coliforms that typically inhabit the periurethral vaginal introitus. These organisms ascend the urethra into the bladder and cause UTI.
- **Option E:** Keep the urine acidic. Urine is an ideal medium for bacterial growth. Factors that make it less favorable for bacterial growth include a pH less than 5, the presence of organic acids, and high levels of urea. Normal urine pH is slightly acidic, with usual values of 6.0 to 7.5, but the normal range is 4.5 to 8.0. A urine pH of 8.5 or 9.0 is often indicative of a urea-splitting organism, such as Proteus, Klebsiella, or Ureaplasma urealyticum.
- **Option F:** Bubble baths and tight clothing may act as irritants. Vigorous urine flow is helpful to prevention. Baths should be avoided in favor of showers. A gentle, liquid soap should be used in bathing (such as Ivory or Dial) or a liquid baby soap such as Johnson's baby shampoo which is very acceptable for the vagina.

55. Kim is using bronchodilators for asthma. The side effects of these drugs that you need to monitor this patient for include:

- A. tachycardia, nausea, vomiting, heart palpitations, inability to sleep, restlessness, and seizures.
- B. tachycardia, headache, dyspnea, temp. 101 F, and wheezing.
- C. blurred vision, tachycardia, hypertension, headache, insomnia, and oliguria.
- D. restlessness, insomnia, blurred vision, hypertension, chest pain, and muscle weakness.

Correct Answer: A. Tachycardia, nausea, vomiting, heart palpitations, inability to sleep, restlessness, and seizures.

Bronchodilators can produce the side effects listed in answer choice (A) for a short time after the patient begins using them. The adverse effects of bronchodilators are due to sympathetic system activation. The most frequent and common adverse effects include trembling, nervousness, sudden, noticeable heart palpitations, and muscle cramps.

- **Option B:** More severe effects include sudden constriction of the bronchial airways, or paradoxical bronchospasm, hypokalemia, and in rare cases, myocardial infarction. A patient should talk to their primary care physician if they have any comorbidities.

- **Option C:** For anticholinergics, side effects include symptoms caused by a decrease in vagal tone. These can include dry mouth, urinary retention, tachycardia, constipation, and an upset stomach.
- **Option D:** Serious adverse effects of bronchodilators include bronchospasm, hypersensitivity reactions, hypertension, hypotension, cardiac arrest, hypokalemia, and hyperglycemia. Anticholinergics have correlated with dry mouth, constipation, urinary retention, and delirium.

56. Nurse Adams is reviewing the patient's medical history. The patient, a 70-year-old female with osteoporosis, has been admitted due to a recent hip fracture. As part of the patient's health teaching, Nurse Adams decides to discuss the importance of the skeletal system. During their conversation, Nurse Adams poses the following question to test the patient's understanding: "Given your condition, understanding the skeletal system is essential. Can you tell me which of the following is NOT considered a primary function of the skeletal system?"

- A. Support and protects body structures
- B. Storage of minerals
- C. Blood cell formation
- D. Synthesize Vitamin D

Correct Answer: D. Synthesize Vitamin D

This is a function of the integumentary system. The system synthesizes vitamin D3 which converts to calcitriol, for normal metabolism of calcium.

- **Option A:** Bone is the major supporting tissue of the body and protects internal organs (e.g., ribcage protects the heart, lungs, and other internal organs).
- **Option B:** Some minerals in the blood are taken into bone and stored. The principal minerals stored are calcium and phosphorus.
- **Option C:** Many bones contain cavities filled with bone marrow that gives rise to blood cells.

57. A client with schizophrenia hears a voice telling him he is evil and must die. The nurse understands that the client is experiencing:

- A. A delusion
- B. Flight of ideas
- C. Ideas of reference
- D. Hallucination

Correct Answer: D. Hallucination

A hallucination is a sensory perception, such as hearing voices and seeing objects, that only the client experiences. The word "hallucination" comes from Latin and means "to wander mentally." Hallucinations are defined as the "perception of a nonexistent object or event" and "sensory experiences that are not caused by stimulation of the relevant sensory organs." Hallucinations occur frequently in people with psychiatric conditions, including schizophrenia and bipolar disorder, however, you don't necessarily need to have a mental illness to experience hallucinations.

- **Option A:** A delusion is a false belief. Delusions are defined as fixed, false beliefs that conflict with reality. Despite contrary evidence, a person in a delusional state can't let go of their convictions. Delusions are often reinforced by the misinterpretation of events. Many delusions also involve some level of paranoia. For example, someone might contend that the government is controlling our every move via radio waves despite evidence to the contrary. Delusions are often part of psychotic disorders. They may occur along with hallucinations, which involve perceiving something that isn't really there, like hearing voices or feeling bugs crawling on your skin.
- **Option B:** Flight of ideas refers to a speech pattern in which the client skips from one unrelated subject to another. A nearly continuous flow of accelerated speech with abrupt changes from topic to topic that are usually based on understandable associations, distracting stimuli, or plays on words. When severe, speech may be disorganized and incoherent. It is part of the DSM -5 criteria for Manic episodes.
- **Option C:** Ideas of reference refers to the mistaken belief that someone or something outside the client is controlling the client's ideas or behavior. In people with bipolar disorder, mania and hypomania can comprise various symptoms, from reckless spending to sexual promiscuity. In addition, some more subtle symptoms may also occur, such as the belief held by some patients that everything occurring around them is related somehow to them when in fact it isn't. This symptom is known as ideas of reference. An extension of those irrational beliefs, delusions of reference, can cause patients to change their behavior significantly because of this mistaken belief.

58. Julia is a mother who is receiving oxytocin therapy. The nurse must continuously evaluate:

- A. Membrane integrity
- B. Uterine contractions
- C. Cervical dilation
- D. Cervical effacement

Correct Answer: B. Uterine contractions

A client receiving oxytocin therapy requires continuous monitoring of maternal vital signs, fluid intake and output, electronic fetal monitoring, and uterine contractions. It is essential to monitor patient fluids (both intake and outtake) while administering oxytocin, as well as the frequency of uterine contractions, patient blood pressure, and heart rate of the unborn fetus. When oxytocin is released, it stimulates uterine contractions, and these uterine contractions, in turn, cause more oxytocin to be released; this is what causes the increase in both the intensity and frequency of contractions and enables a mother to carry out vaginal delivery completely.

- **Option A:** When oxytocin is given to women who are in the first or second stages of labor, or to women to cause induction of labor, uterine rupture, as well as maternal subarachnoid hemorrhages, maternal death, and even fetal death, can result. If oxytocin is given in doses too large or even slowly during 24 hours, the medication can exhibit an antidiuretic effect resulting in extreme water intoxication; this can result in coma, seizures, and even death in the mother.
- **Option C:** Oxytocin is the commonest induction agent used worldwide. It has been used alone, in combination with amniotomy or following cervical ripening with other pharmacological or non-pharmacological methods. Prior to the introduction of prostaglandin agents oxytocin was used as a cervical ripening agent as well.
- **Option D:** Comparison between the use of intravenous oxytocin alone with a combination of oxytocin and either vaginal or intracervical PGE2 demonstrate that prostaglandins result in a

significantly lower cesarean delivery rate and an increased proportion of vaginal deliveries within 24 hours.

59. Continuous type of feedings is administered over a ___ hour period?

- A. 4.
- B. 12.
- C. 24.
- D. 36.

Correct Answer: C. 24.

Continuous feeding is administered for 24 hours. An infusion pump regulates the flow. Continuous drip feeding is delivered by either gravity drip or infusion pump. The infusion pump is a better method of delivery than gravity drip. The flow rate of gravity drip may be inconsistent and, therefore, needs to be checked frequently.

- **Option A:** When feedings are delivered continuously, stool output is reduced, a consideration for the child with chronic diarrhea. Continuous infusions of elemental formula have been successful in managing infants with short bowel syndrome, intractable diarrhea, necrotizing enterocolitis, and Crohn's disease.
- **Option B:** Commonly, it is used for 8 to 10 hours during the night for volume-sensitive patients so that smaller bolus feedings or oral feeding may be used during the day. Continuous feeding can be administered at night, so it will not interfere with daytime activities. Continuous feeding increases energy efficiency, allowing more calories to be used for growth. This can be important for severely malnourished children.
- **Option D:** Continuous drip-feeding may be delivered without interruption for an unlimited period of time each day. Feeding around the clock is not recommended as this limits a child's mobility and may elevate insulin levels contributing to hypoglycemia.

60. Which intervention would be included in the care plan for the client with an acute exacerbation of Ménière's disease?

- A. Instructing the client on the correct way to remove impacted cerumen.
- B. Speaking slowly and distinctly in a low-pitched, clear voice without yelling
- C. Providing a safe, quiet, dimly lit environment with enforced bed rest.
- D. Instructing the client to pull the top of the ear and back to instill ear drops.

Correct Answer: C. Providing a safe, quiet, dimly lit environment with enforced bed rest.

Ménière's disease is a chronic disorder of the inner ear involving sensorineural hearing loss, severe vertigo, and tinnitus. Typically, the client experiences sudden episodes of severe whirling vertigo with an inability to stand or walk, buzzing tinnitus that worsens before and during an episode, nausea, vomiting, and diaphoresis. The client's safety must be ensured along with decreasing exposure to extraneous stimuli. This is accompanied by providing the client with a quiet, dimly lit environment and bed rest.

- **Option A:** Instructions about removing cerumen are appropriate for a client with cerumen impaction. When treatment is appropriate, there are three recommended removal methods:

cerumenolytic agents, irrigation, and manual removal. To prevent further accumulation of cerumen in patients with recurrent symptoms greater than one per year, patients may apply mineral oil to the external canal 10 to 20 minutes weekly.

- **Option B:** Speaking slowly and distinctly in a low-pitched, clear voice without yelling is appropriate for clients experiencing hearing loss. Clients with Ménière's disease are not deaf during acute exacerbations. However, hearing loss may occur after repeated episodes.
- **Option D:** Ear drops are not the treatment of choice for an acute attack of Ménière's disease. A Cochrane review found low-level evidence to support the use of betahistine with substantial variability between studies. Medical therapy in many medical centers often starts with betahistine orally.

61. A contraindication for topical corticosteroid usage in a male patient with atopic dermatitis (eczema) is:

- A. Parasite infection.
- B. Viral infection.
- C. Bacterial infection.
- D. Spirochete infection.

Correct Answer: B. Viral infection.

Topical agents produce a localized, rather than systemic effect. When treating atopic dermatitis with a steroidal preparation, the site is vulnerable to invasion by organisms. Viruses, such as herpes simplex or varicella-zoster, present a risk of disseminated infection. Educate the patient using topical corticosteroids to avoid crowds or people known to have infections and to report even minor signs of an infection. Topical corticosteroid usage results in little danger of concurrent infection with these agents.

- **Option A:** Betamethasone dipropionate and diflorasone diacetate have an increased ability to suppress adrenal function. Around 14 g/week of clobetasol propionate ointment may induce suppression in children, while 49 g/week of betamethasone dipropionate reduces plasma cortisol levels. Temporary reversible suppression is seen with 49 g of superpotent TS used for 2 weeks.
- **Option C:** Topical steroids induce resorption of mucopolysaccharide ground substance in the dermis. Repeated use in the same area causes epidermal thinning and changes in the connective tissue of the dermis leading to lax, transparent, wrinkled, and shiny skin along with striae, fragility, hyperpigmentation, and prominence of underlying veins. The loss of connective tissue support for dermal vasculature results in erythema, telangiectasia, and purpura.
- **Option D:** Mucocutaneous infections (tinea versicolor, onychomycosis due to Trichophyton and Candida species, dermatophytosis) are common during treatment with TS, occurring early in the therapy. The incidence varies between 16% and 43%. When dermatophyte infections are treated with TS, the symptoms and signs improve transiently, giving rise to tinea incognito. TS suppresses the normal cutaneous immune response to dermatophytes leading to the enchantment of fungal infections. An immune mediated phenomenon called "tinea pseudoimbricata" is a particular type of tinea incognito which has been described by one of the authors.

62. The chart of a client with schizophrenia states that the client has perseveration. The nurse can expect the client to:

- A. Speak using words that rhyme

- B. Say the same thing over and over
- C. Include irrelevant details in conversation
- D. Make up new words with new meanings

Correct Answer: B. Say the same thing over and over

- Option B: A client with schizophrenia often has disordered speech such as perseveration where there is an unintentional repetition of a response (word, phrase, or gesture).
Option A: A client with a clang association speaks using rhyme words.
Option C: A client with circumstantiality includes irrelevant details in conversation.
Option D: A client with neologisms make up new words with new meanings.

63. When preparing a male client, age 51, for surgery to treat appendicitis, the nurse formulates a nursing diagnosis of Risk for infection related to inflammation, perforation, and surgery. What is the rationale for choosing this nursing diagnosis?

- A. Obstruction of the appendix may increase venous drainage and cause the appendix to rupture.
- B. Obstruction of the appendix reduces arterial flow, leading to ischemia, inflammation, and rupture of the appendix.
- C. The appendix may develop gangrene and rupture, especially in a middle-aged client.
- D. Infection of the appendix diminishes necrotic arterial blood flow and increases venous drainage.

Correct Answer: B. Obstruction of the appendix reduces arterial flow, leading to ischemia, inflammation, and rupture of the appendix.

A client with appendicitis is at risk for infection related to inflammation, perforation, and surgery because obstruction of the appendix causes mucus fluid to build up, increasing pressure in the appendix and compressing venous outflow drainage. The pressure continues to rise with venous obstruction; arterial blood flow then decreases, leading to ischemia from lack of perfusion.

- **Option A:** Inflammation and bacterial growth follow, and swelling continues to raise pressure within the appendix, resulting in gangrene and rupture. The pathophysiology of appendicitis likely stems from obstruction of the appendiceal orifice. This results in inflammation, localized ischemia, perforation, and the development of a contained abscess or frank perforation with resultant peritonitis.
- **Option C:** Geriatric, not middle-aged, clients are especially susceptible to appendix rupture. Appendicitis occurs most often between the ages of 5 and 45 with a mean age of 28. The incidence is approximately 233/100,000 people. Males have a slightly higher predisposition of developing acute appendicitis compared to females, with a lifetime incidence of 8.6% for men and 6.7 % for women.
- **Option D:** When an obstruction is the cause of appendicitis, it leads to an increase in intraluminal and intramural pressure, resulting in small vessel occlusion and lymphatic stasis. Once obstructed, the appendix fills with mucus and becomes distended, and as lymphatic and vascular compromise advances, the wall of the appendix becomes ischemic and necrotic.

64. When administering IV phenytoin (Dilantin), the nurse should:

- A. Administer it at a rate 100 mg/min.
- B. Protect the drug from light exposure.
- C. Mix the drug in dextrose solution.
- D. Mix the drug in saline solution.

Correct Answer: D. Mix the drug in saline solution.

Phenytoin must be mixed in saline solution only. It requires dilution with sodium chloride. Phenytoin is a hydantoin derivative, a first-generation anticonvulsant drug that is effective in the treatment of generalized tonic-clonic seizures, complex partial seizures, and status epilepticus without significantly impairing neurological function.

- **Option A:** Phenytoin should be administered at a rate of 50 mg/min. The drug is slowly administered intravenously directly into a large central or peripheral vein through an IV catheter less than 20 gauge, not exceeding a rate of 50 mg/minute.
- **Option B:** There is no need to protect phenytoin from light because it does not destabilize with light exposure. Knowledge of its pharmacokinetic properties is crucial for correct interpretation of total serum concentrations when protein binding becomes altered due to hypoalbuminemia, renal failure, or interaction with other protein-bound drugs such as valproate.
- **Option C:** Phenytoin will precipitate when mixed with a dextrose solution. Crystals will form when diluted with dextrose solution. In therapeutic doses, phenytoin is absorbed entirely and reaches peak plasma concentration at 1.5 to 3 hours. However, in settings of acute ingestions, absorption tends to last longer than two weeks; this is potentially attributable to its effects on reducing gastrointestinal motility and poor water solubility.

65. A nurse is giving instructions to a client receiving Pyrazinamide. Which of the following is not true regarding this medication?

- A. Take the medication with food.
- B. Photosensitivity is one of the side effects.
- C. It enhances the effect of allopurinol.
- D. Use with caution in patients with diabetes mellitus.

Correct Answer: C. It enhances the effect of allopurinol.

Patients taking pyrazinamide decrease the effects of allopurinol, colchicine, probenecid, and sulfipyrazone.

- **Option A:** Taken with food to reduce gastric upset.
- **Option B:** To instruct the client to avoid sunlight.
- **Option D:** This medication causes hyperglycemia.

66. The nurse is planning care for a client who has a phobic disorder manifested by a fear of elevators. Which goal would need to be accomplished first?

- A. The client will demonstrate the relaxation response when asked.
- B. The client will verbalize the underlying cause of the disorder.

- C. The client will ride the elevator in the company of the nurse.
- D. The client will roleplay the use of an elevator.

Correct Answer: A. The client will demonstrate the relaxation response when asked.

The ability to use relaxation is basic to treatment of phobia. Support the patient in recognizing strategies used in the past to deal with fearful situations. This method allows the patient to think that fear is a natural part of life and can be dealt with successfully. Initiate alternative treatments. Provide verbal and nonverbal (touch and hug with permission) reassurances of safety if safety is within control. Meditation, prayer, music, therapeutic touch, and healing touch techniques help lighten fear.

- **Option B:** Clients with phobias are resistant to insight therapy. Insight Therapy is a type of psychotherapy in which the therapist helps their patient understand how their feelings, beliefs, actions, and events from the past are influencing their current mindset. Importance is placed on the relationship between the therapist and the patient with the therapist identifying behavioral patterns from the patient's past that could be affecting their behavior and relationships at the present time.
- **Option C:** Riding the elevator accompanied by the nurse is an appropriate long-term goal. As the fear subsides, encourage the patient to involve himself or herself to specific events preceding the onset of the fear. Recognition and explanation of factors leading to fear are vital in developing alternative responses.
- **Option D:** Role-playing may be appropriate after the client has learned relaxation. Expose the client to a predetermined list of anxiety-provoking stimuli rated in hierarchy from the least frightening to the most frightening. Experiencing fear in progressively more challenging but attainable steps allows the client to realize that dangerous consequences will not occur. Helps extinguish conditioned avoidance response.

67. In order to prevent the development of tolerance, the nurse instructs the patient to:

- A. Apply the nitroglycerin patch every other day.
- B. Switch to sublingual nitroglycerin when the patient's systolic blood pressure elevates to >140 mm Hg.
- C. Apply the nitroglycerin patch for 14 hours each and remove for 10 hours at night.
- D. Use the nitroglycerin patch for acute episodes of angina only.

Correct Answer: C. Apply the nitroglycerin patch for 14 hours each and remove for 10 hours at night

Tolerance can be prevented by maintaining an 8- to 12-hour nitrate-free period each day. Intermittent transdermal nitroglycerin therapy is effective in the treatment of stable angina and prevents the development of tolerance. Previous investigations have suggested that removal of nitroglycerin patches may be associated with a decrease in anginal threshold.

- **Option A:** In patients with stable angina pectoris, intermittent transdermal nitroglycerin therapy is associated with a decrease in anginal threshold for 4 to 6 hours after patch removal. Although the cause of this phenomenon remains uncertain, it may be due to counterregulatory responses that develop during nitroglycerin patch application.
- **Option B:** It is given in hospitals as well as prescribed for outpatient use. Patients may be prescribed nitroglycerin to take as prophylaxis for anginal chest pain prior to an event that may provoke anginal symptoms. They must be instructed to allow the nitroglycerin to dissolve in their

mouth and allow their oral mucosa to absorb the drug.

- **Option D:** Continuous treatment with transdermal nitroglycerin leads to tolerance development within the first day of application. Effective long-term therapy can be provided by interval treatment with nightly patch removal, but even during the hours of intermittent patch application there is rapid attenuation of initial effects.

68. What laboratory finding is the primary diagnostic indicator for pancreatitis?

- A. Elevated blood urea nitrogen (BUN)
- B. Elevated serum lipase
- C. Elevated aspartate aminotransferase (AST)
- D. Increased lactate dehydrogenase (LD)

Correct Answer: B. Elevated serum lipase

Elevation of serum lipase is the most reliable indicator of pancreatitis because this enzyme is produced solely by the pancreas. Serum lipase typically increases 3–6 hours after the onset of acute pancreatitis and usually peaks at 24 hours. Unlike amylase, there is significant reabsorption of lipase in the renal tubules so the serum concentrations remain elevated for 8–14 days.

- **Option A:** A client's BUN is typically elevated in relation to renal dysfunction. A BUN test is done to see how well the kidneys are working. If the kidneys are not able to remove urea from the blood normally, the BUN level rises. Heart failure, dehydration, or a diet high in protein can also make the BUN level higher. Liver disease or damage can lower the BUN level.
- **Option C:** A client's AST is typically elevated in relation to liver dysfunction. The elevated AST-to-ALT ratio in alcoholic liver disease results in part from the depletion of vitamin B6 (pyridoxine) in chronic alcoholics. ALT and AST both use pyridoxine as a coenzyme, but the synthesis of ALT is more strongly inhibited by pyridoxine deficiency than is the synthesis of AST.
- **Option D:** A client's LD is typically elevated in relation to damaged cardiac muscle. Usually, LDH isoenzyme levels increase 24–72 hours following myocardial infarction and reach a peak concentration in 3–4 days. Glycogen phosphorylase BB is released into circulation 2–4 h after onset of cardiac ischemia and returns to baseline levels 1–2 days after acute myocardial infarction, making it an early marker.

69. An activity appropriate for the client with mania is:

- A. Table tennis
- B. Painting
- C. Chess
- D. Cleaning

Correct Answer: D. Cleaning

The client's excess energy can be rechanneled through physical activities that are not competitive like cleaning. This is also a way to dissipate tension. Maintain a low level of stimuli in the client's environment (e.g., loud noises, bright light, low-temperature ventilation). Redirect violent behavior. Physical exercise can decrease tension and provide focus.

- **Option A:** Tennis is a competitive activity which can stimulate the client. When possible, provide an environment with minimum stimuli (e.g., quiet, soft music, dim lighting). Reduction in stimuli lessens distractibility.
- **Option B:** When less manic, the client might join one or two other clients in quiet, non-stimulating activities (e.g., drawing, board games, cards). As mania subsides, involvement in activities that provide a focus and social contact becomes more appropriate. Competitive games can stimulate aggression and can increase psychomotor activity.
- **Option C:** Solitary activities requiring short attention spans with mild physical exertion are best initially (e.g., writing, taking photos, painting, or walks with staff). Solitary activities minimize stimuli; mild physical activities release tension constructively.

70. Nurse Lilly has been assigned to a client with Raynaud's disease. Nurse Lilly realizes that the etiology of the disease is unknown but it is characterized by:

- A. Episodic vasospastic disorder of capillaries
- B. Episodic vasospastic disorder of small veins
- C. Episodic vasospastic disorder of the aorta
- D. Episodic vasospastic disorder of the small arteries

Correct Answer: D. Episodic vasospastic disorder of the small arteries

Raynaud's disease is characterized by vasospasms of the small cutaneous arteries that involve fingers and toes. In Raynaud phenomenon, blood-flow restriction occurs during cold temperatures and emotional stress. Specifically, in Raynaud phenomenon, there is vasoconstriction of the digital arteries and cutaneous arterioles.

- **Option A:** Only the arteries are affected in Raynaud's disease. With cold temperatures, the sympathetic nervous system causes the release of vasoconstricting neuropeptides and norepinephrine leading to vasoconstriction of arteriole smooth muscle and decreased blood flow to the skin. Of note, in secondary Raynaud phenomenon, endothelin-1 is released by endothelial cells which causes vasoconstriction.
- **Option B:** The veins are unaffected by the vasospasm occurring with Raynaud's disease. In the primary Raynaud phenomenon, an increase in alpha-2 adrenergic sensitivity in the digital and cutaneous vessels results in the vasoconstrictive response to cold temperatures and emotional stress. Alpha-2 adrenergic receptors are present on the distal arterial smooth muscles of the digits and affected by the sympathetic nervous system.
- **Option C:** The aorta is a major blood vessel unaffected by Raynaud's disease. In the secondary Raynaud phenomenon, the underlying disease is the factor that disrupts normal vessel reactivity to cold temperatures. Usually, the endothelial function of the digital and cutaneous vessels is compromised leading to eventual vasoconstriction with resulting tissue ischemia.

71. A client with a bipolar disorder exhibits manic behavior. The nursing diagnosis is Disturbed thought processes related to difficulty concentrating, secondary to flight of ideas. Which of the following outcome criteria would indicate improvement in the client?

- A. The client verbalizes feelings directly during treatment.
- B. The client verbalizes a positive “self” statement.
- C. The client speaks in coherent sentences.
- D. The client reports feelings calmer.

Correct Answer: C. The client speaks in coherent sentences

A client exhibiting flight of ideas typically has a continuous speech flow and jumps from one topic to another. Speaking in coherent sentences is an indicator that the client’s concentration has improved and his thoughts are no longer racing. The defining characteristics of mania are increased talkativeness, rapid speech, decreased the need for sleep (unlike depression or anxiety in which the need for sleep exists, but there is an inability to sleep), racing thoughts, distractibility, increase in goal-directed activity, and psychomotor agitation.

- **Option A:** Some other hallmarks of mania are an elevated or expansive mood, mood lability, impulsivity, irritability, and grandiosity. If the individual experiencing these symptoms requires hospitalization, then this period automatically qualifies as true mania and not hypomania, even if the symptoms are present for less than one week.
- **Option B:** Mania must be distinguished from heightened energy and altered functioning that arises from substance use, medical conditions or other causes. Mania is a “natural” state which is the characteristic of bipolar I disorder. A single manic phase is sufficient to make the diagnosis of bipolar I disorder, although most cases of bipolar I also involve hypomanic and depressed episodes.
- **Option D:** Many families bring their loved ones to the emergency room due to the excessive behavioral changes they have noticed over a brief period. Patients amid a manic phase commonly engage in goal-directed activities that may result in harmful consequences, such as spending excessive money, starting businesses unprepared, traveling, or promiscuity.

72. A client in preterm labor (32 weeks) who is dilated to 5cm has been given magnesium sulfate and the contractions have stopped. If the labor can be delayed for the next 2 days, which of the following medication does the nurse expect that will be prescribed?

- A. fentanyl (Sublimaze)
- B. sufentanil (Sufenta)
- C. betamethasone (Celestone)
- D. butorphanol tartrate (Stadol)

Correct Answer: C. betamethasone (Celestone).

Glucocorticoids such as betamethasone and dexamethasone are being used to increase the production of surfactant to aid in fetal lung maturation. It is being given to patients who are in preterm labor at 28-32 weeks of gestation if the labor can be stopped for 2 days.

- **Option A, B, & D:** These are opioid analgesics.

73. The patient with migraine headaches has a seizure. After the seizure, which action can you delegate to the nursing assistant?

- A. Document the seizure
- B. Perform neurologic checks
- C. Take the patient's vital signs
- D. Restrain the patient for protection

Correct Answer: C. Take the patient's vital signs.

Taking vital signs is within the education and scope of practice for a nursing assistant.

- **Option A:** Documentation is one of the nursing responsibilities.
- **Option B:** The nurse should perform neurologic checks.
- **Option D:** Patients with seizures should not be restrained; however, the nurse may guide the patient's movements as necessary. Focus: Delegation/supervision

74. A 75-year-old client is admitted to the hospital with the diagnosis of dementia of the Alzheimer's type and depression. The symptom that is unrelated to depression would be?

- A. Apathetic response to the environment.
- B. "I don't know" answer to questions.
- C. Shallow of labile affect.
- D. Neglect of personal hygiene.

Correct Answer: C. Shallow of labile affect

With depression, there is little or no emotional involvement therefore little alteration in affect. The common features of all the depressive disorders are sadness, emptiness, or irritable mood, accompanied by somatic and cognitive changes that significantly affect the individual's capacity to function.

- **Option A:** Depression (major depressive disorder) is a common and serious medical illness that negatively affects how you feel, the way you think and how you act. Fortunately, it is also treatable. Depression causes feelings of sadness and/or a loss of interest in activities you once enjoyed. It can lead to a variety of emotional and physical problems and can decrease your ability to function at work and at home.
- **Option B:** A dysphoric mood state may be expressed by patients as sadness, heaviness, numbness, or sometimes irritability and mood swings. They often report a loss of interest or pleasure in their usual activities, difficulty concentrating, or loss of energy and motivation. Their thinking is often negative, frequently with feelings of worthlessness, hopelessness, or helplessness.
- **Option D:** Depression—also called "clinical depression" or a "depressive disorder"—is a mood disorder that causes distressing symptoms that affect how you feel, think, and handle daily activities, such as sleeping, eating, or working. To be diagnosed with depression, symptoms must be present most of the day, nearly every day for at least 2 weeks.

75. A client is wearing a continuous cardiac monitor, which begins to sound its alarm. A nurse sees no electrocardiogram complexes on the screen. The first action of the nurse is to:

- A. Check the client status and lead placement.
- B. Press the recorder button on the electrocardiogram console.
- C. Call the physician.
- D. Call a code blue.

Correct Answer: A. Check the client status and lead placement.

Sudden loss of electrocardiogram complexes indicates ventricular asystole or possible electrode displacement. Accurate assessment of the client and equipment is necessary to determine the cause and identify the appropriate intervention. Unlike invasive procedures, no preparation is needed, but the patient should be advised to keep the monitor away from other electrical devices while wearing the device. Physicians should recommend not to put lotion or moisturizer on the chest as it will affect the attachment of leads.

- **Option B:** After continuous improvement and progress, the Holter is now the size of a small cell phone and gives two types of primary data to analyze. One is the QRS complex, and the other is the R-R interval. It continuously records until it is detached from the patient or it runs out of power, although it is usually used for 24-48Hrs. The power supply lasts 80-100 hours with a tape recording capacity of ten hours.
- **Option C:** There is no need to call the physician immediately. Mobile electrocardiographic monitoring is contraindicated if it delays urgent treatment, hospitalization, or a procedure. For example, it should not be part of the initial investigation for angina, where a stress test would be more appropriate.
- **Option D:** Calling a code blue is unnecessary. The ACC/AHA guidelines discouraged the use of ambulatory ECG for either arrhythmia detection or analysis of heart rhythm variability for risk assessment in patients without symptoms of arrhythmia, even if they had cardiovascular conditions such as left ventricular hypertrophy, or valvular heart disease.

76. The physician has ordered an intravenous infusion of Pitocin for the induction of labor. When caring for the obstetric client receiving intravenous Pitocin, the nurse should monitor for:

- A. Maternal hypoglycemia
- B. Fetal bradycardia
- C. Maternal hyperreflexia
- D. Fetal movement

Correct Answer: B. Fetal bradycardia

The client receiving Pitocin should be monitored for decelerations. It is essential to monitor patient fluids (both intake and outtake) while administering oxytocin, as well as the frequency of uterine contractions, patient blood pressure, and heart rate of the unborn fetus.

- **Option A:** Oxytocin is primarily used by the obstetrician and the labor and delivery nurses. Healthcare workers who do prescribe this hormone should be familiar with its side effects. An inappropriate dosage of oxytocin can lead to dangerous tachycardia, arrhythmias, and myocardial ischemia. High dosages of oxytocin can cause uterine rupture, hypertonicity, and spasms.
- **Option C:** If oxytocin is given in doses too large or even slowly during 24 hours, the medication can exhibit an antidiuretic effect resulting in extreme water intoxication. This excessive dosing can

result in coma, seizures, and even death in the mother.

- **Option D:** When oxytocin is given to women who are in the first or second stages of labor, or to women to cause induction of labor, uterine rupture, as well as maternal subarachnoid hemorrhages, maternal death, and even fetal death, can result.

77. When planning the discharge of a client with chronic anxiety, Nurse Chris evaluates achievement of the discharge maintenance goals. Which goal would be A. The client eliminates all anxiety from daily situations. appropriately having been included in the plan of care requiring evaluation?

- A. The client eliminates all anxiety from daily situations.
- B. The client ignores feelings of anxiety.
- C. The client identifies anxiety-producing situations.
- D. The client maintains contact with a crisis counselor.

Correct Answer: C. The client identifies anxiety-producing situations

Recognizing situations that produce anxiety allows the client to prepare to cope with anxiety or avoid specific stimulus. Observe for increasing anxiety. Assume a calm manner, decrease environmental stimulation, and provide temporary isolation as indicated. Early detection and intervention facilitate modifying a client's behavior by changing the environment and the client's interaction with it, to minimize the spread of anxiety.

- **Option A:** Establish and maintain a trusting relationship by listening to the client; displaying warmth, answering questions directly, offering unconditional acceptance; being available, and respecting the client's use of personal space. Therapeutic skills need to be directed toward putting the client at ease, because the nurse who is a stranger may pose a threat to the highly anxious client.
- **Option B:** Encourage the client to talk about traumatic experiences under non-threatening conditions. Help the client work through feelings of guilt related to the traumatic event. Help the client understand that this was an event to which most people would have responded in like manner. Support the client during flashbacks of the experience.
- **Option D:** Teach signs and symptoms of escalating anxiety, and ways to interrupt its progression (e.g., relaxation techniques, deep-breathing exercises, physical exercises, brisk walks, jogging, meditation). So the client can start using relaxation techniques; gives the client confidence in having control over his anxiety.

78. Before birth, which of the following structures connects the right and left auricles of the heart?

- A. Umbilical vein
- B. Foramen ovale
- C. Ductus arteriosus
- D. Ductus venosus

Correct Answer: B. Foramen ovale

The foramen ovale is an opening between the right and left auricles (atria) that should close shortly after birth so the newborn will not have a murmur or mixed-blood traveling through the vascular system.

- **Option A:** The umbilical vein carries oxygenated, nutrient-rich blood from the placenta to the fetus, and the umbilical arteries carry deoxygenated, nutrient-depleted blood from the fetus to the placenta. Any impairment in blood flow within the cord can be a catastrophic event for the fetus.
- **Option C:** At birth, the lungs fill with air with the first breaths, pulmonary vascular resistance drops, and blood flows from the right ventricle to the lungs for oxygenation. The increased arterial oxygen tension and the decreased flow through the ductus arteriosus allow the ductus to constrict.
- **Option D:** In utero, the ductus venosus connects the left portal vein to the inferior vena cava, allowing a portion of the venous blood to bypass the liver and return to the heart. After birth, the ductus venosus generally closes between days of life 2 to 18 in term infants

79. The nurse is teaching a group of prenatal clients about the effects of cigarette smoke on fetal development. Which characteristic is associated with babies born to mothers who smoked during pregnancy?

- A. Low birth weight
- B. Large for gestational age
- C. Preterm birth, but appropriate size for gestation
- D. Growth retardation in weight and length

Correct Answer: A. Low birth weight

Infants of mothers who smoke are often low in birth weight. Smoking during pregnancy increases the risk of health problems for developing babies, including preterm birth, low birth weight, and birth defects of the mouth and lip. Smoking during and after pregnancy also increases the risk of sudden infant death syndrome (SIDS).

- **Option B:** Infants who are large for gestational age are associated with diabetic mothers. The reason for excessive growth of the fetus varies but primarily results from an abundance of nutrients combined with hormones in the fetus that stimulate growth. In pregnant women who have diabetes, a large amount of sugar (glucose) crosses the placenta (the organ that provides nourishment to the fetus), resulting in high levels of glucose in the fetus's blood. The high levels of glucose trigger the release of increased amounts of the hormone insulin from the fetus's pancreas. The increased amount of insulin results in accelerated growth of the fetus, including almost all organs except the brain, which grows normally.
- **Option C:** Preterm births are associated with smoking, but not with appropriate size for gestation. Mothers who smoke are more likely to deliver their babies early. Preterm delivery is a leading cause of death, disability, and disease among newborns. One in every five babies born to mothers who smoke during pregnancy has low birth weight.
- **Option D:** Growth retardation is associated with smoking, but this does not affect the infant length. Both babies whose mothers smoke while pregnant and babies who are exposed to secondhand smoke after birth are more likely to die from sudden infant death syndrome (SIDS) than babies who are not exposed to cigarette smoke. Babies whose mothers smoke are about three times more likely to die from SIDS.

80. The nurse is caring for a client with stage III Alzheimer's disease. A characteristic of this stage is:

- A. Inability to remember details in their life history
- B. Difficulty in organizing and planning
- C. Difficulty dressing appropriately
- D. Loss of bowel and bladder control

Correct Answer: B. Difficulty in organizing and planning

- Option B: Alzheimer's disease typically progresses during stage III that may last for about 7 years. The nurse may begin to observe the client having difficulty in organizing and planning, remembering names, and finding the right word during discussions.
- Option A: Forgetting details about own's life histories appear in stage IV.
- Option C: Difficulty dressing appropriately appears in stage V.
- Option D: People with loss bladder and bowel control appear in stage VI.

81. After a myocardial infarction, a client is placed on a sodium-restricted diet. When the nurse is teaching the client about the diet, which meal plan would be the most appropriate to suggest?

- A. 3 oz. broiled fish, 1 baked potato, ½ cup canned beets, 1 orange, and milk.
- B. 3 oz. canned salmon, fresh broccoli, 1 biscuit, tea, and 1 apple.
- C. A bologna sandwich, fresh eggplant, 2 oz fresh fruit, tea, and apple juice.
- D. 3 oz. turkey, 1 fresh sweet potato, 1/2 cup fresh green beans, milk, and 1 orange.

Correct Answer: D. 3 oz. turkey, 1 fresh sweet potato, 1/2 cup fresh green beans, milk, and 1 orange

Canned fish and vegetables and cured meats are high in sodium. This meal does not contain any canned fish and/or vegetables or cured meats. Eat a Mediterranean-style diet—more bread, fruit, vegetables, and fish; less meat; and replace butter and cheese with products based on vegetable and plant oils (reduces total mortality and the risk of myocardial infarction).

- **Option A:** Consume at least 7g of omega-3 fatty acids per week from 2–4 portions of oily fish per week. If within 3 months of myocardial infarction and they are not achieving this, consider providing at least 1g daily of omega-3 acid ethyl esters treatment licensed for secondary prevention after myocardial infarction for up to 4 years.
- **Option B:** Choose foods with less sodium and prepare foods with little or no salt. To lower blood pressure, aim to eat no more than 2,300 milligrams of sodium per day. Reducing daily intake to 1,500 mg is desirable because it can lower blood pressure even further.
- **Option C:** Processed meats, like hot dogs, sausage, and lunch meat, are loaded with sodium and nitrates. This can raise the blood pressure and the risk of another heart attack. High blood pressure is particularly dangerous because there usually aren't any symptoms.

82. A nurse assigned to the emergency department evaluates a patient who underwent fiberoptic colonoscopy 18 hours previously. The patient reports increasing abdominal pain, fever, and chills. Which of the following conditions poses the most immediate concern?

- A. Bowel perforation
- B. Viral gastroenteritis
- C. Colon cancer
- D. Diverticulitis

Correct Answer: A. Bowel perforation

Bowel perforation is the most serious complication of fiberoptic colonoscopy. Important signs include progressive abdominal pain, fever, chills, and tachycardia, which indicate advancing peritonitis. Bowel perforation results from insult or injury to the mucosa of the bowel wall resulting from a violation of the closed system. This exposes the structures within the peritoneal cavity to gastrointestinal contents. Patients presenting with abdominal pain and distension, especially in the appropriate historical setting, must be evaluated for this entity as delayed diagnosis can be life-threatening due to the risk of developing infections such as peritonitis.

- **Option B:** Several different viruses including rotavirus, norovirus, adenovirus, and astroviruses account for most cases of acute viral gastroenteritis. Most are transmitted via the fecal-oral route, including contaminated food and water. Transmission has also been shown to occur via fomites, vomitus, and possibly airborne methods. Norovirus is more resistant to chlorine and ethanol inactivation than other viruses. Acute gastroenteritis is defined by loose or watery diarrhea that consists of 3 or more bowel movements in a day. Other symptoms may include nausea, vomiting, fever, or abdominal pain
- **Option C:** Colon cancer does not cause these symptoms. Tumor location on clinical presentation can be separated on left-sided with more changes in bowel habits and hematochezia, and right-sided with obscured anemia impacting on late stage at diagnosis. The provider should perform a thorough physical examination for signs of ascites, hepatomegaly, and lymphadenopathy.
- **Option D:** Diverticulitis may cause pain, fever, and chills, but is far less serious than perforation and peritonitis. Acute diverticulitis is inflammation due to micro-perforation of a diverticulum. The diverticulum is a sac-like protrusion of the colon wall. Diverticulitis can present in about 10% to 25% of patients with diverticulosis. Diet appears to play a significant role. Low fiber, high fat, and red meat diets may increase the risk for development of diverticulosis and possible diverticulitis. Obesity and smoking are known to increase the potential for both diverticulitis and diverticular bleeding.

83. Yesterday, a client with schizophrenia began treatment with haloperidol (Haldol). Today, the nurse notices that the client is holding his head to one side and complaining of neck and jaw spasms. What should the nurse do?

- A. Assume that the client is posturing.
- B. Tell the client to lie down and relax.
- C. Evaluate the client for adverse reactions to haloperidol.
- D. Put the client on the list for the physician to see tomorrow.

Correct Answer: C. Evaluate the client for adverse reactions to haloperidol.

An antipsychotic agent, such as haloperidol, can cause muscle spasms in the neck, face, tongue, back, and sometimes legs as well as torticollis (twisted neck position). The nurse should be aware of these adverse reactions and assess for related reactions promptly. The extrapyramidal symptoms are muscular weakness or rigidity, a generalized or localized tremor that may be characterized by the akinetic or agitation types of movements, respectively. Due to the blockade of the dopamine pathway in the brain, typical antipsychotic medications such as haloperidol have correlations with extrapyramidal side effects.

- **Option A:** Although posturing may occur in clients with schizophrenia, it isn't the same as neck and jaw spasms. Due to potential side effects development, patients receiving haloperidol require monitoring, especially when receiving the intramuscular form. It can be easily monitored by taking blood levels. It has a therapeutic range of 2 to 15 ng/ml in serum. Blood levels should be monitored at 12-hour or 24-hour intervals or after the last dose of haloperidol use in a patient.
- **Option B:** Having the client relax can reduce tension-induced muscle stiffness but not drug-induced muscle spasms. Since there is no specific antidote, supportive treatment is the mainstay of haloperidol toxicity. If a patient develops sign symptoms of toxicities, the clinician should consider gastric lavage or induction of emesis as soon as possible, followed by the administration of activated charcoal.
- **Option D:** When a client develops a new sign or symptom, the nurse should consider an adverse drug reaction as the possible cause and obtain treatment immediately, rather than have the client wait. Since the drug can cause several side effects and related to several toxicities after initiation, the healthcare workers must be familiar with its pharmacology, signs symptoms of toxicity, and management of adverse effects. They must monitor their side effects and toxicities. A proper history and physical examination are necessary before the initiation of haloperidol in any patient.

84. A fifty-year-old client has a tracheostomy and requires tracheal suctioning. The first intervention in completing this procedure would be to:

- A. Change the tracheostomy dressing.
- B. Provide humidity with a trach mask.
- C. Apply oral or nasal suction.
- D. Deflate the tracheal cuff.

Correct Answer: C. Apply oral or nasal suction.

Before deflating the tracheal cuff, the nurse will apply oral or nasal suction to the airway to prevent secretions from falling into the lung. Dressing change and humidity do not relate to suctioning. Airway suctioning is a procedure routinely done in most care settings, including acute care, sub-acute care, long-term care, and home settings. Suctioning is performed when the patient is unable to effectively move secretions from the respiratory tract.

- **Option A:** Airways suctioning is indicated for multiple reasons. Most commonly suctioning is done for the removal of secretions from the respiratory tract, but sometimes also for removal of blood or other materials like meconium in specific cases. Airway suctioning is also performed for diagnostic purposes.
- **Option B:** Suctioning of the lower airways should be done in a sterile manner with single-use gloves and suction catheters to prevent contamination and secondary infection. After preparation with appropriate equipment at the bedside and monitoring continuous heart rate and oxygen saturation (as available), the patient should be suctioned with appropriately sized equipment for

their airway.

- **Option D:** After preparation with appropriate equipment at the bedside and monitoring continuous heart rate and oxygen saturation (as available), the patient should be suctioned with appropriately sized equipment for their airway.

85. When discussing normal infant growth and development with parents, which of the following toys would the nurse suggest as most appropriate for an 8-month-old?

- A. Push-pull toys
- B. Rattle
- C. Large blocks
- D. Mobile

Correct Answer: C. Large blocks

Because the 8-month-old is refining his gross motor skills, being able to sit unsupported, and also improving his fine motor skills, probably capable of making hand-to-hand transfers, large blocks would be the most appropriate toy selection.

- **Option A:** Push-pull toys would be more appropriate for the 10 to 12-month-old as he or she begins to cruise the environment. Push toys provide support for babies who aren't quite ready to stand or walk on their own. Teetering behind a push toy helps build strength, balance, and confidence — three essential ingredients to becoming a champion walker. Like push toys, pull toys and ride-ons also boost balance and coordination.
- **Option B:** Rattles are more appropriate for infants in the 1 to 3 month age range. The sounds rattles make can also alert babies to noise. If they hear the sound of a rattle, babies will eventually turn their heads towards the sound. Many rattles also have moving parts that can be twisted, turned, and spun, which can help further develop a baby's attention span and fine motor skills.
- **Option D:** Mobiles pose a danger to older infants because of possible strangulation.

86. A client states that she is afraid of receiving vitamin B12 injections because of the potential toxic reactions. What is the nurse's best response to relieve these fears?

- A. "Vitamin B12 will cause ringing in the ears before a toxic level is reached."
- B. "Vitamin B12 may cause a very mild skin rash initially."
- C. "Vitamin B12 may cause mild nausea but nothing toxic."
- D. "Vitamin B12 is generally free of toxicity because it is water soluble."

Correct Answer: D. "Vitamin B12 is generally free of toxicity because it is water soluble."

Vitamin B12 is a water-soluble vitamin. When water-soluble vitamins are taken in excess of the body's needs, they are filtered through the kidneys and excreted. Vitamin B12 is considered to be nontoxic. Adverse reactions that have occurred are believed to be related to impurities or to the preservative in B12 preparations.

- **Option A:** Ringing in the ears is not an adverse effect of Vitamin B12. Cobalamin has many cellular effects with the greatest impact on new blood cell generation and neurological function. At the cellular level, cobalamin acts as a cofactor of two enzymatic reactions that involve methionine synthase and methyl- malonyl-co A mutase.
- **Option B:** Effective therapy may reverse the laboratory abnormality quickly within 24 hours and reestablishment of normal bone marrow hematopoiesis within 48 hours. The reticulocyte count may increase after 3 to 4 days and reach its peak level after one week. A complete blood count may become normal approximately within eight weeks.
- **Option C:** Nausea is not considered to be related to vitamin B12 administration. Compliance with cobalamin supplementation should be monitored in vitamin B12 deficient patients. If the homocysteine or methylmalonic acid level fails to return to a normal level during the first week of treatment, it is suspicious for an incorrect diagnosis.

87. A 72-year old male client is brought to the emergency room by his son. The client is extremely uncomfortable and has been unable to void for the past 12 hours. He has known for some time that he has an enlarged prostate but has wanted to avoid surgery. The best method for the nurse to use when assessing for bladder distention in a male client is to check for:

- A. A rounded swelling above the pubis.
- B. Dullness in the lower left quadrant.
- C. Rebound tenderness below the symphysis.
- D. Urine discharge from the urethral meatus.

Correct Answer: A. A rounded swelling above the pubis.

The best way to assess for a distended bladder in either a male or female client is to check for a rounded swelling above the pubis. The swelling represents the distended bladder rising above the pubis into the abdominal cavity. Determine the condition of the skin in the perianal area. In patients with chronic neurogenic bladder, the skin typically shows areas of chronic irritation manifested by areas of excoriation and redness, usually superseded by fungal infection.

- **Option B:** Dullness does not indicate a distended bladder. Physical examination of a patient for incontinence includes cognitive, neural, musculoskeletal, and pelvic assessment. This is because both voluntary and involuntary control of voiding involve the central and peripheral nervous systems as well as the renal and genitourinary systems.
- **Option C:** The client might experience tenderness or pressure above the symphysis. Determine the motor level of the lesion, including the completeness of the lesion in SCI patients. Ascertain the extent of the patient's hand function and ability to perform transfers and activities of daily living. Hand function is especially important in SCI patients who are to perform self-catheterization.
- **Option D:** No urine discharge is expected; the urine flow is blocked by the enlarged prostate. Perform pelvic, genitourinary examinations on both male and female patients. For male patients, evaluate the status of the prostate, especially in men aged 60 years or older, as this can cause secondary urologic symptoms such as urinary retention. Perform pelvic, genitourinary examinations on both male and female patients. For male patients, evaluate the status of the prostate, especially in men aged 60 years or older, as this can cause secondary urologic symptoms such as urinary retention.

88. Which of the following would the nurse do first for a 3-year-old boy who arrives in the emergency room with a temperature of 105 degrees, inspiratory stridor, and restlessness, who is leaning forward and drooling?

- A. Auscultate his lungs and place him in a mist tent.
- B. Have him lie down and rest after encouraging fluids.
- C. Examine his throat and perform a throat culture.
- D. Notify the physician immediately and prepare for intubation.

Correct Answer: D. Notify the physician immediately and prepare for intubation.

The child is exhibiting classic signs of epiglottitis, always a pediatric emergency. The physician must be notified immediately and the nurse must be prepared for an emergency intubation or tracheostomy.

- **Option A:** Further assessment with auscultating lungs and placing the child in a mist tent wastes valuable time. The situation is a possible life-threatening emergency. In children, stridor may become louder in the supine position. Causes of stridor are pertussis, croup, epiglottitis, aspirations. The recommended auscultation position for the stethoscope is the chest wall position.
- **Option B:** Having the child lie down would cause additional distress and may result in respiratory arrest. Inspiratory stridor is often a medical emergency. Assessment of vital signs and degree of respiratory distress is the first step. In some cases, securing the airway may be necessary before or in parallel with the physical examination.
- **Option C:** Throat examination may result in laryngospasm that could be fatal. Physical examination of a patient with suspected acute epiglottitis is contraindicated. The patient may prefer certain positions that alleviate the stridor.

89. Bismuth subsalicylate (Pepto-Bismol), as an absorbent, has which of the following mechanisms of action?

- A. Decreased GI motility.
- B. Decreased gastric secretions.
- C. Increased fluid absorption.
- D. Binding to diarrhea-causing bacteria for excretion.

Correct Answer: D. Binding to diarrhea-causing bacteria for excretion.

Absorbent antidiarrheal medications bind to diarrhea-causing bacteria to form a nonabsorbable complex, which is then excreted in the stool. Bismuth subsalicylate (BSS) exhibits many of its properties due to its formulation as an insoluble salt of salicylic acid and trivalent bismuth. The mechanism of action through which BSS works is complex.

- **Option A:** In the stomach, BSS hydrolyzes into two compounds, bismuth, and salicylic acid. The salicylate compound is almost completely absorbed into the bloodstream, while bismuth salt is minimally absorbed.
- **Option B:** The bismuth that remains in the gastrointestinal tract forms other bismuth salts. These bismuth salts contain bactericidal and antimicrobial activity, and prevent bacteria from binding and growing on the mucosal cells of the stomach. This is the mechanism by which BSS helps eradicate *H. pylori*.

- **Option C:** The prevention of bacterial binding to the mucosal cells provides many benefits, which include prevention of intestinal secretion, promotion of fluid absorption, reduction of inflammation, and promotion of the healing of any present ulcer in the stomach.

90. Nurse Kevin reviews the client's chart and notes that the physician has documented a diagnosis of paronychia. Based on this diagnosis, which of the following would the nurse expect to note during the assessment?

- A. Dry, rough patches and bumps around the hair follicles on the upper arms, legs, and buttocks
- B. Red shiny skin around the nail bed
- C. White silvery patches on the elbows
- D. Swelling of the skin near the parotid gland

Correct Answer: B. Red shiny skin around the nail bed

Paronychia, or infection around the nail, is characterized by red, shiny skin, often associated with painful swelling. These infections frequently result from trauma, picking at the nail, or disorders such as dermatitis. Often, these become secondarily infected with bacteria or fungus, which later involves the nail. Warm soaks three or four times a day may reduce pain and pressure; however, incision and drainage of the inflamed site frequently are required.

- **Option A:** A skin disorder that causes small, dry, rough patches and bumps around the hair follicles on the upper arms, legs, and buttocks is called keratosis pilaris.
- **Option C:** Silvery white patches that are seen on elbows, knees, and lower back is a characteristic of Plaque psoriasis, a common form of psoriasis.
- **Option D:** Swelling of the skin near the parotid gland is observed in patients with mumps.

91. Nurse Vicky is assessing a newly admitted client for symptoms of post-traumatic stress disorder (PTSD). Which symptoms are typically seen with this diagnosis? Select all that apply.

- A. Anger with numbing of other emotions.
- B. Exaggerated startle response.
- C. Feeling that one is having a heart attack.
- D. Frequent thoughts about contamination.
- E. Frequent nightmares.
- F. Survivor's guilt.

Correct Answers: A, B, E, F

These are common symptoms of PTSD. Option C is common in panic disorder, and option D is characteristic of obsessive-compulsive disorder. Posttraumatic stress disorder (PTSD) is a syndrome that results from exposure to real or threatened death, serious injury, or sexual assault. Following the traumatic event, PTSD is common and is one of the serious health concerns that is associated with comorbidity, functional impairment, and increased mortality with suicidal ideations and attempts. The Diagnostic and Statistical Manual of Mental Disorders(DSM-5) has included PTSD in the new category of Trauma- and Stress-related Disorders.

- **Option A:** On the mental status examination, the patient would likely mention poor sleep and concentration, frequent nightmares and flashbacks related to the event, guilt or negative emotions associated with the reminder, avoidance, and increased vigilance. There is a persistent inability to experience a positive emotion such as happiness, satisfaction, or love.
- **Option B:** Furthermore, problems with sleep and concentration, irritability, increased reactivity, increased startle response, hypervigilance, avoidance of traumatic triggers also occur. There is a significant impairment in social, occupational, and other areas of functioning. However, the symptoms of PTSD overlap with acute stress disorder. For a patient to be diagnosed as PTSD, the duration of the symptoms must be more than one month.
- **Option C:** In order to make an accurate diagnosis of panic disorder, it is important to differentiate the two entities from each other. According to DSM V, panic disorder can be diagnosed if recurrent unexpected panic attacks are happening followed by one month or more of persistent concern over having more attacks, along with a change in the behavior of the individual to avoid a situation in which they attribute the attack to.
- **Option D:** Obsessive-compulsive disorder (OCD) is often a disabling condition consisting of bothersome intrusive thoughts that elicit a feeling of discomfort. To reduce the anxiety and distress associated with these thoughts, the patient may employ compulsions or rituals. These rituals may be personal and private, or they may involve others to participate; the rituals are to compensate for the ego-dystonic feelings of the obsessional thoughts and can cause a significant decline in function.
- **Option E:** The symptoms of PTSD include persistently re-experiencing the traumatic event, intrusive thoughts, nightmares, flashbacks, dissociation (detachment from oneself or reality), and intense negative emotional (sadness, guilt) and physiological reaction on being exposed to the traumatic reminder.
- **Option F:** Negative alterations in mood and cognition that began or worsened after the traumatic event, as evidenced by persistent negative emotional state, including fear, guilt, anger, or shame; persistent distorted cognition that leads the individual to blame self or others for causing the traumatic event.

92. After receiving a change-of-shift report at 7:00 AM, which of these patients will you assess first?

- A. A 23-year-old with a migraine headache who is complaining of severe nausea associated with retching.
- B. A 45-year-old who is scheduled for a craniotomy in 30 minutes and needs preoperative teaching.
- C. A 59-year-old with Parkinson's disease who will need a swallowing assessment before breakfast.
- D. A 63-year-old with multiple sclerosis who has an oral temperature of 101.80 F and flank pain.

Correct Answer: D. A 63-year-old with multiple sclerosis who has an oral temperature of 101.80 F and flank pain.

Urinary tract infections are a frequent complication in patients with multiple sclerosis because of the effect on bladder function. The elevated temperature and decreased breath sounds suggest that this patient may have pyelonephritis. The physician should be notified immediately so that antibiotic therapy can be started quickly.

- **Option A:** This patient needs further assessment, but does not require immediate attention. A migraine can cause severe throbbing pain or a pulsing sensation, usually on one side of the head. It's often accompanied by nausea, vomiting, and extreme sensitivity to light and sound. Migraine

attacks can last for hours to days, and the pain can be so severe that it interferes with daily activities.

- **Option B:** Preoperative teaching must be done but it is not the nurse's priority. A craniotomy is the surgical removal of part of the bone from the skull to expose the brain. Specialized tools are used to remove the section of bone called the bone flap. The bone flap is temporarily removed, then replaced after the brain surgery has been done.
- **Option C:** The patient should be assessed soon, but does not have an urgent need. In MS, the immune system attacks the protective sheath (myelin) that covers nerve fibers and causes communication problems between your brain and the rest of your body. Eventually, the disease can cause permanent damage or deterioration of the nerves.

93. Which of the following landmarks is the correct one for obtaining an apical pulse?

- A. Left intercostal space, midaxillary line
- B. Left fifth intercostal space, midclavicular line
- C. Left second intercostal space, midclavicular line
- D. Left seventh intercostal space, midclavicular line

Correct Answer: B. Left fifth intercostal space, midclavicular line

The correct landmark for obtaining an apical pulse is the left intercostal space in the midclavicular line. This is the point of maximum impulse and the location of the left ventricular apex.

- **Option A:** Normally, heart sounds aren't heard in the midaxillary line. During systolic contraction of the heart, a high amplitude wave of blood gets ejected through the aortic valve out towards the periphery. This high-pressure wave distends the arteries, especially compliant "elastic" or "conducting" arteries, which tend to be larger and closer to the heart. The subsequent release of that distention somewhat sustains the systolic wave of blood throughout the body, creating a spike followed by a downward sloping plateau in pulse waveform.
- **Option C:** The left second intercostal space in the midclavicular line is where the pulmonic sounds are auscultated. The intensity of the pulse is determined by blood pressure as well as other physiological factors such as ambient temperature. For example, colder temperatures cause vasoconstriction leading to decreased intensity. Besides the normal variation in a rhythm that occurs with the respiratory cycle, the heart rate should be regular in the absence of pathology.
- **Option D:** Heart sounds are not heard in the seventh intercostal space in the midclavicular line. Pulses are accurately measured when the clinician places their fingertips onto the skin overlying the vessel (locations, see below) and focuses on different aspects of the pulse. (NB: although one often hears that utilization of the thumb for measuring pulses is less accurate secondary to increased perception of the clinician's own pulsation during palpation, the author could not find data to support or refute this claim). If possible, the limb under evaluation should have support throughout palpation.

94. The nurse is assessing the urine of a client who has had an ileal conduit and notes that the urine is yellow with a moderate amount of mucus. Based on the assessment data, which of the following nursing interventions would be most appropriate at this time?

- A. Change the appliance bag.
- B. Notify the physician.
- C. Obtain a urine specimen for culture.
- D. Encourage a high fluid intake.

Correct Answer: D. Encourage a high fluid intake.

Mucus is secreted by the intestinal segment used to create the conduit and is a normal occurrence. The client should be encouraged to maintain a large fluid intake to help flush the mucus out of the conduit. Monitor intake and output (I&O;) carefully, measure liquid stool. Weigh regularly. Provides direct indicators of fluid balance. Greatest fluid losses occur with an ileostomy, but they generally do not exceed 500–800 mL/day.

- **Option A:** Because mucus in the urine is expected, it is not necessary to change the appliance bag or notify the physician. Inspect stoma and peristomal skin area with each pouch change. Note irritation, bruises (dark, bluish color), rashes. Monitors the healing process and effectiveness of appliances and identifies areas of concern, need for further evaluation and intervention.
- **Option B:** It is unnecessary to inform the physician. Verify that the opening on the adhesive backing of the pouch is at least 1/16 to 1/8 in (2–3 mm) larger than the base of the stoma, with adequate adhesiveness left to apply pouch. Prevents trauma to the stoma tissue and protects the peristomal skin. Adequate adhesive area prevents the skin barrier wafer from being too tight. Note: Too tight a fit may cause stomal edema or stenosis.
- **Option C:** The mucus is not an indication of an infection, so a urine culture is not necessary. Monitor vital signs, noting postural hypotension, tachycardia. Evaluate skin turgor, capillary refill, and mucous membranes. Reflects hydration status and/or the possible need for increased fluid replacement.

95. A terminally ill patient usually experiences all of the following feelings during the anger stage except:

- A. Rage
- B. Envy
- C. Numbness
- D. Resentment

Correct Answer: C. Numbness

Numbness is typical of the depression stage, when the patient feels a great sense of loss. Depression is perhaps the most immediately understandable of Kubler-Ross's stages and patients experience it with unsurprising symptoms such as sadness, fatigue, and anhedonia. Spending time in the first three stages is potentially an unconscious effort to protect oneself from this emotional pain, and, while the patient's actions may potentially be easier to understand, they may be more jarring in juxtaposition to behaviors arising from the first three stages.

- **Option A:** The anger stage includes such feelings as rage, envy, resentment, and the patient's questioning "Why me?" Anger, as Kubler-Ross pointed out, is commonly experienced and expressed by patients as they concede the reality of a terminal illness. It may be directed, as with blame of medical providers for inadequately preventing the illness, of family members for contributing to risks of not being sufficiently supportive, or of spiritual providers or higher powers for the diagnosis' injustice.

- **Option B:** Patients may feel sadness, anger, or confusion. They are experiencing the pain of loss. The task is completed as the patient begins to feel “normal” again.
- **Option D:** The anger may also be generalized and undirected, manifesting as a shorter temper or a loss of patience. Recognizing anger as a natural response can help health care providers and loved-ones to tolerate what might otherwise feel like hurtful accusations, though they must take care not to disregard criticism that may be warranted by attributing them solely to an emotional stage.

96. A client with chronic schizophrenia who takes neuroleptic medication is admitted to the psychiatric unit. Nursing assessment reveals rigidity, fever, hypertension, and diaphoresis. These findings suggest which life-threatening reaction:

- A. Tardive dyskinesia
- B. Dystonia
- C. Neuroleptic malignant syndrome
- D. Akathisia

Correct Answer: C. Neuroleptic malignant syndrome

The client’s signs and symptoms suggest neuroleptic malignant syndrome, a life-threatening reaction to neuroleptic medication that requires immediate treatment. Neuroleptic malignant syndrome (NMS) is a life-threatening syndrome associated with the use of dopamine-receptor antagonist medications or with rapid withdrawal of dopaminergic medications. NMS has been associated with virtually every neuroleptic agent but is more commonly reported with the typical antipsychotics like haloperidol and fluphenazine. Classic clinical characteristics include mental status changes, fever, muscle rigidity, and autonomic instability. While uncommon, NMS remains an important part of the differential diagnosis of fever and mental status changes because it requires early diagnosis and treatment to prevent significant mortality and death.

- **Option A:** Tardive dyskinesia causes involuntary movements of the tongue, mouth, facial muscles, and arm and leg muscles. Tardive dyskinesia (TD) is a syndrome which includes a group of iatrogenic movement disorders caused due to a blockade of dopamine receptors. The movement disorders include akathisia, dystonia, buccolingual stereotypy, myoclonus, chorea, tics and other abnormal involuntary movements which are commonly caused by the long-term use of typical antipsychotics.
- **Option B:** Dystonia is characterized by cramps and rigidity of the tongue, face, neck, and back muscles. Dystonia is defined by involuntary maintained contraction of agonist and antagonist muscles yielding abnormal posturing, twisting and repetitive movements, or tremulous and can be initiated or worsened by attempted movement. Dystonia is a dynamic disorder that changes in severity based on the activity and posture. Dystonia may assume a pattern of overextension or over-flexion of the hand, inversion of the foot, lateral flexion or retroflexion of the head, torsion of the spine with arching and twisting of the back, forceful closure of the eyes, or a fixed grimace. It may come to an end when the body is in action and during sleep.
- **Option D:** Akathisia causes restlessness, anxiety, and jitteriness. Akathisia is defined as an inability to remain still. It is a neuropsychiatric syndrome that is associated with psychomotor restlessness. The individual with akathisia will generally experience an intense sensation of unease or an inner restlessness that usually involves the lower extremities. This results in a compulsion to move. In most cases the movement is repetitive. The individual may cross, uncross, swing, or shift

from one foot to the other. To the observer, this may appear as a persistent fidget.

97. The following are signs that the placenta has detached, except?

- A. Lengthening of the cord
- B. Uterus becomes more globular
- C. Sudden gush of blood
- D. Mother feels like bearing down

Correct Answer: D. Mother feels like bearing down

Placental detachment does not require the mother to bear down. A normal placenta will detach by itself without any effort from the mother.

- **Option A:** The most reliable sign is the lengthening of the umbilical cord as the placenta separates and is pushed into the lower uterine segment by progressive uterine retraction. Placing a clamp on the cord near the perineum makes it easier to appreciate this lengthening. Never place traction on the cord without countertraction on the uterus above the symphysis; otherwise, one may mistake cord lengthening due to impending prolapse or inversion for that of uncomplicated placental separation.
- **Option B:** The uterus takes on a more globular shape and becomes firmer. This occurs as the placenta descends into the lower segment and the body of the uterus continues to retract. This change may be clinically difficult to appreciate.
- **Option C:** As the placenta detaches, the spiral arteries are exposed in the placental bed; massive hemorrhage would occur if not for the structure of the uterus. The vessels supplying the placental bed traverse a latticework of crisscrossing muscle bundles that occlude and kink-off the vessels as they contract and retract following the expulsion of the placenta.

98. Which of the following is the nurse's role in health promotion?

- A. Health risk appraisal
- B. Teach client to be effective health consumer
- C. Worksite wellness
- D. None of the above

Correct Answer: B. Teach client to be effective health consumer

Nurses play a huge role in illness prevention and health promotion. Nurses assume the role of ambassadors of wellness. The World Health Organization (WHO) defines health promotion as a process of enabling people to increase control over and to improve their health (WHO, 1986). Nurses are best qualified to take on the job of health promoter due to their expertise. There are few health care occupations that have the high level of health education knowledge, skills, theory, and research to be able to focus on prevention because it is considered part of their professional development focus.

- **Option A:** An HRA may be a simple questionnaire eliciting self-reported information on risk factors, behaviors, or diagnoses. Questionnaires may be supplemented with clinical examinations to obtain data on variables such as height, weight, body mass index (BMI), heart rate, or blood pressure. Some HRAs may include performance tests such as grip strength, timed-up-and-go, chair rise, or four-meter walk test.

- **Option C:** Studies show that employees are more likely to be on the job and performing well when they are in optimal health. Benefits of implementing a wellness program include: improved disease management and prevention, and a healthier workforce in general, both of which contribute to lower health care costs.
- **Option D:** One of the most critical roles that nurses have in health promotion and disease preventions is that of an educator. Nurses spend the most time with the patients and provide anticipatory guidance about immunizations, nutrition, dietary, medications, and safety.

99. Which route of administration is preferred if immediate analgesia and rapid titration are necessary?

- A. Intraspinal
- B. Patient-controlled analgesia (PCA)
- C. Intravenous (IV)
- D. Sublingual

Correct Answer: C. Intravenous (IV)

The IV route is preferred as the fastest and most amenable to titration. Medications may be given as repeated intermittent bolus doses or by continuous infusion. Intravenous provides almost immediate analgesia; subcutaneous may require up to 15 minutes for effect. Bolus IV dosing provides a shorter duration of action than other routes.

- **Option A:** Intraspinal administration requires special catheter placement and there are more potential complications with this route. Intraspinal and intraventricular administration are options if maximal doses of opioids and adjuvants administered through other routes are ineffective or produce intolerable side effects {e.g., nausea/vomiting, excessive sedation, confusion}. Opioids can be administered via indwelling percutaneous or tunneled catheters into the epidural or intrathecal space.
- **Option B:** A PCA bolus can be delivered; however, the pump will limit the dosage that can be delivered unless the parameters are changed. Patient-controlled analgesia (PCA) devices can be used to combine continuous infusion with intermittent bolus doses, allowing more flexible pain control. It is recommended that the hourly SQ volume limit not exceed 5 cc. Medications can be concentrated to maintain SQ volume limits; maximal concentrations: fentanyl 50 ug/ml, morphine 50 mgs/ml, hydromorphone 50 mgs/ml.
- **Option D:** Sublingual is reasonably fast, but not a good route for titration, medication variety in this form is limited. An alkaline pH microenvironment that favors the unionized fraction of opioids increased sublingual drug absorption. Although absorption was found to be independent of drug concentration, it was contact time dependent for methadone and fentanyl but not for buprenorphine. These results indicate that although the sublingual absorption and apparent sublingual bioavailability of morphine are poor, the sublingual absorption of methadone, fentanyl, and buprenorphine under controlled conditions is relatively high.

100. Which of the following conditions may require fluid restriction?

- A. Fever
- B. Chronic Obstructive Pulmonary Disease

C. Renal Failure

D. Dehydration

Correct Answer: C. Renal Failure

In renal failure, the kidney loses their ability to effectively eliminate wastes and fluids. Because of this, limiting the patient's intake of oral and I.V. fluids may be necessary. The term renal failure denotes the inability of the kidneys to perform excretory function leading to retention of nitrogenous waste products from the blood.

- **Option A:** A fever draws moisture out of the body. Plus, you lose fluid as your body makes mucus and it drains away. And that over-the-counter cold medicine you're taking to dry up your head can dry the rest of you out, too. So drink plenty of water, juice, or soup.
- **Option B:** Chronic obstructive pulmonary disease (COPD) is airflow limitation caused by an inflammatory response to inhaled toxins, often cigarette smoke. Alpha-1 antitrypsin deficiency and various occupational exposures are less common causes in nonsmokers.
- **Option D:** Dehydration must be treated by replenishing the fluid level in the body. This can be done by consuming clear fluids such as water, clear broths, frozen water or ice pops, or sports drinks (such as Gatorade). Some dehydration patients, however, will require intravenous fluids in order to rehydrate.