

Kevin's Review - 85 NCLEX Practice Questions

1. Which of the following blood tests is most indicative of cardiac damage?

- A. Lactate dehydrogenase
- B. Complete blood count
- C. Troponin I
- D. Creatine kinase

Correct Answer: C. Troponin I

Troponin I levels rise rapidly and are detectable within 1 hour of myocardial injury. Troponin I levels aren't detectable in people without cardiac injury. The troponin complex consists of three subunits—troponin C, troponin I, and troponin T—and is located on the myofibrillar thin (actin) filament of striated (skeletal and cardiac) muscle. The cardiac isoforms troponin T and I are only expressed in cardiac muscle. Hence, cardiac troponin T (cTnT) and I (cTnI) are more specific than creatine kinase (CK) values for myocardial injury and, because of their high sensitivity, they may even be elevated when CK-MB concentrations are not.

- **Option A:** Lactate dehydrogenase is present in almost all body tissues and not specific to the heart muscle. LDH isoenzymes are useful in diagnosing the cardiac injury. The function of the enzyme is to catalyze the reversible conversion of lactate to pyruvate with the reduction of NAD⁺ to NADH and vice versa.
- **Option B:** CBC is obtained to review blood counts, and complete chemistry is obtained to review electrolytes. Obtain a complete blood cell (CBC) count if myocardial infarction (MI) is suspected in order to rule out anemia as a cause of decreased oxygen supply and prior to giving thrombolytic agents.
- **Option D:** Because CK levels may rise with a skeletal muscle injury, CK isoenzymes are required to detect cardiac injury. In their current guidelines from 2000, the Joint European Society of Cardiology/American College of Cardiology committee redefined AMI as an elevation of cTn in blood above the 99th centile of a healthy reference population in conjunction with signs or symptoms of ischemia. This did expand the diagnostic capacity to detect micro-MI which was not evident by CK-MB measurements.

2. When assessing the adequacy of sperm for conception to occur, which of the following is the most useful criterion?

- A. Sperm count
- B. Sperm motility
- C. Sperm maturity
- D. Semen volume

Correct Answer: B. Sperm motility

Although all of the factors listed are important, sperm motility is the most significant criterion when assessing male infertility. To reach and fertilize an egg, sperm must move — wriggling and swimming through a woman's cervix, uterus, and fallopian tubes. This is known as motility. Males are most likely to be fertile if at least 40% of their sperm are moving.

- **Option A:** A normal sperm count ranges from 15 million sperm to more than 200 million sperm per milliliter (mL) of semen. Anything less than 15 million sperm per milliliter, or 39 million sperm per

ejaculate, is considered low.

- **Option C:** Sperm cells are continually being produced by the testes, but not all areas of the seminiferous tubules produce sperm cells at the same time. One immature germ cell takes as long as 74 days to reach final maturation, and during this growth process, there are intermittent resting phases.
- **Option D:** According to the International Society for Sexual Medicine, the average semen volume per ejaculate ranges from 1.25 to 5 milliliters (ml). This amount is the equivalent of one-quarter to 1 teaspoon of semen. It is important to note that semen volumes can vary from one time to another.

3. Which of the following would be an expected nutritional outcome for a client who has undergone a subtotal gastrectomy for cancer?

- A. Regain weight loss within 1 month after surgery.
- B. Resume normal dietary intake of three meals per day.
- C. Control nausea and vomiting through regular use of antiemetics.
- D. Achieve optimal nutritional status through oral or parenteral feedings.

Correct Answer: D. Achieve optimal nutritional status through oral or parenteral feedings.

An appropriate expected outcome is for the client to achieve optimal nutritional status through the use of oral feedings or total parenteral nutrition (TPN). TPN may be used to supplement oral intake, or it may be used alone if the client cannot tolerate oral feedings. Maintain patency of NG tube. Notify the physician if the tube becomes dislodged. This provides rest for the GI tract during the acute postoperative phase until the return of normal function.

- **Option A:** The client would not be expected to regain lost weight within 1 month after surgery. Note admission weight and compare with subsequent readings. This provides information about the adequacy of dietary intake and determination of nutritional needs.
- **Option B:** The client would not be expected to tolerate a normal dietary intake of three meals per day. Monitor tolerance to fluid and food intake, noting abdominal distension, reports of increased pain, cramping, nausea, and vomiting. Complications of paralytic ileus, obstruction, delayed gastric emptying, and gastric dilation may occur, possibly requiring reinsertion of the NG tube.
- **Option C:** Nausea and vomiting would not be considered an expected outcome of gastric surgery, and regular use of antiemetics would not be anticipated. Progress diet as tolerated, advancing from clear liquid to bland diet with several small feedings. Usually, the NG tube is clamped for specified periods of time when peristalsis returns to determine tolerance. After the NG tube is removed, intake is advanced gradually to prevent gastric irritation and distension.

4. Nurse John is aware that most crisis situations should resolve in about:

- A. 1 to 2 weeks
- B. 4 to 6 weeks
- C. 4 to 6 months
- D. 6 to 12 months

Correct Answer: B. 4 to 6 weeks

Crisis is self-limiting and lasts from 4 to 6 weeks. In mental health terms, a crisis refers not necessarily to a traumatic situation or event, but to a person's reaction to an event. One person might be deeply affected by an event while another individual suffers little or no ill effects. The Chinese word for crisis presents an excellent depiction of the components of a crisis. The word "crisis" in Chinese is formed with the characters for danger and opportunity.

- **Option A:** "People are in a state of crisis when they face an obstacle to important life goals—and obstacle that is, for a time, insurmountable by the use of customary methods of problem-solving." (Caplan, 1961). A crisis can sometimes be quite obvious, such as a person losing his or her job, getting divorced, or being involved in some type of accident. In other cases, a personal crisis might be less apparent but can still lead to dramatic changes in behavior and mood.
Option C: "Crisis is a perception or experience of an event or situation as an intolerable difficulty that exceeds the person's current resources and coping mechanisms." (James and Gilliland, 2001). It's important to lean on friends, family, and loved ones during a crisis, but you should also seek professional help if you need it. Consider talking to your doctor about what you are dealing with.
- **Option D:** If you are coping with a crisis, whether it's emotional or situational, there are things that you can do to help ensure your psychological and physical well-being during this difficult time of your life. Focus on what's important at the moment. This can mean getting yourself out of an unsafe situation or it can mean just focusing on the basics so that you can get through each day. Avoid taking on too much and conserve your energy so you can deal with the problem you are facing.

5. A client's family member says to the nurse, "The doctor said he will provide palliative care. What does that mean?" The nurse's best response is:

- A. "Palliative care is given to those who have less than 6 months to live."
- B. "Palliative care aims to relieve or reduce the symptoms of a disease."
- C. "The goal of palliative care is to affect a cure of a serious illness or disease."
- D. "Palliative care means the client and family take a more passive role and the doctor focuses on the physiological needs of the client. The location of death will most likely occur in the hospital setting."

Correct Answer: B. "Palliative care aims to relieve or reduce the symptoms of a disease."

The goal of palliative care is the prevention, relief, reduction, or soothing of symptoms of disease or disorders without effecting a cure. Palliative care improves the quality of life of patients and that of their families who are facing challenges associated with life-threatening illness, whether physical, psychological, social, or spiritual. The quality of life of caregivers improves as well.

- **Option A:** Palliative care is required for a wide range of diseases. The majority of adults in need of palliative care have chronic diseases such as cardiovascular diseases (38.5%), cancer (34%), chronic respiratory diseases (10.3%), AIDS (5.7%), and diabetes (4.6%). Many other conditions may require palliative care, including kidney failure, chronic liver disease, multiple sclerosis, Parkinson's disease, rheumatoid arthritis, neurological disease, dementia, congenital anomalies, and drug-resistant tuberculosis.
- **Option C:** Palliative care is an approach that improves the quality of life of patients (adults and children) and their families who are facing problems associated with life-threatening illnesses. It prevents and relieves suffering through the early identification, correct assessment, and treatment of pain and other problems, whether physical, psychosocial, or spiritual.
- **Option D:** Addressing suffering involves taking care of issues beyond physical symptoms. Palliative care uses a team approach to support patients and their caregivers. This includes addressing practical needs and providing bereavement counseling. It offers a support system to

help patients live as actively as possible until death.

6. A 40-year-old construction worker presents to the emergency department after falling from a height. Radiographic imaging is ordered to assess potential fractures. The radiologist pays special attention to the areas where two or more bones come together, as these are common sites of injury. Which term best describes these areas?

- A. Cartilage
- B. Tendon
- C. Ligament
- D. Joint

- **Option A:** Cartilage is a connective tissue that provides cushioning between bones in a joint.
- **Option B:** Tendons connect muscles to bones.
- **Option C:** Ligaments connect bones to bones.

7. When a client with a personality disorder begins demonstrating manipulative behavior, which of the following nursing actions are most appropriate? Select all that apply.

- A. Ask the client to think about the consequences of behavior.
- B. Allow the client time to perform specific rituals.
- C. Develop a consistent team approach to handle the client's behaviors.
- D. Help the client to express anxiety verbally rather than with specific symptoms.
- E. Provide immediate feedback concerning the client's specific behaviors.
- F. Set limits in a clear, direct manner.

Correct Answers: A, C, E, F

These interventions allow the nurse to immediately confront the client's manipulative behavior and provide consistent structure (through limit-setting and team approach).

- **Option A:** Be very clear about the consequences if policies/limits are not adhered to. The client needs to understand the consequences of breaking the rules.
- **Option B:** This is appropriate for the client with obsessive-compulsive behavior. During the beginning of treatment, allow plenty of time for rituals. Do not be judgmental or verbalize disapproval of the behavior to deny the client this activity can precipitate panic level of anxiety.
- **Option C:** Make a clear and concrete written plan of care so other staff can follow. Helps minimize manipulations and might help encourage cooperation.
- **Option D:** For someone with somatization problems. Encourage the client to explore feelings and concerns (e.g., identify fears, loneliness, self-hate). Client is used to acting out feelings.
- **Option E:** Give the client positive attention when behaviors are appropriate and productive. Avoid giving any attention (when possible and not dangerous to self or others) when the client's behaviors

are inappropriate.

- **Option F:** Use assertiveness when setting limits on the client's unreasonable demands for attention and time. Firm, clear, nonjudgmental limits give the client structure.

8. Jomarick is diagnosed with FVD; which of the following nursing diagnoses might apply to his condition?

- A. Altered urinary elimination
- B. Decreased cardiac output
- C. Increased cardiac output
- D. Vomiting

Correct Answer: B. Decreased cardiac output

Decreased cardiac output is a nursing diagnosis associated with isotonic FVD. Decrease in circulating blood volume can cause hypotension and tachycardia. Alteration in HR is a compensatory mechanism to maintain cardiac output. Usually, the pulse is weak and may be irregular if electrolyte imbalance also occurs. Hypotension is evident in hypovolemia. Other appropriate nursing diagnoses include altered tissue perfusion, potential for injury, and ineffective breathing pattern.

- **Option A:** Assess color and amount of urine. Report urine output less than 30 ml/hr for 2 consecutive hours. A normal urine output is considered normal not less than 30ml/hour. Concentrated urine denotes fluid deficit. Teach family members how to monitor output in the home. Instruct them to monitor both intake and output.
- **Option C:** Cardiac alterations like dysrhythmias may reflect hypovolemia and/or electrolyte imbalance, commonly hypocalcemia. Note: MI, pericarditis, and pericardial effusion with/ without tamponade are common cardiovascular complications.
- **Option D:** Monitor active fluid loss from wound drainage, tubes, diarrhea, bleeding, and vomiting; maintain accurate input and output record. Fluid loss from wound drainage, diarrhea, bleeding, and vomiting causes decreased fluid volume and can lead to dehydration.

9. A client is diagnosed with methicillin-resistant staphylococcus aureus pneumonia. What type of isolation is most appropriate for this client?

- A. Reverse isolation
- B. Respiratory isolation
- C. Contact isolation
- D. Standard precautions

Correct Answer: C. Contact isolation

Contact or Body Substance Isolation (BSI) involves the use of barrier protection (e.g. gloves, mask, gown, or protective eyewear as appropriate) whenever direct contact with any body fluid is expected. When determining the type of isolation to use, one must consider the mode of transmission. The hands of personnel continue to be the principal mode of transmission for methicillin-resistant staphylococcus aureus (MRSA). Because the organism is limited to the sputum in this example, precautions are taken if contact with the patient's sputum is expected. A private room and BSI, along with good hand washing techniques, are the best defense against the spread of MRSA pneumonia.

- **Option A:** Reverse isolation refers to the practice of healthcare workers and visitors wearing barriers (i.e., gown, gloves, mask, etc.) routinely upon entry to the client room, for the purpose of preventing client exposure to external microbes. Certain immunocompromised clients have been shown to benefit from specific additional “interventions”. These interventions create a “Protective Environment”.
- **Option B:** Respiratory isolation is used for diseases that are spread through particles that are exhaled. Those having contact with or exposure to such a patient are required to wear a mask. Respiratory isolation guidelines for patients admitted from the ED with pneumonia were developed and validated in a study. These guidelines provide satisfactory guidance for isolation of patients at risk for PTB in a high-TB-prevalence population.
- **Option D:** Standard Precautions are the minimum infection prevention practices that apply to all patient care, regardless of suspected or confirmed infection status of the patient, in any setting where healthcare is delivered. These practices are designed to both protect DHCP and prevent DHCP from spreading infections among patients.

10. Which insulin can be administered through continuous intravenous infusion?

- A. insulin glargine (Lantus)
- B. insulin aspart (Novolog)
- C. insulin detemir (Levemir)
- D. insulin Afrezza
- E. regular insulin (Novolin R)

Correct Answer: E. regular insulin (Novolin R)

Regular insulin is a short-acting insulin that can be given intravenously in a continuous manner. For intravenous infusions, to minimize insulin adsorption to plastic IV tubing, flush the intravenous tube with a priming infusion of 20 mL from a 100 mL-polyvinyl chloride bag insulin every time a new intravenous tubing is added to the insulin infusion container.

- **Option A:** Insulin glargine comes either in 100 ml vials or in dosing pens that contain 3 ml cartridges of medication and is administered via subcutaneous injection only. The drug is available at a concentration of 100 units per ml. Its administration includes a diluent with a pH of 4.0 to maintain the solubility of the drug before use.
- **Option B:** Insulin aspart should be administered subcutaneously (SC) within 5 to 10 minutes before a meal, with 1 to 4 meals per day. Rotate injection sites between the top of thighs, back of upper arms, buttocks, or abdomen to avoid lipodystrophy. Avoid injecting within 2 inches of the naval.
- **Option C:** Long-acting insulins, such as glargine and detemir, start action in 1 to 2 hours. They provide a plateau effect over 12 to 24 hours. Dosing is usually during the night time after meals. Their long duration of action helps in reducing the frequency of dosing throughout the day.
- **Option D:** Insulin degludec is a long-acting, man-made version of human insulin. Insulin degludec works by replacing the insulin that is normally produced by the body and by helping move sugar from the blood into other body tissues where it is used for energy. It also stops the liver from producing more sugar. Insulin degludec comes as a solution (liquid) to inject subcutaneously (under the skin). It is injected once a day.

11. Evaluating the apical pulse is the most reliable noninvasive way to assess cardiac function. Which is the best area for auscultating the apical pulse?

- A. Aortic arch
- B. Pulmonic area
- C. Tricuspid area
- D. Mitral area

Correct Answer: D. Mitral area

The mitral area (also known as the left ventricular area or the apical area), the fifth intercostal space (ICS) at the left midclavicular line, is the best area for auscultating the apical pulse. The apical pulse is auscultated with a stethoscope over the chest where the heart's mitral valve is best heard. In infants and young children, the apical pulse is located at the fourth intercostal space at the left midclavicular line. In adults, the apical pulse is located at the fifth intercostal space at the left midclavicular line.

- **Option A:** The aortic arch is the second ICS to the right of the sternum. Apical pulse rate is indicated during some assessments, such as when conducting a cardiovascular assessment and when a client is taking certain cardiac medications (e.g., digoxin). Sometimes the apical pulse is auscultated pre and post medication administration.
- **Option B:** The pulmonic area is the second intercostal space to the left of the sternum. It is also a best practice to assess apical pulse in infants and children up to five years of age because radial pulses are difficult to palpate and count in this population. It is typical to assess apical pulses in children younger than eighteen, particularly in hospital environments. Apical pulses may also be taken in obese people because their peripheral pulses are sometimes difficult to palpate.
- **Option C:** The tricuspid area is the fifth ICS to the left of the sternum. Position the client in a supine (lying flat) or in a seated position. Physically palpate the intercostal spaces to locate the landmark of the apical pulse. Ask the female client to re-position her own breast tissue to auscultate the apical pulse.

12. A nurse is providing health teachings regarding antiplatelet medications. Which of the following is not true regarding the use of this medication?

- A. Antiplatelet medication inhibits the aggregation of platelets in the clotting process, thereby prolonging bleeding time.
- B. Antiplatelet medications cannot be used with anticoagulants.
- C. Take the medication with food to prevent gastrointestinal upset.
- D. A routine bleeding time is monitored during the therapy.

Correct Answer: B. Antiplatelet medications cannot be used with anticoagulants.

Antiplatelet and anticoagulant therapies are effective in keeping a clot from forming or stopping the growth of one.

- **Option A:** Antiplatelet medication inhibits the aggregation of platelets in the clotting process, thereby prolonging bleeding time.
- **Option C:** These medications are taken with food to prevent gastrointestinal side effects such as stomach pain, nausea, and diarrhea.

- **Option D:** Bleeding time is monitored to determine the effectiveness of the medication.

13. The emergency medical service has transported a client with severe chest pain. As the client is being transferred to the emergency stretcher, you note unresponsiveness, cessation of breathing, and unpalpable pulse. Which of the following task is appropriate to delegate to the nursing assistant?

- A. Assisting with the intubation
- B. Placing the defibrillator pads
- C. Doing chest compressions
- D. Initiating bag valve mask ventilation

Correct Answer: C. Doing chest compressions.

Performing chest compressions are within the training of a nurse assistant. Every good certified nursing assistant should be proficient at cardiopulmonary resuscitation (CPR). Basic Life Support (BLS) certification is the widely-used term for any form of CPR certification and is required for all Registered Nurses (RN) and Certified Nursing Assistants (CNA).

- **Option A:** Due to the nature of critical care patients it is inevitable that nurses working in this setting will be called on to assist with tracheal intubation. This assistant role requires a high degree of knowledge and skills in order for the intubation procedure to be executed smoothly.
- **Option B:** The defibrillator pads are clearly marked; however placement should be done by the RN or physician because of the potential for skin damage and electrical arcing. Most hospital nurses will be trained in advisory defibrillation, while a few will be trained in manual defibrillation.
- **Option C:** The use of the bag valve mask requires practice, and usually a respiratory therapist will perform the function. Bag-valve-mask ventilation can be done with one person or two, but two-person BVM ventilation is easier and more effective because a tight seal must be achieved and this usually requires two hands on the mask.

14. Grace is exhibiting withdrawn patterns of behavior. Nurse Johnny is aware that this type of behavior eventually produces a feeling of:

- A. Repression
- B. Loneliness
- C. Anger
- D. Paranoia

Correct Answer: B. Loneliness

The withdrawn pattern of behavior presents the individual from reaching out to others for sharing the isolation produces a feeling of loneliness. Prolonged loneliness can affect mental health, too. It can make any symptoms you're already dealing with worse, for one. But it can also factor into the development of serious mental health conditions, including depression. Loneliness may not feel very comfortable, but it's a transient emotional state that specifically relates to your needs for connection and belonging. Once you meet those needs, you'll probably feel less lonely.

- **Option A:** Repression is a type of psychological defense mechanism that involves keeping certain thoughts, feelings, or urges out of conscious awareness. The goal of this form of defense is to keep unacceptable desires or thoughts out of the conscious mind in order to prevent or minimize feelings of anxiety. This process involves pushing painful or disturbing thoughts into the unconscious in order to remain unaware of them. The concept was first identified and described by Sigmund Freud, who was most famous for the development of psychoanalysis.
- **Option C:** Anger is an emotion characterized by antagonism toward someone or something you feel has deliberately done you wrong. Anger can be a good thing. It can give you a way to express negative feelings, for example, or motivate you to find solutions to problems. But excessive anger can cause problems. Increased blood pressure and other physical changes associated with anger make it difficult to think straight and harm your physical and mental health.
- **Option D:** Paranoia involves intense anxious or fearful feelings and thoughts often related to persecution, threat, or conspiracy. Paranoia occurs in many mental disorders, but is most often present in psychotic disorders. Paranoia can become delusions, when irrational thoughts and beliefs become so fixed that nothing (including contrary evidence) can convince a person that what they think or feel is not true. When a person has paranoia or delusions, but no other symptoms (like hearing or seeing things that aren't there), they might have what is called a delusional disorder. Because only thoughts are impacted, a person with delusional disorder can usually work and function in everyday life, however, their lives may be limited and isolated.

15. Situation: An old woman was brought for evaluation due to the hospital for evaluation due to increasing forgetfulness and limitations in daily function. The daughter revealed that the client used her toothbrush to comb her hair. She is manifesting:

- A. Apraxia
- B. Aphasia
- C. Agnosia
- D. Amnesia

Correct Answer: C. Agnosia

This is the inability to recognize objects. Agnosia is a rare disorder whereby a patient is unable to recognize and identify objects, persons, or sounds using one or more of their senses despite otherwise normally functioning senses. The deficit cannot be explained by memory, attention, language problems, or unfamiliarity to the stimuli. Usually, one of the sensory modalities is affected.

- **Option A:** Apraxia is the inability to execute motor activities despite intact comprehension. Apraxia is a neurological disorder characterized by the inability to perform learned (familiar) movements on command, even though the command is understood and there is a willingness to perform the movement. Both the desire and the capacity to move are present but the person simply cannot execute the act.
- **Option B:** Aphasia is the loss of ability to use or understand words. Aphasia is an impairment to comprehension or formulation of language caused by damage to the cortical center for language. It can be caused by many different brain diseases and disorders; however, cerebrovascular accident (CVA) is the most common reason for a person to develop aphasia. The symptoms of aphasia can range from mild impairment to complete loss of any fundamental components of language such as semantic, grammar, phonology, morphology, and syntax.

- **Option D:** Amnesia is the loss of memory. Amnesia is a dramatic form of memory loss. If you have amnesia you may be unable to recall past information (retrograde amnesia) and/or hold onto new information (anterograde amnesia). Amnesia, in the Greek language, means “forgetfulness.”

16. A female client is admitted in a disoriented and restless state after sustaining a concussion during a car accident. Which nursing diagnosis takes highest priority for this client’s plan of care?

- A. Disturbed sensory perception (visual)
- B. Self-care deficit: Dressing/grooming
- C. Impaired verbal communication
- D. Risk for injury

Correct Answer: D. Risk for injury

Because the client is disoriented and restless, the most important nursing diagnosis is risk for injury. Provide for safety needs (e.g., supervision, side rails, seizure precautions, placing call bell within reach, positioning needed items within reach/clearing traffic paths, ambulating with devices). This is to prevent untoward incidents and to promote safety.

- **Option A:** Avoid challenging illogical thinking. Challenges to the patient’s thinking can be perceived as threatening and result in a defensive reaction. Orient the patient to surroundings, staff, necessary activities as needed. Present reality concisely and briefly. Avoid challenging illogical thinking—defensive reactions may result. Increased orientation ensures greater degree of safety for the patient.
- **Option B:** Modulate sensory exposure. Provide a calm environment; eliminate extraneous noise and stimuli. Increased levels of visual and auditory stimulation can be misinterpreted by the confused patient. Assist the family and significant others in developing coping strategies. The family needs to let the patient do all that he or she is able to do to maximize the patient’s level of functioning and quality of life.
- **Option C:** Give simple directions. Allow sufficient time for the patient to respond, to communicate, to make decisions. This communication method can reduce anxiety experienced in a strange environment.

17. A major side effect of insulin use that can be life threatening is:

- A. Hyperglycemia
- B. Stomach upset
- C. Hypoglycemia
- D. Tremors

Correct Answer: C. Hypoglycemia

The action of insulin will lower glucose levels, which may prove fatal if levels drop too low. Hypoglycemia is, by far, the most common adverse effect of insulin therapy. The other adverse effects of insulin therapy include weight gain, and rarely electrolyte disturbances like hypokalemia, especially when used along with other drugs causing hypokalemia.

- **Option A:** Some patients who take insulin before bed, wake up with high blood sugar levels. This effect occurs when the insulin causes a hypoglycemic condition in the body, which activates the antihyperglycemic hormones such as cortisol and adrenaline, resulting in rebound hyperglycemia.; this can be corrected by reducing the dose of bedtime insulin or changing the time of insulin dosing.
- **Option B:** The subcutaneous route of administration also has its adverse effects. Pain at the injection site, lipodystrophy at the site of injection are the most common adverse effects of daily subcutaneous injections. Other adverse effects like peripheral hyperinsulinemia and decreased compliance are also seen in the population using the subcutaneous route for administration of insulin.
- **Option D:** Insulin taken in large doses will cause symptoms of hypoglycemia in the patient. Some of these symptoms include headache, dizziness, palpitations, sweating, abdominal pain, and blurring of vision. The immediate therapy for such patients is increasing the levels of glucose. In a conscious patient, this can be done by eating a high energy bar or drinking a glass of glucose water. If the patient is unconscious, he needs to be hospitalized and given dextrose solution intravenously and monitor glucose levels continuously.

18. When teaching a community group about measures to prevent colon cancer, which instruction should the nurse include?

- A. "Limit fat intake to 20% to 25% of your total daily calories."
- B. "Include 15 to 20 grams of fiber into your daily diet."
- C. "Get an annual rectal examination after age 35."
- D. "Undergo sigmoidoscopy annually after age 50."

Correct Answer: A. "Limit fat intake to 20% to 25% of your total daily calories."

To help prevent colon cancer, fats should account for no more than 20% to 25% of total daily calories and the diet should include 25 to 30 grams of fiber per day. Long-chain n-3 fatty acids have been suggested to play a protective role in colorectal cancer development in laboratory and animal studies, with the mechanism of action conjectured to be inhibition of the cyclooxygenase-2 (COX-2) enzyme and the production of arachidonic acid (n-6) derived eicosanoids.

- **Option B:** Many observational studies have reported an inverse association between dietary fiber and CRC risk, with a relative reduction of up to 40%, although a few large cohort studies reported small, statistically null associations. A large pooled analysis of thirteen prospective cohorts suggested that dietary fiber intake was inversely associated with CRC risk in age-adjusted analyses.
- **Option C:** A digital rectal examination isn't recommended as a stand-alone test for colorectal cancer. All new CRC cases should be universally screened for DNA mismatch repair/microsatellite status, and RAS/BRAF mutational testing when considering for prognostic and predictive of chemotherapy efficacy. In almost all patients, a diagnostic or screening colonoscopy is required for tissue biopsy pathological confirmation of colon carcinoma.
- **Option D:** For colorectal cancer screening, the American Cancer Society advises clients over age 50 to have a flexible sigmoidoscopy every 5 years, yearly fecal occult blood tests, yearly fecal occult blood tests PLUS a flexible sigmoidoscopy every 5 years, a double-contrast barium enema every 5 years, or a colonoscopy every 10 years.

19. A 32-year-old patient with a progressive demyelinating disorder has been admitted to the neurology ward for further evaluation and management. Over the course of the disorder, the patient's clinical record notes a remarkable resilience against concurrent CNS infections, which is unusual in individuals with a disrupted blood-brain barrier. During the ward round, the attending physician engages the medical team in a discussion regarding the neuroimmune interactions within the CNS. In light of the patient's clinical course and the neuroscience lecture on the role of specific nerve cells in protecting the CNS from infection and their ability to become phagocytic in response to inflammation, which type of nerve cell is primarily responsible for this immune function within the CNS?

- A. Schwann cells
- B. Ependymal cells
- C. Microglia
- D. Astrocytes

Correct Answer: C. Microglia

Microglia are specialized immune cells found in the central nervous system. Their primary function is to act as the brain's resident immune cells, monitoring the brain's microenvironment, and responding to potential threats, such as infections or damage, by phagocytosing (engulfing and eliminating) cellular debris, pathogens, and abnormal proteins, thus helping to maintain brain health and homeostasis.

- **Option A:** Schwann cells are primarily involved in the myelination of peripheral nerves, not central nervous system nerves. They help in speeding up the conduction of nerve impulses and aid in the regeneration of peripheral nerve fibers. They do not have a primary role in immune response or phagocytosis within the CNS.
- **Option B:** Ependymal cells line the ventricles of the brain and spinal cord canal and are involved in the production and circulation of cerebrospinal fluid. They don't play a primary role in immune responses or phagocytosis within the CNS.
- **Option D:** Astrocytes are a type of glial cell that provides structural and metabolic support for neurons. They contribute to the maintenance of the blood-brain barrier and regulate the extracellular environment. While they do have some roles in the immune response within the CNS, they are not primarily responsible for phagocytosis or direct immune defense like microglia.

20. A patient must receive 50 units of Humulin regular insulin. The label reads 100 units = 1 ml. How many milliliters should the nurse administer?

- A. 0.5 ml
- B. 0.75 ml
- C. 1 ml
- D. 2 ml

Correct Answer: A. 0.5 ml

There are 3 primary methods for calculation of medication dosages; Dimensional Analysis, Ratio Proportion, and Formula or Desired Over Have Method. Desired Over Have or Formula Method uses a

formula or equation to solve for an unknown quantity (x) much like ratio proportion.

- **Option B:** Drug calculations require the use of conversion factors, for example, when converting from pounds to kilograms or liters to milliliters. Simplistic in design, this method allows clinicians to work with various units of measurement, converting factors to find the answer. These methods are useful in checking the accuracy of the other methods of calculation, thus acting as a double or triple check.
- **Option C:** The Ratio and Proportion Method has been around for years and is one of the oldest methods utilized in drug calculations (as cited in Boyer, 2002)[Lindow, 2004]. Addition principals is a problem-solving technique that has no bearing on this relationship, only multiplication, and division are used to navigate through a ratio and proportion problem, not adding.
- **Option D:** High-risk medications such as heparin and insulin often require a second check on dosage amounts by more than one provider before the administration of the drug. Follow institutional policies and recommendations on the double-checking of dose calculations by another licensed provider.

21. A client is in danger of respiratory arrest following the administration of a narcotic analgesic. An arterial blood gas value is obtained. The nurse would expect PaCO₂ to be which of the following values?

- A. 15 mm Hg
- B. 30 mm Hg
- C. 40 mm Hg
- D. 80 mm Hg

Correct Answer: D. 80 mm Hg

A client about to go into respiratory arrest will have inefficient ventilation and will be retaining carbon dioxide. The value expected would be around 80 mm Hg. All other values are lower than expected. When shunt is predominant above other mechanisms, the hypoxemia is more severe and refractory to oxygen therapy, meaning that high levels of inspiratory oxygen fraction (FIO₂ >50-60%) are needed to reach PaO₂ values between 60 and 70mmHg, as in ARDS.

- **Option A:** In cases of significant alveolar dead space (large areas of pulmonary parenchyma without perfusion), such as in pulmonary emphysema, there may be both hypoxemia and hypercapnia due to alveolar hypoventilation and V/Q mismatch, especially if the ventilatory pump could not compensate the baseline disturb.
- **Option B:** The hypoxic ARF is defined by PaO₂ levels < 55-60mmHg, in-room air or with indication for oxygen therapy with no CO₂ retention. The pulmonary causes of hypoxemia or hypercapnia include dead space, impairment of gas diffusion, V/Q mismatch, and shunt. It is not always possible to determine which is the predominant mechanism in a clinical scenario. Different levels of V/Q disorders may coexist in the patient's pulmonary parenchyma.
- **Option C:** The hypercapnic ARF is characterized by increased PaCO₂ levels above 45-50mHg with resultant acidemia; pH<7.34. The hypercapnic ARF is invariably associated with alveolar hypoventilation with resulting in mild hypoxemia. In the hypoxemic type, however, the main alteration is the increased D(A-a)O₂ caused by the pulmonary parenchyma disease and ventilation/perfusion (V/Q) mismatch.

22. Skin reactions are common in radiation therapy. Nursing responsibilities on promoting skin integrity should be promoted apart from:

- A. Avoiding the use of ointments, powders and lotion to the area
- B. Using soft cotton fabrics for clothing
- C. Washing the area with a bar of scented soap and water and patting it dry not rubbing it
- D. Avoiding direct sunshine or cold.

Correct Answer: C. Washing the area with a bar of scented soap and water and patting it dry not rubbing it

- **Option C:** A mild unscented soap should only be used on the skin of the client undergoing radiation to decrease the occurrence of skin reactions.
- **Options A, and B:** Soap and irritants may cause dryness of the patient's skin.
- **Option D:** Since the skin that is receiving radiation therapy may be burned from the treatment, avoiding direct sunlight is helpful to prevent further damage.

23. Which of the following planes divides the body longitudinally into anterior and posterior regions?

- A. Frontal plane
- B. Sagittal plane
- C. Midsagittal plane
- D. Transverse plane

Correct Answer: A. Frontal plane

Frontal or coronal plane runs longitudinally at a right angle to a sagittal plane dividing the body in anterior and posterior regions. The coronal plane or frontal plane (vertical) divides the body into dorsal and ventral (back and front, or posterior and anterior) portions. An anatomical plane is a hypothetical plane used to transect the body, in order to describe the location of structures or the direction of movements.

- **Option B:** A sagittal plane runs longitudinally dividing the body into right and left regions. The sagittal plane or lateral plane (longitudinal, anteroposterior) is a plane parallel to the sagittal suture. It divides the body into left and right.
- **Option C:** If exactly midline, it is called a midsagittal plane. The midsagittal or median plane is in the midline; i.e. it would pass through midline structures such as the navel or spine, and all other sagittal planes (also referred to as parasagittal planes) are parallel to it. Median can also refer to the midsagittal plane of other structures, such as a digit.
- **Option D:** A transverse plane runs horizontally at a right angle to the vertical axis, dividing the structure into superior and inferior regions. The transverse plane or axial plane (horizontal) divides the body into cranial and caudal (head and tail) portions.

24. Hannah, age 12, is 7 months pregnant. When teaching parenting skills to an adolescent, the nurse knows that which teaching strategy is least effective?

- A. Providing a one-on-one demonstration and requesting a return demonstration, using a live infant model
- B. Initiating a teenage parent support group with first and second-time mothers
- C. Using audiovisual aids that show discussions of feelings and skills
- D. Providing age-appropriate reading materials

Correct Answer: D. Providing age-appropriate reading materials.

Because adolescents absorb less information through reading, providing age-appropriate reading materials is the least effective way to teach parenting skills to an adolescent. The Adolescent Family Life (AFL) demonstration projects, organized through the Office of Adolescent Pregnancy Programs (OAPP), are aimed to support young families through social support and medical care.

- **Option A:** Adding a structured, comprehensive parenting curriculum to an AFL-funded teen-tot model would increase parenting self-esteem and reduce parenting attributes associated with child maltreatment, maternal depression, and repeat pregnancy over a 36-month follow-up.
- **Option B:** The AFL funding required programs to deliver 10 core services, including pregnancy testing, adoption counseling, preventive and prenatal referrals for teens, nutritional counseling, well infant care, sexually transmitted infection screening, family life counseling, educational or vocational services, mental health services, and referrals for family planning.
- **Option C:** The other options engage more than one of the senses and therefore serve as effective teaching strategies. On the basis of competency learning principles, the intervention used informational lectures, vignette discussions, reflection, and interactive “practice” activities.

25. A client who is 36 weeks pregnant comes to the clinic for a prenatal checkup. To assess the client’s preparation for parenting, the nurse might ask which question?

- A. “Are you planning to have epidural anesthesia?”
- B. “Have you begun prenatal classes?”
- C. “What changes have you made at home to get ready for the baby?”
- D. “Can you tell me about the meals you typically eat each day?”

Correct Answer: C. “What changes have you made at home to get ready for the baby?”

During the third trimester, the pregnant client typically perceives the fetus as a separate being. To verify that this has occurred, the nurse should ask whether she has made appropriate changes at home such as obtaining infant supplies and equipment.

- **Option A:** The type of anesthesia planned doesn’t reflect the client’s preparation for parenting.
- **Option B:** The client should have begun prenatal classes earlier in the pregnancy.
- **Option D:** The nurse should have obtained dietary information during the first trimester to give the client time to make any necessary changes.

26. A nurse is caring for a 46-year-old male patient with Chronic Lymphocytic Leukemia who, after several days of admission, exhibits new-onset disorientation and complains of persistent headaches. What should the nurse

prioritize as an initial action?

- A. Notify the primary healthcare provider immediately.
- B. Accurately document the new symptoms in the patient's medical records.
- C. Initiate oxygen therapy in anticipation of physician's orders.
- D. Elevate the side rails to ensure patient safety.

Correct Answer: D. Elevate the side rails to ensure patient safety.

A patient who is disoriented is at risk of falling out of bed. The initial action of the nurse should be raising the side rails to ensure patients' safety.

- **Option A:** Calling the physician would be unnecessary. These findings can be reported after ensuring the patient's safety first.
- **Option B:** After notifying the physician, the nurse should document these findings.
- **Option C:** Oxygen treatment would be needed as ordered by the physician.

27. The nurse is caring for a client with schizophrenia. Which of the following outcomes is the least desirable?

- A. The client spends more time by himself.
- B. The client doesn't engage in delusional thinking.
- C. The client doesn't harm himself or others.
- D. The client demonstrates the ability to meet his own self-care needs.

Correct Answer: A. The client spends more time by himself.

The client with schizophrenia is commonly socially isolated and withdrawn; therefore, having the client spend more time by himself wouldn't be a desirable outcome. Rather, a desirable outcome would specify that the client spends more time with other clients and staff on the unit. Delusions are false personal beliefs. Eventually engage other clients and significant others in social interactions and activities with the client (card games, ping pong, sing-a-songs, group sharing activities) at the client's level. Client continues to feel safe and competent in a graduated hierarchy of interactions.

- **Option B:** Reducing or eliminating delusional thinking using talking therapy and antipsychotic medications would be a desirable outcome. If the client is delusional/hallucinating or is having trouble concentrating at this time, provide very simple concrete activities with the client (e.g., looking at a picture or doing a painting). Even simple activities help draw the client away from delusional thinking into reality in the environment.
- **Option C:** Protecting the client and others from harm is a desirable client outcome achieved by close observation, removing any dangerous objects, and administering medications. Ensure that the goals set are realistic; whether in the hospital or community. Avoids pressure on the client and sense of failure on part of the nurse/family. This sense of failure can lead to mutual withdrawal.
- **Option D:** Because the client with schizophrenia may have difficulty meeting his or her own self-care needs, fostering the ability to perform self-care independently is a desirable client outcome. Remember to give acknowledgement and recognition for positive steps the client takes in increasing social skills and appropriate interactions with others. Recognition and appreciation go a long way to sustaining and increasing a specific behavior.

28. A primigravida, age 42, is 6 weeks pregnant. Based on the client's age, her infant is at risk for:

- A. Down syndrome
- B. Respiratory distress syndrome
- C. Turner's syndrome
- D. Pathological jaundice

Correct Answer: A. Down syndrome

The client who is age 42 is at risk for fetal anomalies such as Down syndrome and other chromosomal aberrations. The risk of chromosome abnormalities is higher. Babies born to older mothers have a higher risk of certain chromosome problems, such as Down syndrome.

- **Option B:** Risk factors for respiratory distress syndrome include prematurity, maternal diabetes, cesarean delivery, and asphyxia. The mother will more likely have a low birth weight baby and a premature birth. Premature babies, especially those born earliest, often have complicated medical problems.
- **Option C:** Turner's syndrome is a genetic disorder. Turner syndrome results from a deletion or the non-functioning of one X chromosome in females. About half of the population with Turner syndrome have monosomy X (45,XO). The other 50% of the population has a mosaic chromosomal component (45,X with mosaicism).
Option D: Premature infants are at most risk for pathological jaundice because they develop higher levels of bilirubin. The risk of pregnancy loss — by miscarriage and stillbirth — increases as you get older, perhaps due to pre-existing medical conditions or fetal chromosomal abnormalities. Research suggests that the decrease in the quality of your eggs, combined with an increased risk of chronic medical conditions such as high blood pressure and diabetes, could increase your risk of miscarriage. Ask your health care provider about monitoring your baby's well-being during the last weeks of pregnancy.

29. A female patient with a terminal illness is in denial. Indicators of denial include:

- A. Shock dismay
- B. Numbness
- C. Stoicism
- D. Preparatory grief

Correct Answer: A. Shock dismay

Shock and dismay are early signs of denial—the first stage of grief. Denial is a common defense mechanism used to protect oneself from the hardship of considering an upsetting reality. Kubler-Ross noted that after the initial shock of receiving a terminal diagnosis, patients would often reject the reality of the new information. The other options are associated with depression—a later stage of grief.

- **Option B:** 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.
- **Option C:** 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 D:** Consequently, caregivers may need to make a conscious effort to restore compassion that may have waned while caring for patients progressing through the first three stages.

30. Family members are encouraging your client to “tough it out” rather than run the risk of becoming addicted to narcotics. The client is stoically abiding by the family’s wishes. Priority nursing interventions for this client should target which dimension of pain?

- A. Sensory
- B. Sociocultural
- C. Behavioral
- D. Cognitive

Correct Answer: B. Sociocultural

The family is part of the socio-cultural dimension of pain. They are influencing the client and should be included in the teaching sessions about the appropriate use of narcotics and about the adverse effects of pain on the healing process. The other dimensions should be included to help the client/family understand the overall treatment plan and pain mechanism.

- **Option A:** The sensory dimension encompasses both the quality and severity of pain. It includes the patient’s report of the location, quality, and intensity of pain. Assessing this dimension helps quantify the pain and clarify the extent of poorly localized or radiating pain.
- **Option C:** The behavioral dimension of pain refers to the patient’s verbal or nonverbal behaviors exhibited in response to pain. To assess it, rely on direct observation and continued patient interaction. Watch for common behaviors associated with pain, such as guarding, splinting, tensing up, crying, moaning, and massaging a specific body part.
- **Option D:** The cognitive dimension refers to thoughts, beliefs, attitudes, intentions, and motivations related to pain and its management. Before assessing this dimension, evaluate the patient’s cognitive capacity and functioning. Review the medical history for diseases or conditions that may impair cognition; if any exists, assess its current level of progression. In some patients, pain can temporarily worsen pre-existing cognitive limitations.

31. While the client is in active labor with twins and the cervix is 5 cm dilated, the nurse observes contractions occurring at a rate of every 7 to 8 minutes in a 30-minute period. Which of the following would be the nurse’s most appropriate action?

- A. Note the fetal heart rate patterns.
- B. Notify the physician immediately.
- C. Administer oxygen at 6 liters by mask.
- D. Have the client pant-blow during the contractions.

Correct Answer: B. Notify the physician immediately.

The nurse should contact the physician immediately because the client is most likely experiencing hypotonic uterine contractions. These contractions tend to be painful but ineffective. The usual treatment is oxytocin augmentation unless cephalopelvic disproportion exists.

- **Option A:** A baby's heart rate during labor should be between 110 and 160 beats per minute, but it may fluctuate above and below this rate for a variety of reasons.
- **Option C:** Maternal oxygen is often given to laboring women to improve fetal metabolic status or in an attempt to alleviate non-reassuring fetal heart rate patterns. However, there are only two randomized trials investigating the use of maternal oxygen supplementation in laboring women. These studies did not find that supplementation is likely to benefit the fetus and may even be harmful.
- **Option D:** During active labor, breathing should be as slow as possible, but it can be sped up as the intensity of the contraction increases. As the contraction peaks and the breathing rate increases, switch to light breathing both in and out the mouth, about one breath per second.

32. Your patient's ABG reveals an acidic pH, an acidic CO₂, and a normal bicarbonate level. Which of the following indicates this acid-base disturbance?

- A. Respiratory acidosis
- B. Respiratory alkalosis
- C. Metabolic acidosis
- D. Metabolic alkalosis

Correct Answer: A. Respiratory acidosis

A pH of 7.35 indicates acidosis, as does an acidic CO₂ and bicarbonate. The primary disturbance of elevated arterial PCO₂ is the decreased ratio of arterial bicarbonate to arterial PCO₂, which leads to a lowering of the pH. In the presence of alveolar hypoventilation, 2 features commonly are seen are respiratory acidosis and hypercapnia. To compensate for the disturbance in the balance between carbon dioxide and bicarbonate (HCO₃⁻), the kidneys begin to excrete more acid in the forms of hydrogen and ammonium and reabsorb more base in the form of bicarbonate. See also: 8-Step Guide to ABG Analysis: Tic-Tac-Toe Method

- **Option B:** Respiratory alkalosis is 1 of the 4 basic classifications of blood pH imbalances. Normal human physiological pH is 7.35 to 7.45. A decrease in pH below this range is acidosis, an increase above this range is alkalosis. Respiratory alkalosis is by definition a disease state where the body's pH is elevated to greater than 7.45 secondary to some respiratory or pulmonary process.
- **Option C:** Determining the type of metabolic acidosis can help clinicians narrow down the cause of the disturbance. Acidemia refers to a pH less than the normal range of 7.35 to 7.45. In addition, metabolic acidosis requires a bicarbonate value less than 24 mEq/L. Further classification of metabolic acidosis is based on the presence or absence of an anion gap, or concentration of unmeasured serum anions.
- **Option D:** HCO₃ functions as an alkalotic substance. CO₂ functions as an acidic substance. Therefore, increases in HCO₃ or decreases in CO₂ will make blood more alkalotic. The opposite is also true where decreases in HCO₃ or an increase in CO₂ will make blood more acidic. CO₂ levels are physiologically regulated by the pulmonary system through respiration, whereas the HCO₃ levels are regulated through the renal system with reabsorption rates. Therefore, metabolic alkalosis is an increase in serum HCO₃.

33. Which of the following is a primary nursing intervention necessary for all patients with a Foley Catheter in place?

- A. Maintain the drainage tubing and collection bag level with the patient's bladder.
- B. Irrigate the patient with 1% Neosporin solution three times a day.
- C. Clamp the catheter for 1 hour every 4 hours to maintain the bladder's elasticity.
- D. Maintain the drainage tubing and collection bag below bladder level to facilitate drainage by gravity.

Correct Answer: D. Maintain the drainage tubing and collection bag below bladder level to facilitate drainage by gravity

To prevent obstruction, the catheter and collecting tube should be kept free from kinking, the collecting bag should be positioned below the level of the bladder at all times and never placed on the floor. The collecting bag should be emptied regularly using a clean collecting container (HICPAC, 2009). In ambulatory patients, collecting bags may be disguised in bags and pouches.

- **Option A:** Maintaining the drainage tubing and collection bag level with the patient's bladder could result in reflux of urine into the kidney. The indwelling catheter should be secured to the thigh or abdomen after insertion to prevent movement and the exertion of excessive force on the bladder neck or urethra (Gray, 2008). Unsecured and displaced catheters can also cause pressure ulcers on the perineum and buttock (Siegel, 2008).
- **Option B:** Irrigating the bladder with Neosporin must be indicated and ordered by the physician. Nash (2003) conducted a recent review of the literature on self-cleaning of catheter training bags. The study showed that patients whose bags were irrigated with vinegar showed a significant reduction of bacteriuria compared with patients whose bags were irrigated with the hydrogen peroxide solutions (Washington, 2001). Authors concluded that more research is needed on the self-cleaning of Foley bags.
- **Option C:** Clamping the catheter for 1 hour every 4 hours must be prescribed by a physician. Patients practicing intermittent catheterization should pay close attention to the catheterization schedule and avoid bladder overdistension and unnecessary catheterizations. As CAUTIs are more prevalent for intermittent catheterization in patients with high residual urine volumes at the time of catheterization, urine volume should determine the catheterization schedule.

34. Tetracycline has been prescribed for a client with Chlamydia trachomatis infection. Select the side effect of the medication. Select all that apply.

- A. Glossitis
- B. Tremors
- C. Urinary frequency
- D. Discoloration of the nails
- E. Photosensitivity

Correct Answer: A, D, & E

Side effects of tetracycline include glossitis, discoloration of the nails, photosensitivity, anorexia, nausea, vomiting, diarrhea, bulky loose stools, stomatitis, sore throat, black hairy tongue, dysphagia, and hoarseness.

35. Which of the following drugs would be ordered by the physician to improve the platelet count in a male client with idiopathic thrombocytopenic purpura (ITP)?

- A. Acetylsalicylic acid (ASA)
- B. Corticosteroids
- C. Methotrexate
- D. Vitamin K

Correct Answer: B. Corticosteroids

Corticosteroid therapy can decrease antibody production and phagocytosis of the antibody-coated platelets, retaining more functioning platelets.

- **Option A:** ASA blocks prostaglandin synthesis. Inhibition of COX-1 results in the inhibition of platelet aggregation for about 7-10 days (average platelet lifespan).
- **Option C:** Methotrexate inhibits enzymes responsible for nucleotide synthesis which prevents cell division and leads to anti-inflammatory actions. It causes thrombocytopenia.
- **Option D:** Vitamin K is used to treat an excessive anticoagulate state from warfarin overload.

36. Several clients are admitted to an adult medical unit. The nurse would ensure airborne precautions for a client with which of the following medical conditions?

- A. A diagnosis of AIDS and cytomegalovirus
- B. A positive PPD with an abnormal chest x-ray
- C. A tentative diagnosis of viral pneumonia
- D. Mycoplasma pneumonia

Correct Answer: B. A positive PPD with an abnormal chest x-ray

The client who must be placed in airborne precautions is the client with a positive PPD (purified protein derivative) who has a positive x-ray for a suspicious tuberculin lesion. Airborne precautions are required whenever entering a patient's room or environment who has been diagnosed with or is being tested for with high suspicion of anthrax, tuberculosis, measles, chickenpox, or disseminated herpes zoster or other pathogens that can be transmitted through airflow that are 5 micrometers or smaller in size and remain in the environment for long periods of time.

- **Option A:** According to the OSHA database, HIV, hepatitis B and C, tuberculosis, malaria, measles, herpes, chickenpox, and various other bacterial infections are known for being transmitted through blood-containing fluids and products. Blood-borne precautions include wearing gloves, face mask, protective eyewear or goggles, and proper handling of sharp objects with appropriate disposal.
- **Option C:** Prevention, especially in the form of immunization against influenza and measles, can significantly decrease the incidence of viral pneumonia. The traditional role of viral pneumonia was as a disease found predominantly in the very young, the elderly, and those exposed to influenza. In the past, the diagnosis of viral pneumonia was predicated on it being somewhat a diagnosis of exclusion.

- **Option D:** Smoking is the most common cause of lung cancer. It is estimated that 90% of the cases of lung cancer are attributable to smoking. The risk is highest in males who smoke. The risk is further compounded with exposure to other carcinogens, such as asbestos. It is hypothesized that repeated exposure to carcinogens, cigarette smoke, in particular, leads to dysplasia of lung epithelium.

37. An elderly client was admitted to hospital in a coma. Analysis of the arterial blood gave the following values: PCO₂ 16 mm Hg, HCO₃⁻ 5 mmol/L and pH 7.1. As a well-rounded nurse, you know that the normal value for HCO₃ is:

- A. 20 mmol/L
- B. 24 mmol/L
- C. 29 mmol/L
- D. 31 mmol/L

Correct Answer: B. 24 mmol/L

The normal value for bicarbonate (HCO₃) is 22-26 mmol/L or mEq/L. It may vary slightly among different laboratories. The given values show the common measurement range of results for these tests. Some laboratories use different measurements or may test different specimens.

38. An elderly client is hospitalized for transurethral resection of the prostate (TURP). Which finding postoperatively should be reported to the doctor immediately?

- A. Hourly urinary output of 40–50 cc
- B. Bright red urine output with many clots
- C. Dark red urine output with few clots
- D. Requests for pain med q 4 hrs.

Correct Answer: B. Bright red urine with many clots

- **Option B:** Transurethral resection of the prostate (TURP) is a surgical procedure that involves the removal of a section of the prostate. It is indicated for people with an enlarged prostate. After the procedure, a urinary catheter with continuous bladder irrigation is done to remove and prevent blood clots in the bladder. Bright red bleeding with many clots may indicate the need to increase the rate of irrigation infusion per physician's order.
- **Option A:** A urine output measuring 40-50 cc is within normal limits.
- **Option C:** Dark red urine with few clots is normal for a few days after surgery.
- **Option D:** This does not indicate an excessive need for pain management that requires the doctor's attention.

39. Varicose veins can cause changes in what component of Virchow's triad?

- A. Blood coagulability

- B. Vessel walls
- C. Blood flow
- D. Blood viscosity

Correct Answer: C. Blood flow

Venous stasis is more likely to occur in patients with atrial fibrillation, valvular heart disease: prolonged immobility such as bedridden patients or prolonged travel, surgery, and trauma. Exposure to cell proteins triggers anticoagulant pathways on the surface of endothelial cells. The thinking is that as blood flow slows through vascular beds, flow reduces, and the natural anticoagulant properties from interaction with surface proteins are affected, resulting in thrombi production.

- **Option A:** Hypercoagulability can occur due to a variety of clinical statuses such as pregnancy, use of oral contraceptive medications, cancer, chemotherapy drugs, and inherited thrombophilias. Thrombophilias can include disease states such as protein C deficiency, protein S deficiency, antithrombin deficiency, hyperhomocysteinemia and homocystinuria, and antiphospholipid syndrome.
- **Option B:** Damage to the endothelial wall of a vessel alters the dynamics of blood flow. Endothelial disturbance can result from insults such as smoking, chronically elevated blood pressure, and atherosclerotic disease secondary to hyperlipidemia. When an insult to the wall occurs, flow disruption or “turbulence” occurs.
- **Option D:** Turbulent flow within a vessel occurs when the rate of blood flow becomes too rapid, or blood flow passes over an affected surface; this creates disordered flow and eddy currents, increasing the friction of flow within a vessel.

40. A patient who smokes tells the nurse, “I want to have a yearly chest x-ray so that if I get cancer, it will be detected early.” Which response by the nurse is most appropriate?

- A. "Insurance companies do not authorize yearly x-rays just to detect early lung cancer."
- B. "Annual x-rays will increase your risk for cancer because of exposure to radiation."
- C. "Chest x-rays do not detect cancer until tumors are already at least a half-inch in size."
- D. "Frequent x-rays damage the lungs and make them more susceptible to cancer."

Correct Answer: C. “Chest x-rays do not detect cancer until tumors are already at least a half-inch in size.”

- **Option C:** A tumor must be at least 1 cm large before it is detectable by an x-ray and may already have metastasized by that time.
- **Option A:** Insurance companies do not usually authorize x-rays for this purpose, but it would not be appropriate for the nurse to give this as the reason for not doing an x-ray.
- **Options B and D:** Radiographs have low doses of radiation, and an annual x-ray alone is not likely to increase lung cancer risk.

41. A 22-year-old client suffered from his first tonic-clonic seizure. Upon awakening, the client asks the nurse, “What caused me to have a seizure? Which of the following would the nurse include in the primary cause of

tonic-clonic seizures in adults more than 20 years?

- A. Electrolyte imbalance
- B. Head trauma
- C. Epilepsy
- D. Congenital defect

Correct Answer: B. Head trauma

Trauma is one of the primary causes of brain damage and seizure activity in adults. Other common causes of seizure activity in adults include neoplasms, withdrawal from drugs and alcohol, and vascular disease. Common causes of emergency department visits after seizures are alcohol and drugs, head injury, and epilepsy.

- **Option A:** Decreased sodium in the blood is a rare cause of seizures, especially among adults. Acute symptomatic seizures- secondary to ischemic or hemorrhagic strokes, extra-axial hemorrhage, traumatic brain injury, hypoxic-ischemic injury, acute medical illness, metabolic derangements, substance abuse- can manifest as tonic-clonic seizures without the inherent tendency to recurrent seizures, whereas epileptic seizures recur without proximate provoking factors.
- **Option C:** The most common cause of seizure is epilepsy. However, not every person who has a seizure has epilepsy. The etiology of most of the generalized tonic-clonic seizures is underlying epilepsy from genetic causes (previously categorized as idiopathic). Besides genetic generalized epilepsy, tonic-clonic seizures can be secondary to epilepsy due to structural, infectious, metabolic, or immune-related pathologies.
- **Option D:** Congenital defects do not cause seizures among adults. Seizures account for 1 to 2 percent of all emergency visits in the U.S. Seizures are reported to occur about 11% of people in the United States during their lifetime. Acute symptomatic seizures tend to occur more frequently in males than females in a ratio of 1.85 to 1, with a lifetime risk of 5.0% in males and 2.7% in females.

42. A patient with Crohn's disease is receiving an infusion therapy of infliximab (Remicade). Which of the following should the nurse do while the patient is on this medication?

- A. Monitoring liver function test prior to the infusion
- B. Monitoring the vomiting episodes
- C. Monitoring the frequency and consistency of bowel movements
- D. Monitoring urine output and orientation

Correct Answer: C. Monitoring the frequency and consistency of bowel movements

Crohn's disease is a condition in which the body attacks the lining of the digestive tract, causing pain, diarrhea, weight loss, and fever. Infliximab works by reducing the inflammation in the colon, thereby decreasing diarrhea.

- **Options A, B, & D:** These are not related to this medication.

43. Which of the following statements about Attention deficit hyperactivity disorder (ADHD) in children is false?

- A. Black parents tend to be less sure of potential causes of and treatments for ADHD than white parents, and they are less likely to connect ADHD to their child's school experiences.
- B. Because of its frequent genetic etiology, ADHD in a child is likely foreshadowed by ADHD in other family members.
- C. The chances of successful treatment are adversely affected if the parent responsible for implementing the treatment has untreated ADHD.
- D. More than 40% of respondents in the recent National Stigma Study-Children (NSS-C) believe that children will face rejection in school for receiving mental health treatment and that negative ramifications will continue into adulthood. More than half expected psychiatric medications to cause a zombie-like effect.
- E. The Multimodal Treatment Study of Children with ADHD suggests that pharmacological treatment of ADHD is as effective as behavioral therapy alone.

Correct Answer: E. The Multimodal Treatment Study of Children with ADHD suggests that pharmacological treatment of ADHD is as effective as behavioral therapy alone.

Multimodal treatment involves multiple methods of treatment that work together to help a child with ADHD. The main components of this approach are medications, behavioral therapy, and education.

- **Option A:** In order to diagnose ADHD, it is very important to take a relevant history of the concerned individual. ADHD is diagnosed in children based upon their history where the children face difficulty in at least 6 of the 9 symptoms as mentioned in DSM 5.
- **Option B:** It is one of the most heritable conditions in terms of psychiatric disorders. There is a much greater concordance in monozygotic twins than dizygotic twins. Siblings have twice the risk of having ADHD than the general population.
- **Option C:** The general rule of thumb is that 50% of patients “grow out of” ADHD, especially with treatment, and another 25% do not need treatment into adulthood. This is theorized twofold; first that stimulants help improve the development of the frontal lobe over time, and second that adults often choose careers that don't require sustained attention.
- **Option D:** Untreated ADHD can cause persisting dysfunction and devastating consequences included but not limited to long-term inability to work, increased car accidents, and increased substance abuse.

44. The neonatal circulation differs from the fetal circulation because

- A. The fetal lungs are non-functioning as an organ and most of the blood in the fetal circulation is mixed blood.
- B. The blood at the left atrium of the fetal heart is shunted to the right atrium to facilitate its passage to the lungs.
- C. The blood in the left side of the fetal heart contains oxygenated blood while the blood on the right side contains unoxygenated blood.
- D. None of the above.

Correct Answer: A. The fetal lungs are non-functioning as an organ and most of the blood in the fetal circulation is mixed blood.

The fetal lungs are fluid-filled while in utero and are still not functioning. It only begins to function in extrauterine life. Except for the blood as it enters the fetus immediately from the placenta, most of the fetal blood is mixed blood.

- **Option B:** The hole between the top two heart chambers (right and left atrium) is called a patent foramen ovale (PFO). This hole allows the oxygen rich blood to go from the right atrium to the left atrium and then to the left ventricle and out the aorta. As a result the blood with the most oxygen gets to the brain.
- **Option C:** The placenta accepts the blood without oxygen from the fetus through blood vessels that leave the fetus through the umbilical cord (umbilical arteries, there are two of them). When blood goes through the placenta it picks up oxygen. The oxygen rich blood then returns to the fetus via the third vessel in the umbilical cord (umbilical vein). The oxygen rich blood that enters the fetus passes through the fetal liver and enters the right side of the heart.

45. You are helping the patient with an SCI to establish a bladder-retraining program. What strategies may stimulate the patient to void? Select all that apply.

- A. Stroke the patient's inner thigh.
- B. Pull on the patient's pubic hair.
- C. Initiate intermittent straight catheterization.
- D. Pour warm water over the perineum.
- E. Tap the bladder to stimulate detrusor muscle.

Correct Answers: A, B, D, & E

All of the strategies, except straight catheterization, may stimulate voiding in patients with SCI.

- **Option C:** Intermittent bladder catheterization can be used to empty the patient's bladder, but it will not stimulate voiding.

46. Sublingual nitroglycerin tablets begin to work within 1 to 2 minutes. How should the nurse instruct the client to use the drug when chest pain occurs?

- A. Take one (1) tablet every two (2) to five (5) minutes until the pain stops.
- B. Take one (1) tablet and rest for ten (10) minutes. Call the physician if pain persists after ten (10) minutes.
- C. Take one (1) tablet, then an additional tablet every 5 minutes for a total of three (3) tablets. Call the physician if pain persists after three (3) tablets.
- D. Take one (1) tablet. If pain persists after five (5) minutes, take two (2) tablets. If pain persists five (5) minutes later, call the physician.

Correct Answer: C. Take one (1) tablet, then an additional tablet every five (5) minutes for a total of three (3) tablets. Call the physician if pain persists after three tablets.

The correct protocol for nitroglycerin used involves immediate administration, with subsequent doses taken at 5-minute intervals as needed, for a total dose of three (3) tablets. Sublingual nitroglycerin appears in the bloodstream within two (2) to three (3) minutes and is metabolized within about 10 minutes.

- **Option A:** They must be instructed to allow the nitroglycerin to dissolve in their mouth and allow their oral mucosa to absorb the drug. There currently are three doses available: 0.3 mg, 0.4 mg, and 0.6 mg. The dose is repeatable every 5 minutes until the achievement of relief.
- **Option B:** If anginal pain persists after three doses, prompt medical attention is required. After administration, the onset of vasodilatory effects occurs within 1 to 3 minutes, with a max effect occurring within 5 minutes. Nitroglycerin is primarily eliminated via metabolism in the liver and has a mean half-life of approximately 2 to 3 minutes.
- **Option D:** Nitroglycerin is most commonly administered as a tablet that is absorbed sublingually. 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.

47. A 68-year-old male with a history of hypertension and diabetes has undergone a cardiac catheterization to evaluate potential coronary artery disease. He has a known allergy to iodine-based contrast agents, which required premedication with corticosteroids and antihistamines. The procedure was successful, but the patient experienced brief hypotension during the administration of the contrast material. The patient has been transferred to the cardiac step-down unit for observation, and the nurse is aware of the potential complications that can arise in the initial 24 hours post-procedure. Which complication should the nurse monitor closely during this period?

- A. Persistent angina despite being at rest and receiving nitroglycerin
- B. Thrombus formation leading to decreased peripheral pulses and cyanosis
- C. Dizziness accompanied by a sudden drop in blood pressure when standing
- D. Gradual decrease in blood pressure with no other symptoms

Correct Answer: B. Thrombus formation

In the initial 24 hours after a cardiac catheterization, the nurse should closely monitor for thrombus formation. Thrombus formation at the catheterization site can lead to serious complications, such as decreased blood flow to the extremities or embolization to other parts of the body. While the other options (angina at rest, dizziness, and falling blood pressure) can be potential concerns, thrombus formation is the most critical complication to monitor for during the immediate post-procedure period.

48. Which of the following immunizations should not be given to a 4-month-old sibling of a client with leukemia?

- A. Oral poliovirus vaccine (OPV)
- B. Hepatitis B vaccine
- C. Diphtheria and tetanus and pertussis (DPT) vaccine

D. Haemophilus influenzae type b vaccines (Hib)

Correct Answer: A. Oral poliovirus vaccine (OPV)

- **Option A:** OPV is a live attenuated virus excreted in the stool. The excreted virus can be communicated to the immunosuppressed child, resulting in an overwhelming infection. Inactivated polio vaccine would be indicated because it isn't a live virus and wouldn't pose the threat of infection.
- **Options B, C, and D:** DTP, Hib, and hepatitis B vaccines can be given accordingly to the recommended schedule.

49. Which of the following laboratory results would be expected in a client with peritonitis?

- A. Partial thromboplastin time above 100 seconds
- B. Hemoglobin level below 10 mg/dL
- C. Potassium level above 5.5 mEq/L
- D. White blood cell count above 15,000

Correct Answer: D. White blood cell count above 15,000

Because of infection, the client's WBC count will be elevated. Peritoneal fluid (in patients with ascites or who are on PD) should be sent for cell count and differential, gram stain, and culture. In cirrhosis, a polymorphonuclear (PMN) count >250 cells/milliliter (mL) is diagnostic of SBP. In PD, a WBC count >100 cells/mL suggests peritonitis.

- **Option A:** A PT time longer than 100 seconds may suggest disseminated intravascular coagulation, a serious complication of septic shock. Diagnosis of DIC involves a combination of laboratory tests and clinical evaluation. Laboratory findings suggestive of DIC include a low platelet count, elevated D-dimer concentration, decreased fibrinogen concentration, and prolongation of clotting times such as prothrombin time (PT).
- **Option B:** A hemoglobin level below 10 mg/dl may occur from hemorrhage. Hemorrhage in trauma patients is associated with an early decrease in Hgb level. Hgb < or =10 gm/dL in the first 30 minutes of patient arrival will correctly identify presence or absence of significant bleeding in almost 9 of 10 trauma patients.
- **Option C:** A potassium level above 5.5 mEq/L may indicate renal failure. When kidneys fail they can no longer remove excess potassium, so the level builds up in the body. High potassium in the blood is called hyperkalemia, which may occur in people with advanced stages of chronic kidney disease (CKD). Some of the effects of high potassium are nausea, weakness, numbness, and slow pulse.

50. All of the following symptoms are evidence of a superinfection except:

- A. White oral plaques
- B. Creamy vaginal discharge
- C. Skin rash
- D. Darkened tongue

Correct Answer: C. Skin rash

Skin rashes are indicative of hypersensitivity reactions in clients on penicillin therapy. True penicillin allergy is rare with the estimated frequency of anaphylaxis at 1-5 per 10 000 cases of penicillin therapy. Hypersensitivity is, however, its most important adverse reaction resulting in nausea, vomiting, pruritus, urticaria, wheezing, laryngeal edema, and ultimately, cardiovascular collapse.

- **Option A:** The antibiotic most frequently related to superinfection was ciprofloxacin (38.1%), followed by cefotaxime (23.3%), imipenem (12%), meropenem (10.2%), and cefepime (6.1%). The lowest percentage of superinfection was observed with the use of piperacillin-tazobactam (5.4%).
- **Option B:** A superinfection develops when the antibacterial intended for the preexisting infection kills the protective microbiota, allowing another pathogen resistant to the antibacterial to proliferate and cause a secondary infection
- **Option D:** Peri-implant superinfections are a major risk associated with broad-spectrum antibiotics in immunocompetent individuals. Lack of follow-up and antibiotic susceptibility testing and indiscriminate empiric treatment regimens may lead to ongoing microbial challenge that exacerbates and maintains the disease progression.

51. Crohn's disease can be described as a chronic relapsing disease. Which of the following areas in the GI system may be involved with this disease?

- A. The entire length of the large colon.
- B. Only the sigmoid area.
- C. The entire large colon through the layers of mucosa and submucosa.
- D. The small intestine and colon; affecting the entire thickness of the bowel.

Correct Answer: D. The small intestine and colon; affecting the entire thickness of the bowel

Crohn's disease can involve any segment of the small intestine, the colon, or both, affecting the entire thickness of the bowel. In Crohn's disease, the inflammation extends through the entire thickness of the bowel wall from the mucosa to the serosa. The disease runs a relapsing and remitting course.

- **Option A:** Ulcerative colitis is an idiopathic inflammatory condition of the colon which results in diffuse friability and superficial erosions on the colonic wall and associated bleeding. It is the most common form of inflammatory bowel disease worldwide.
- **Option B:** Diverticula can form while straining during a bowel movement, such as with constipation. They are most common in the lower portion of the large intestine (called the sigmoid colon). Diverticulosis is very common and occurs in 10% of people over age 40 and in 50% of people over age 60.
- **Option C:** Characteristically, it involves inflammation restricted to the mucosa and submucosa of the colon. Typically, the disease starts in the rectum and extends proximally in a continuous manner. In the United States, the disease accounts for a quarter-million clinician visits annually.

52. Which of the following would be the nurse's most appropriate response to a client who asks why she must have a cesarean delivery if she has a complete placenta previa?

- A. "You will have to ask your physician when he returns."

- B. "You need a cesarean to prevent hemorrhage."
- C. "The placenta is covering most of your cervix."
- D. "The placenta is covering the opening of the uterus and blocking your baby."

Correct Answer: D. "The placenta is covering the opening of the uterus and blocking your baby."

A complete placenta previa occurs when the placenta covers the opening of the uterus, thus blocking the passageway for the baby. This response explains what a complete previa is and the reason the baby cannot come out except by cesarean delivery.

- **Option A:** Telling the client to ask the physician is a poor response and would increase the patient's anxiety.
- **Option B:** Although a cesarean would help to prevent hemorrhage, the statement does not explain why the hemorrhage could occur.
- **Option C:** With a complete previa, the placenta is covering all the cervix, not just most of it.

53. Alkalosis is characterized by overexcitement of the nervous system.

- A. True
- B. False
- C. The major effect of Alkalosis is a depression of the central nervous system.
- D. Both Acidosis and Alkalosis result in overexcitement of the central nervous system.

Correct Answer: A. True

The muscles may go into a state of tetany and convulsions.

54. During the history, which information from a 21-year-old client would indicate a risk for development of testicular cancer?

- A. Genital Herpes
- B. Hydrocele
- C. Measles
- D. Undescended testicle

Correct Answer: D. Undescended testicle

Undescended testicles make the client at high risk for testicular cancer. Mumps, inguinal hernia in childhood, orchitis, and testicular cancer in the contralateral testis are other predisposing factors. The risk of testicular cancer might be a little higher for men whose testicles stayed in the abdomen as opposed to one that has descended at least partway. If cancer does develop, it's usually in the undescended testicle, but about 1 out of 4 cases occur in the normally descended testicle.

- **Option A:** While HPV infections are very common, cancer caused by HPV is not. Most people infected with HPV will not develop cancer-related to the infection. However, some people with long-lasting infections of high-risk types of HPV, are at risk of developing cancer.

- **Option B:** Hydroceles generally don't pose any threat to the testicles. They're usually painless and disappear without treatment. However, if the patient has scrotal swelling, he should see his doctor rule out other causes that are more harmful such as testicular cancer.
- **Option C:** Measles has a low death rate in healthy children and adults, and most people who contract the measles virus recover fully. The risk of complications is higher in the following groups: children under 5 years old. adults over 20 years old.

55. Class IA antiarrhythmic agents have little effect on:

- A. AV node
- B. SA node
- C. Purkinje fibers
- D. Bundle of His

Correct Answer: B. SA node

Class IA antiarrhythmics have little effect on the SA node. It causes moderate degree blockage of fast sodium channels. Drugs include quinidine, procainamide, and disopyramide. These are the most pro-arrhythmic of the sodium channel blockers due to prolonged QTc interval; use is limited due to proarrhythmic potential.

- **Option A:** Quinidine is used in selected patients with Brugada syndrome as an alternative to the implantable cardioverter-defibrillator placement (ICD). Treatment with quinidine can be useful in patients with short QT syndrome and recurrent ventricular arrhythmias (VA). In patients with short QT syndrome who undergo ICD placement, therapy with quinidine may reduce the number of shocks.
- **Option C:** Procainamide is a recommended agent to restore sinus rhythm in patients with Wolff-Parkinson-White (WPW) in whom atrial fibrillation (AF) occurs without hemodynamic instability in association with a wide QRS complex or with a rapid pre excited ventricular response. It also can be useful in an attempt to terminate ventricular tachycardia and arrhythmia.
- **Option D:** Disopyramide is still used occasionally with hypertrophic obstructive cardiomyopathy (HOCM). Particularly, as a combination with beta-blocker or verapamil in the treatment of symptoms such as angina or dyspnea in patients with HOCM who do not respond to beta-blockers or verapamil alone.

56. A client who is HIV+ has had a PPD skin test. The nurse notes a 7-mm area of induration at the site of the skin test. The nurse interprets the results as:

- A. Positive
- B. Negative
- C. Inconclusive
- D. The need for repeat testing.

Correct Answer: A. Positive

The client with HIV+ status is considered to have positive results on PPD skin test with an area greater than 5-mm of induration. The client with HIV is immunosuppressed, making a smaller area of induration positive for this type of client. If the PPD is reddened and raised 10mm or more, it's considered positive

according to the CDC. If the infection risk is very high, the PPD test need not be repeated. The positive PPD test is usually followed by TB symptom assessment, physical exam, and chest radiograph.

- **Option B:** If the patient is at a high risk of developing an active infection, a repeat test is recommended after an initial negative test to rule out the possibility of missing a case. However, a decision is made based on the risk factors.
- **Option C:** Inconclusive isn't a term used to describe results of a PPD test. It is a time-sensitive test. Tests that are read late are not accurate as they tend to under-estimate the size of the skin reaction. Therefore, the reliability of the test is compromised, and the results are doubtful.
- **Option D:** To avoid this, repeat testing is recommended if the reaction is not read on time. The second test can be administered as soon as possible. However, if repeated, the test should preferably be performed within 7 days of the initial test to avoid boosting effect.

57. Nurse Linda is caring for a client with head injury and monitoring the client with decerebrate posturing. Which of the following is a characteristic of this type of posturing?

- A. Upper extremity flexion with lower extremity flexion
- B. Upper extremity flexion with lower extremity extension
- C. Extension of the extremities after a stimulus
- D. Flexion of the extremities after stimulus

Correct Answer: C. Extension of the extremities after a stimulus

Decerebrate posturing is the extension of the extremities after a stimulus which may occur with upper brain stem injury. Decerebrate posturing is described as adduction and internal rotation of the shoulder, extension at the elbows with pronation of the forearm, and flexion of the fingers.

- **Option A:** Decerebrate posturing is the extension, not flexion, of extremities. As with decorticate posturing, the lower limbs show extension and internal rotation at the hip, with the extension of the knee and plantar flexion of the feet. Toes are typically abducted and hyperextended.
- **Option B:** The upper extremity should be in extension as well as the lower extremity. Decerebrate posturing can be seen in patients with large bilateral forebrain lesions with progression caudally into the diencephalon and midbrain. It can also be caused by a posterior fossa lesion compressing the midbrain or rostral pons.
- **Option D:** There is an extension of extremities after a stimulus in decerebrate posturing. Teasdale and Jennett advocated not using the term 'decerebrate' in the assessment of coma due to its association with a specific physio anatomical correlation, but to rather use the term 'extension.'

58. The nurse in an infertility clinic is discussing the treatment routine. The nurse advises the couple that the major stressor for couples being treated for infertility is usually

- A. Having to tell their families
- B. The cost of the interventions
- C. The inconvenience of multiple tests

D. The right scheduling of sexual intercourse

Correct Answer: D. The right scheduling of sexual intercourse.

Sexual activity “on-demand” is the major cause of stress for most infertile couples. It is important for couples to have sexual intercourse around the time of ovulation to increase the pregnancy rate.

- **Option A:** Having to tell families may also be a factor contributing to stress but is not the major stressor. Despite the prevalence of infertility, the majority of infertile women do not share their stories with family or friends, thus increasing their psychological vulnerability.
- **Option B:** Cost may also be a contributing factor to stress but is not usually the major factor. There are disadvantages of this new science for patients: the cost of preimplantation genetic screening can add thousands of dollars to an already expensive treatment cycle.
- **Option C:** The inconvenience of multiple tests may also be a factor contributing to stress but is not usually the major factor. Some patients will get pregnant quite easily from assisted reproductive treatment, conceiving on their first cycle. However, that is the exception; for many, it may take years, or not happen at all.

59. A patient in which of the following disorders is at high risk to develop hypermagnesemia?

- A. Insulin shock
- B. Hyperadrenalism
- C. Nausea and vomiting
- D. Renal failure

Correct Answer: D. Renal failure

Renal failure can reduce magnesium excretion, leading to hypermagnesemia. Hypermagnesemia refers to an excess amount of magnesium in the bloodstream. It is rare and is usually caused by renal failure or poor kidney function. Magnesium is a mineral the body uses as an electrolyte, meaning it carries electric charges around the body when dissolved in the blood.

- **Option A:** Diabetic ketoacidosis, not insulin shock is a cause of hypermagnesemia. In DKA body magnesium deficits through urinary losses are routinely encountered and are the consequence of absence of insulin. However, magnesium exit from the cells may cause hypermagnesemia, which is frequent at presentation with DKA.
- **Option B:** Hypoadrenalism, not hyperadrenalism is a cause of hypermagnesemia. Hypothyroidism and especially cortico-adrenal insufficiency, are other recognized causes. Hypomagnesemia is quite frequent, although the symptomatology (cramps, muscle spasms, paresthesia, and arrhythmias) appears only when exceeding the critical value.
- **Option C:** Nausea and vomiting lead to hypomagnesemia. Very low magnesium levels typically result when an acute problem is superimposed on chronic depletion. For example, critical levels can occur among patients with diabetes during correction of ketoacidosis or alcoholics who develop vomiting, diarrhea, or pancreatitis.

60. When providing postoperative care for the child with a cleft palate, the nurse should position the child in which of the following positions?

- A. Supine
- B. Prone
- C. In an infant seat
- D. On the side

Correct Answer: B. Prone

Postoperatively children with cleft palate should be placed on their abdomens to facilitate drainage. A child who has had a cleft lip repair should be positioned on their back to keep them from rubbing their face in the bed. A child with only a cleft palate repair may sleep on their stomach.

- **Option A:** If the child is placed in the supine position, he or she may aspirate. The goal after surgery is to protect the new repair and stitches. For this reason, there will be some changes in the child's feeding, positioning, and activity for a short time.
- **Option C:** Using an infant seat does not facilitate drainage.
- **Option D:** Side-lying does not facilitate drainage as well as the prone position.

61. Nurse April is teaching a group of women to perform breast self-examination. The nurse should explain that the purpose of performing the examination is to discover:

- A. Fibrocystic masses
- B. Changes from previous self-examinations
- C. Areas of thickness or fullness
- D. Cancerous lumps

Correct Answer: B. Changes from previous self-examinations

- **Option B:** Women are instructed to examine themselves to discover changes that have occurred in the breast.
- **Options A, C, and D:** Only a physician can diagnose lumps that are cancerous, areas of thickness or fullness that signal the presence of a malignancy, or masses that are fibrocystic as opposed to malignant.

62. A client is admitted to the labor and delivery unit in active labor. During the examination, the nurse notes a papular lesion on the perineum. Which initial action is most appropriate?

- A. Document the finding
- B. Report the finding to the doctor
- C. Prepare the client for a C-section
- D. Continue primary care as prescribed

Correct Answer: B. Report the finding to the doctor

Any lesion should be reported to the doctor. This can indicate a herpes lesion. Clients with open lesions related to herpes are delivered by Cesarean section because there is a possibility of transmission of the infection to the fetus with direct contact to lesions. During pregnancy there is a higher risk of perinatal transmission with primary HSV infection than with recurrent infection. If a primary HSV outbreak is diagnosed in pregnancy, oral antiviral treatment may be administered to help reduce the duration and severity of symptoms and viral shedding.

- **Option A:** It is not enough to document the finding. Viral or serologic testing should be performed to confirm suspected HSV infections; the basic groups of tests used are viral and antibody detection techniques. For viral detection, the primary testing techniques are viral culture and HSV antigen detection by polymerase chain reaction.
- **Option C:** The physician must make the decision to perform a C-section. Cesarean delivery is recommended to prevent perinatal HSV transmission in women with active genital lesions or prodromal symptoms, but it is not recommended for women with HSV lesions found only on nongenital areas, such as the back, thigh, or buttock.
- **Option D:** It is not enough to continue primary care. Antiviral agents commonly used to treat HSV infections are acyclovir (Zovirax), famciclovir (Famvir), and valacyclovir (Valtrex), which are all U.S. Food and Drug Administration pregnancy category B medications. For patients with more severe HSV infection, oral treatment can be used for more than 10 days if the lesions have not healed completely.

63. A female client who received general anesthesia returns from surgery. Postoperatively, which nursing diagnosis takes highest priority for this client?

- A. Acute pain related to surgery.
- B. Deficient fluid volume related to blood and fluid loss from surgery.
- C. Impaired physical mobility related to surgery.
- D. Risk for aspiration related to anesthesia.

Correct Answer: D. Risk for aspiration related to anesthesia.

Risk for aspiration related to anesthesia takes priority for this client because general anesthesia may impair the gag and swallowing reflexes, possibly leading to aspiration. The gag reflex, also known as the pharyngeal reflex, is a reflex contraction of the muscles of the posterior pharynx after stimulation of the posterior pharyngeal wall, tonsillar area, or base of the tongue. The gag reflex is believed to be an evolutionary reflex that developed as a method to prevent the aspiration of solid food particles. It is an essential component of evaluating the medullary brainstem and plays a role in the declaration of brain death. The other options, although important, are secondary.

- **Option A:** Postoperative pain can additionally characterize as somatic or visceral. The somatic division of pain is composed of a rich input of nociceptive myelinated, rapidly conducting A-beta-fibers found in cutaneous and deep tissue, which contribute to a more localized, sharp quality. The visceral division of pain is composed of a network of unmyelinated C-fibers and thinly myelinated A-delta-fibers that span across multiple viscera and converge together before entering the spinal cord. Also, visceral afferent fibers run close to autonomic ganglia before their entrance into the dorsal root of the spinal cord. These characteristic features of visceral nociceptive fibers are what contribute to a more diffuse, poorly localized pattern of pain that may be accompanied by autonomic reactions such as a change in heart rate or blood pressure.
- **Option B:** The acid-base and electrolyte changes observed in the perioperative period could be secondary to the underlying illness or surgical procedure, for example, hyponatremia occurring with

transurethral resection of the prostate where glycine or other hypotonic fluid is used for irrigation. Serum sodium concentration <120 mmol/L will cause confusion and irritability, whereas <110 mmol/L may cause seizures and coma.

- **Option C:** Complete physiologic recovery takes place by 40 min in 40% of the patients. The functional quality of recovery in all domains occurs in only 11% of the patients by day 3. Thus, the concept of awakening is involved with far greater dimensions than judging the anesthetic effect as terminated and assessing a patient as being “recovered” or “awakened.” Patients cannot be considered fully recovered until they have returned to their preoperative physiological state.

64. During a dermatology rotation, a group of medical students are provided with a case study of a burn patient who sustained significant damage to the skin. The supervising dermatologist emphasized the multiple crucial functions of the skin and how each might be compromised due to the injury. The students were then challenged to identify a function that is NOT primarily associated with the skin, based on their learning. Which of the following functions is NOT a primary role of the skin?

- A. Temperature regulation
- B. Protection
- C. Sensation
- D. Vitamin B production

Correct Answer: D. Vitamin B production

This is NOT a primary function of the skin. The skin is responsible for the synthesis of Vitamin D when exposed to sunlight, not Vitamin B. Vitamin B production is primarily associated with the gut flora in the intestines and the food we consume.

- **Option A:** Temperature regulation. The skin plays an essential role in regulating body temperature. Through mechanisms such as sweating and vasodilation, the skin helps dissipate heat. Conversely, vasoconstriction in the skin helps to retain heat.
- **Option B:** Protection. The skin serves as the body’s first line of defense against environmental factors such as pathogens, UV radiation, and physical trauma. Its multi-layered structure and the presence of various immune cells help in providing this protective function.
- **Option C:** Sensation. The skin is rich in nerve endings and receptors that can detect temperature, pressure, touch, pain, and vibration. This sensory function allows individuals to react to their environment and avoid potential harm.

65. The nurse is assessing a client who states her last menstrual period was March 17, and she has missed one period. She reports episodes of nausea and vomiting. Pregnancy is confirmed by a urine test. What will the nurse calculate as the estimated date of delivery (EDD)?

- A. November 8
- B. May 15
- C. February 21

D. December 24

Correct Answer: D. December 24

Naegele's rule: add 7 days and subtract 3 months from the first day of the last regular menstrual period to calculate the estimated date of delivery. Naegele's rule, derived from a German obstetrician, subtracts 3 months and adds 7 days to calculate the estimated due date (EDD). It is prudent for the obstetrician to get a detailed menstrual history, including duration, flow, previous menstrual periods, and hormonal contraceptives.

- **Option A:** Determining gestational age is one of the most critical aspects of providing quality prenatal care. Knowing the gestational age allows the obstetrician to provide care to the mother without compromising maternal or fetal status. It allows for the correct timing of management, such as administering steroids for fetal lung maturity, starting ASA therapy with a history of pre-eclampsia in previous pregnancies, starting hydroxyprogesterone caproate (Makena) for previous preterm deliveries.
- **Option B:** An average pregnancy lasts 280 days from the first day of the last menstrual period (LMP) or 266 days after conception. Historically, an accurate LMP is the best estimator to determine the due date.
- **Option C:** An official EDD is established after calculating the first-trimester sonogram EDD date and then using the LMP. If the LMP and first trimester EDD are within 7 days of each other, the LMP estimates the due date. The margin of error is reduced depending on when (i.e., how early) the sonogram occurred.

66. Atherosclerosis impedes coronary blood flow by which of the following mechanisms?

- A. Plaques obstruct the vein
- B. Plaques obstruct the artery
- C. Blood clots form outside the vessel wall
- D. Hardened vessels dilate to allow the blood to flow through

Correct Answer: B. Plaques obstruct the artery.

Arteries, not veins, supply the coronary arteries with oxygen and other nutrients. Atherosclerosis is a lipoprotein-driven disease that leads to plaque formation at specific sites of the arterial tree through intimal inflammation, necrosis, fibrosis, and calcification.

- **Option A:** Atherosclerosis is a direct result of plaque formation in the artery. Most often, the culprit morphology is plaque rupture with exposure of highly thrombogenic, red cell-rich necrotic core material. The permissive structural requirement for this to occur is an extremely thin fibrous cap, and thus, ruptures occur mainly among lesions defined as thin-cap fibroatheromas.
- **Option C:** Blood clots form inside the vessel wall and impede circulation. Also common are thrombi forming on lesions without rupture (plaque erosion), most often on pathological intimal thickening or fibroatheromas. However, the mechanisms involved in plaque erosion remain largely unknown, although coronary spasm is suspected.
- **Option D:** Hardened vessels can't dilate properly and, therefore, constrict blood flow. During atherogenesis, the local vessel segment tends to remodel in such a way that the lumen area is usually not compromised until plaques are large (expansive remodeling). Thereafter stenosis formation may occur through continued plaque growth or shrinkage of the local vessel segment

(constrictive remodeling) or a combination of the 2 processes.

67. Mr. Lim, who has chronic pain, loss of self-esteem, no job, and bodily disfigurement from severe burns over the trunk and arms, is admitted to a pain center. Which evaluation criteria would indicate the client's successful rehabilitation?

- A. The client remains free of the aftermath phase of the pain experience.
- B. The client experiences decreased frequency of acute pain episodes.
- C. The client continues normal growth and development with intact support systems.
- D. The client develops increased tolerance for severe pain in the future.

Correct Answer: C. The client continues normal growth and development with intact support systems.

Even though the client may experience an aftermath phase, progress is still possible, as is effective rehabilitation. Give positive reinforcement of progress and encourage endeavors toward the attainment of rehabilitation goals. Words of encouragement can support the development of positive coping behaviors.

- **Option A:** Aftermath reactions may occur but need not interfere with rehabilitation. Encourage family interaction with each other and with the rehabilitation team. To open lines of communication and provide ongoing support for the patient and family.
- **Option B:** Acute pain is not expected at this stage of recovery. Pain is nearly always present to some degree because of varying severity of tissue involvement and destruction but is usually most severe during dressing changes and debridement.
- **Option D:** Conditioning probably would produce less pain tolerance. Exercise is generally considered to be a safe and efficacious approach to restoring physiological function in patients with various chronic diseases. However, the inclusion of exercise regimens in the outpatient rehabilitation of patients who have undergone major trauma, such as a large burn, is not common.

68. A client is admitted to the unit with the diagnosis of Deficient Fluid Volume related to excessive fluid loss. Which action related to fluid management should be charged to a nursing assistant?

- A. Administer intravenous (IV) fluids as prescribed by the physician.
- B. Develop a plan for added fluid intake over 24 hours.
- C. Provide straws and offer fluids between meals.
- D. Educate family members to assist the client with fluid intake.

Correct Answer: C. Provide straws and offer fluids between meals.

Additional fluid intake can be reinforced by the nursing assistance once it is part of the care plan. A CNA's main role is to provide patients with basic care and assist them in their everyday activities, particularly when patients have a hard time doing a few activities on their own, such as bathing.

- **Option A:** In some hospitals, a CNA will administer a patient's medication. Usually, however, this depends on the CNA's level of experience and training, as well as the regulations of the state.

- **Option B:** Among the tasks that CANNOT be legally and appropriately delegated to nursing assistants include assessments, nursing diagnosis, establishing expected outcomes, evaluating care and any and all other tasks and aspects of care.
- **Option D:** Educating families demand further education and skills that are within the field of practice of an RN. 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.

69. After abdominal surgery, your patient has a severe coughing episode that causes wound evisceration. In addition to calling the doctor, which intervention is most appropriate?

- A. Irrigate the wound & organs with Betadine.
- B. Cover the wound with a saline-soaked sterile dressing.
- C. Apply a dry sterile dressing & binder.
- D. Push the organs back & cover with moist sterile dressings.

Correct Answer: B. Cover the wound with a saline-soaked sterile dressing.

Cover the organs with a sterile, non-adherent dressing moistened with normal saline. Do this to prevent infection and to keep the organs from drying out. Dehiscence of abdominal surgical wounds is a medical emergency and requires immediate action to reduce further complications.

- **Option A:** To decrease intra-abdominal pressure and stress on the wound, place the patient supine in the low Fowler's position with his knees slightly bent and cover the wound with a saline-moistened, sterile gauze dressing.
- **Option C:** The physician may order an abdominal binder to help prevent evisceration. To prevent dehiscence, teach patients to splint the surgical site when coughing, vomiting, or sneezing. An abdominal binder for those at risk for dehiscence may be helpful, but evidence supporting its use is still needed.
- **Option D:** Do not push back the organs because it may cause injuries. Although dehiscence occurs in less than 3% of abdominal surgeries, it's associated with a mortality of 14% to 50%, with evisceration increasing the risk of death. Conditions that increase intra-abdominal pressure (obesity) or may disrupt skin health (poor nutrition, steroid use, diabetes) place patients at increased risk of dehiscence.

70. An infection in a central venous access device is not eliminated by giving antibiotics through the catheter. How would bacterial glycoalyx contribute to this?

- A. It protects the bacteria from antibiotic and immunologic destruction.
- B. Glycoalyx neutralizes the antibiotic rendering it ineffective.
- C. It competes with the antibiotic for binding sites on the microbe.
- D. Glycoalyx provides nutrients for microbial growth.

Correct Answer: C. It competes with the antibiotic for binding sites on the microbe.

Glycocalyx is a viscous polysaccharide or polypeptide slime that covers microbes. It enhances adherence to surfaces, resists phagocytic engulfment by the white blood cells, and prevents antibiotics from contacting the microbe.

- **Option A:** The first identified function of the glycocalyx was probably protection. The glycocalyx is a dense, gel-like meshwork that surrounds the cell, constituting a physical barrier for any object to enter the cell. For example, the glycocalyx was identified to play an important role to prevent the entry of pathogens into the cell.
- **Option B:** The endothelial glycocalyx is continuously in contact with the bloodstream and acts as a vital mechanosensor on endothelial cells. Specifically, long proteoglycans with strong glycosylation such as heparan sulfate or chondroitin sulfate are involved in this process. Often, the image of wind brushing through trees is used: In this analogy, the “wind” of the bloodstream acts on the proteoglycan “trees” of the glycocalyx, bending them, which creates a torque that is transferred to the inside of the cells. This leads to various intracellular responses such as the release of the vasodilator nitric oxide, actin cytoskeleton rearrangement, and cell polarization.
- **Option D:** Considering that galectins are both glycocalyx organizing proteins and involved in a variety of cellular processes, it appears as if the glycocalyx can act as a “storage compartment” for galectins and potentially other proteins. Upon triggering events, they are released and translocated into the cell, where they fulfill their respective function.

71. Nurse Jeff is performing a skin assessment on a client with a facial lesion. It appears as a well-defined, red, scaling, thickened bump. This type of skin lesion refers to?

- A. Kaposi's Sarcoma
- B. Melanoma
- C. Squamous cell carcinoma
- D. Basal cell carcinoma

Correct Answer: C. Squamous cell carcinoma

A squamous cell carcinoma is characterized by a well-defined, red, scaling, thickened bump on the sun-exposed skin such as the face, ears, neck, lips, and backs of the hands.

- **Option A:** A client with Kaposi's sarcoma has reddish to purplish non-blanching, slightly raised, or nodular lesions of the skin or on the mucosal surfaces.
- **Option B:** A client with melanoma has smooth, dark brown or black colored smooth lesions that become irregular as it grows.
- **Option D:** A client with basal cell carcinoma has red patches, shiny bumps, scars, or growth with slightly raised, rolled edges.

72. General anesthetics potentiate the effects of which of the following drugs?

- A. Depolarizing agents
- B. Skeletal muscle relaxants
- C. Volatile liquids
- D. Inhalation anesthetics

Correct Answer: B. Skeletal muscle relaxants

The effects of skeletal muscle relaxants are potentiated with the use of general anesthetics. Skeletal muscle relaxants are drugs that are used to relax and reduce tension in muscles. They are more simply referred to as muscle relaxants. Some work in the brain or spinal cord to block or dampen down excessively stimulated nerve pathways.

- **Option A:** Depolarizing agents do not interact with general anesthetics. Depolarizing agents produce their block by binding to and activating the ACh receptor, at first causing muscle contraction, then paralysis. They bind to the receptor and cause depolarization by opening channels just like acetylcholine does.
- **Option C:** Desflurane, isoflurane, and sevoflurane are the most widely used volatile anesthetics today. They are often combined with nitrous oxide. Older, less popular, volatile anesthetics include halothane, enflurane, and methoxyflurane.
- **Option D:** Inhalation anesthetics (nitrous oxide, halothane, isoflurane, desflurane, sevoflurane most commonly used agents in practice today) are used for induction and maintenance of general anesthesia in the operating room. The volatile anesthetics (halothane, isoflurane, desflurane, and sevoflurane) are liquids at room temperature and require the use of vaporizers for inhalational administration.

73. The patient with multiple sclerosis tells the nursing assistant that after physical therapy she is too tired to take a bath. What is your priority nursing diagnosis at this time?

- A. Fatigue related to disease state
- B. Activity Intolerance due to generalized weakness
- C. Impaired Physical Mobility related to neuromuscular impairment
- D. Self-care Deficit related to fatigue and neuromuscular weakness

Correct Answer: D. Self-care Deficit related to fatigue and neuromuscular weakness

At this time, based on the patient's statement, the priority is Self-Care Deficit related to fatigue after physical therapy. Fatigue is described as an overwhelming feeling of lassitude or lack of physical or mental energy that interferes with activities.

- **Option A:** The patient might be experiencing fatigue, but it might be due to the activities at physical therapy. Fatigue is one of the most common symptoms of MS, reported by at least 75% of patients with the disease.
- **Option B:** Activity intolerance in a patient with MS is appropriate, but not related to the statement. An estimated 50–60% of persons with MS describe fatigue as one of their most bothersome symptoms, and it is a major reason for unemployment among MS patients.
- **Option C:** Impaired physical mobility is appropriate to a patient with MS, but it is not related to the patient's statement. Spasticity in MS is characterized by increased muscle tone and resistance to movement; it occurs most frequently in muscles that function to maintain an upright posture. The muscle stiffness greatly increases the energy expended to perform activities of daily living (ADLs), which in turn contributes to fatigue.

74. Nurse Jay is caring for a client with an ongoing transfusion of packed RBCs when suddenly the client is having difficulty breathing, skin is flushed, and

having chills. Which action should nurse Jay take first?

- A. Administer oxygen.
- B. Place the client on a droplight.
- C. Check the client's temperature.
- D. Stop the transfusion.

Correct Answer: D. Stop the transfusion.

The client in this situation is experiencing a transfusion reaction so the priority action of the nurse is to first stop the transfusion. Disconnect the transfusion set-but keep the IV line open with 0.9% saline to provide access for possible IV drug infusion. Send the blood bag and tubing to the blood bank for repeat typing and culture.

- **Option A:** Place the client in Fowler's position with shortness of breath and administer O2 therapy. The nurse remains with the client, observing signs and symptoms and monitoring vital signs as often as every 5 minutes. Obtain a urine specimen and send it to the laboratory to determine presence of hemoglobin as a result of RBC hemolysis.
- **Option B:** Placing the client under a drop light would not manage his difficulty in breathing. For circulatory overload, immediate treatment includes positioning the patient upright with feet dependent; diuretics, oxygen, and aminophylline may be prescribed. The nurse prepares to administer emergency drugs such as antihistamines, vasopressor, fluids, and steroids as per the physician's order or protocol.
- **Option C:** Febrile, nonhemolytic transfusion reactions are treated symptomatically with antipyretics; leukocyte-poor blood products may be recommended for subsequent transfusions. Blood container, tubing, attached label, and transfusion record are saved and returned to the laboratory for analysis.

75. A client taking lithium carbonate (Lithobid) started complaining of nausea, vomiting, diarrhea, drowsiness, muscle weakness, tremor, blurred vision, and ringing in the ears. The lithium level is 2 mEq/L. The nurse interprets this value as:

- A. Normal level
- B. Toxic level
- C. Below normal level
- D. Above normal level

Correct Answer: B. Toxic level

The therapeutic drug serum level of lithium is 0.6 to 1.2 mEq/L. Toxicity can happen when the level of lithium reaches 1.5 mEq/L or higher.

76. A 72-year-old retired ballet dancer, with a long-standing history of osteoarthritis (OA) affecting her right hip, is admitted to the orthopedic ward for an upcoming total hip replacement surgery. Over the years, conservative treatments have become less effective, and her mobility has significantly

declined, prompting the decision for surgical intervention. As the surgery date approaches, the nurse plans a preoperative intervention to optimize the patient's readiness for the procedure. Which preoperative nursing intervention should be implemented?

- A. Administering prophylactic antibiotics as prescribed
- B. Encouraging active range of motion exercises for the affected joint
- C. Applying cold packs to the affected joint to reduce inflammation
- D. Teaching the patient about postoperative pain management techniques

Correct Answer: A. Administering prophylactic antibiotics as prescribed.

Prophylactic antibiotics are often prescribed prior to certain surgeries, including joint replacements, to reduce the risk of postoperative infections. While this is an important measure, the decision and timing of antibiotic administration are usually very specific and directed by the surgical team or protocol, often closer to the time of the actual surgery.

- **Option B:** While exercise is crucial in the management of OA, encouraging active range of motion exercises immediately before a joint replacement surgery may not be the primary focus. The joint is already deteriorated, and the main goal of the surgery is to address this issue. However, exercises might be essential postoperatively to aid in rehabilitation.
- **Option C:** Cold therapy can help in reducing inflammation and alleviating pain. However, in the immediate preoperative phase, the focus is often on preparing the patient for surgery and managing any potential complications, rather than on symptom management which the surgery itself is aiming to address.
- **Option D:** Education about postoperative pain management is crucial before joint replacement surgeries. This ensures that the patient has realistic expectations, understands the methods of pain relief available, and can actively participate in their pain management after the surgery, leading to better outcomes and improved patient satisfaction. Teaching the patient about postoperative pain management techniques is important but is more appropriate for the postoperative period.

77. Which of the following is an appropriate toy for an 18-month-old?

- A. Multiple-piece puzzle
- B. Miniature cars
- C. Finger paints
- D. Comic book

Correct Answer: C. Finger paints

Young toddler textures. Thus, finger paints would be an appropriate toy choice.

- **Option A:** Multiple-piece toddlers are still sensorimotor learners and they enjoy the experience of feeling dizzy, such as puzzle, are too difficult to manipulate and may be hazardous if the pieces are small enough to be aspirated.
- **Option B:** Miniature cars also have a high potential for aspiration.
- **Option D:** Comic books are on too high a level for toddlers. Although they may enjoy looking at some of the pictures, toddlers are more likely to rip a comic book apart.

78. The client with a history of diabetes insipidus is admitted with polyuria, polydipsia, and mental confusion. The priority intervention for this client is:

- A. Measure the urinary output
- B. Check the vital signs
- C. Encourage increased fluid intake
- D. Weigh the client

Correct Answer: B. Check the vital signs

A large amount of fluid loss can cause fluid and electrolyte imbalance that should be corrected. The loss of electrolytes would be reflected in the vital signs. Monitor for signs of hypovolemic shock (e.g., tachycardia, tachypnea, hypotension). Frequent assessment can detect changes early for rapid intervention. Polyuria causes decreased circulatory blood volume.

- **Option A:** Measuring the urinary output is important, but the stem already says that the client has polyuria. Monitor intake and output. Report urine volume greater than 200 mL for each of 2 consecutive hours or 500 mL in a 2-hour period. With DI, the patient voids large urine volumes independent of the fluid intake. Urine output ranges from 2 to 3 L/day with renal DI to greater than 10 L/day with central DI.
- **Option C:** Encouraging fluid intake will not correct the problem. Allow the patient to drink water at will. Patients with intact thirst mechanisms may maintain fluid balance by drinking huge quantities of water to compensate for the amount they urinate. Patients prefer cold or ice water.
- **Option D:** Weighing the client is not necessary at this time. Monitor serum and urine osmolality. Urine osmolality will be decreased and serum osmolality will increase. Monitor urine-specific gravity. This may be 1.005 or less.

79. The client has experienced an electrical injury, with the entrance site on the left hand and the exit site on the left foot. What are the priority assessment data to obtain from this client on admission?

- A. Airway patency
- B. Heart rate and rhythm
- C. Orientation to time, place, and person
- D. Current range of motion in all extremities

Correct Answer: B. Heart rate and rhythm

Electric current travels through the body from the entrance site to the exit site and can seriously damage all tissues between the two sites. Early cardiac damage from electrical injury includes irregular heart rate, rhythm, and ECG changes. It is also important to obtain the patient's cardiac history, including any history of prior arrhythmias.

- **Option A:** The airway is not at any particular risk with this injury. Any patient that was in contact with a high voltage source should have continuous cardiac monitoring during evaluation.
- **Option C:** These patients are specifically at risk for cardiac damage if the path of the current traversed the heart. One may also consider CT imaging of the head if the patient has altered mental status or associated head trauma from a fall or being thrown in a blast.

- **Option D:** Range of motion is also important. However, the priority is to make sure that the heart rate and rhythm are adequate to support perfusion to the brain and other vital organs.

80. A 65-year-old female who has diabetes mellitus and has sustained a large laceration on her left wrist asks the nurse, "How long will it take for my scars to disappear?" Which statement would be the nurse's best response?

- A. "The contraction phase of wound healing can take 2 to 3 years."
- B. "Wound healing is very individual but within 4 months the scar should fade."
- C. "With your history and the type of location of the injury, it's hard to say."
- D. "If you don't develop an infection, the wound should heal any time between 1 and 3 years from now."

Correct Answer: C. "With your history and the type of location of the injury, it's hard to say."

Wound healing in a client with diabetes will be delayed. Providing the client with a time frame could give the client false information. There is no doubt that diabetes plays a detrimental role in wound healing. It does so by affecting the wound healing process at multiple steps. Wound hypoxia, through a combination of impaired angiogenesis, inadequate tissue perfusion, and pressure-related ischemia, is a major driver of chronic diabetic wounds.

- **Option A:** Ischemia can lead to prolonged inflammation, which increases the levels of oxygen radicals, leading to further tissue injury. Elevated levels of matrix metalloproteases in chronic diabetic wounds, sometimes up to 50-100 times higher than acute wounds, cause tissue destruction and prevent normal repair processes from taking place. Furthermore, diabetes is associated with impaired immunity, with critical defects occurring at multiple points within the immune system cascade of the wound healing process.
- **Option B:** To further complicate matters, these wounds have defects in angiogenesis and neovascularization. Normally, wound hypoxia stimulates mobilization of endothelial progenitor cells via vascular endothelial growth factor (VEGF). In diabetic wounds, there are aberrant levels of VEGF and other angiogenic factors such as angiopoietin-1 and angiopoietin-2 that lead to dysangiogenesis.
- **Option D:** Diabetic neuropathy may also play a role in poor wound healing. Lower levels of neuropeptides, as well as reduced leukocyte infiltration as a result of sensory denervation, have been shown to impair wound healing. When combined, all these diverse factors play a role in the formation and propagation of chronic, debilitating wounds in patients with diabetes.

81. A client is admitted for treatment of the syndrome of inappropriate antidiuretic hormone (SIADH). Which nursing intervention is appropriate?

- A. Infusing I.V. fluids rapidly as ordered.
- B. Encouraging increased oral intake.
- C. Restricting fluids.
- D. Administering glucose-containing I.V. fluids as ordered.

Correct Answer: C. Restricting fluids.

To reduce water retention in a client with SIADH, the nurse should restrict fluids.

- **Option A:** Rapid infusion of IV fluids would further increase the client's overload.
- **Option B:** The client should be instructed to restrict his fluid intake. It is also important to restrict sodium intake because higher correction rates have been associated with osmotic demyelination.
- **Option D:** Administering fluids by any route would further increase the client's already heightened fluid load.

82. Accompanied by her husband, a patient seeks admission to the labor and delivery area. The client states that she is in labor and says she attended the hospital clinic for prenatal care. Which question should the nurse ask her first?

- A. "Do you have any chronic illness?"
- B. "Do you have any allergies?"
- C. "What is your expected due date?"
- D. "Who will be with you during labor?"

Correct Answer: C. "What is your expected due date?"

When obtaining the history of a patient who may be in labor, the nurse's highest priority is to determine her current status, particularly her due date, gravidity, and parity. Gravidity and parity affect the duration of labor and the potential for labor complications. Later, the nurse should ask about chronic illness, allergies, and support persons.

- **Option A:** After asking for the expected due date, obtain the client's problems during this or previous pregnancies.
- **Option B:** Asking about any known allergies may be done after inquiring about prior ultrasonographic examinations and results, and bleeding during pregnancy or labor.
- **Option D:** This may be asked if the client's health history and present health history, which are some of the most important details, are already obtained.

83. A client with a new stoma who has not had a bowel movement since surgery last week reports feeling nauseous. What is the appropriate nursing action?

- A. Prepare to irrigate the colostomy.
- B. After assessing the stoma and surrounding skin, notify the surgeon.
- C. Assess bowel sounds and administer antiemetic.
- D. Administer a bulk forming laxative, and encourage increased fluids and exercise.

Correct Answer: B. After assessing the stoma and surrounding skin, notify the surgeon.

The client has assessment findings consistent with complications of surgery. Providers and nurses should monitor stomas at regular intervals to look for the multiple complications of colostomies as an integrated team approach. Some complications are extremely troublesome to patients, and they come to the hospital with these presentations, but others may be more occult and have to be looked for.

- **Option A:** Irrigating the stoma is a dependent nursing action, and is also intervention without appropriate assessment. Some procedures like irrigation or enema should be avoided in case of stoma prolapse, chemotherapy, pelvic or abdominal radiation treatments, diarrhea-producing

medication, or in case of an irregular functioning stoma and may lead to dependence.

- **Option C:** Assessing the peristomal skin area is an independent action, but administering an antiemetic is an intervention without appropriate assessment. Antiemetics are generally ordered to treat immediate postoperative nausea, not several days postoperative.
- **Option D:** Administering a bulk-forming laxative to a nauseated postoperative client is contraindicated. The surgeon must call the patient for regular follow up to assess the condition of the stoma and look for any complications and also assess the disease process for which the colostomy was made and also plan for colostomy closure in case of temporary colostomies.

84. The nurse is reviewing the chart of a client who is newly diagnosed with chronic lymphocytic leukemia. Which of the following laboratory values is expected to be seen?

- A. Elevated aspartate aminotransferase and alanine aminotransferase levels
- B. Thrombocytopenia and increased lymphocytes
- C. Elevated sedimentation rate
- D. Uncontrolled proliferation of granulocytes

Correct Answer: B. Thrombocytopenia and increased lymphocytes

- **Option B:** Chronic lymphocytic leukemia shows a proliferation of small abnormal mature B lymphocytes and decreased antibody response. Thrombocytopenia also is often present.
- **Option A:** Chronic lymphocytic leukemia often does not cause abnormal liver function tests.
- **Option C:** An elevated ESR result is often seen with multiple myeloma and Waldenstrom's macroglobulinemia (a type of non-Hodgkin's lymphoma that is characterized by excessive production of white blood cells).
- **Option D:** Uncontrolled proliferation of granulocytes occurs in myelogenous leukemia.

85. Which of the following interventions is essential when instilling Cortisporin suspension, 2 gtt right ear?

- A. Verifying the proper client and route.
- B. Warming the solution to prevent dizziness.
- C. Holding an emesis basin under the client's ear.
- D. Positioning the client in the Semi-fowler's position.

Correct Answer: A. Verifying the proper client and route.

When giving medications, a nurse follows the five R's of medication administration. The right patient: check that you have the correct patient using two patient identifiers (e.g., name and date of birth). The right route: check that the route is appropriate for the patient's current condition.

- **Option B:** The drops may be warmed to prevent pain or dizziness, but this action is not essential. Internal ear structures are particularly sensitive to temperature extremes. Therefore, ear (otic) medications should always be administered at room temperature. Always use sterile ear drops in case the eardrum is ruptured.

- **Option C:** An emesis basin would be used for irrigation of the ear. Apply gentle pressure to the tragus several times. Pressure helps move medication toward the tympanic membrane. If ordered, a cotton ball may be placed loosely in the ear canal. Cotton balls help prevent the medication from escaping from the ear.
- **Option D:** Put the client in the lateral position to prevent the drops from draining out for 5 minutes, not Semi-fowler's position. Position patient with affected ear uppermost, on the unaffected side, if lying down, or tilt head to the side if sitting up. Proper positioning helps to stop the medication from escaping. Do not tilt the head if the patient has a cervical spine injury.