

Kevin's Review - 85 NCLEX Practice Questions

1. Which of the following conditions is associated with a predictable level of pain that occurs as a result of physical or emotional stress?

- A. Anxiety
- B. Stable angina
- C. Unstable angina
- D. Variant angina

Correct Answer: B. Stable angina

The pain of stable angina is predictable in nature, builds gradually, and quickly reaches maximum intensity. Stable angina is characterized by chest discomfort or anginal equivalent that is provoked with exertion and alleviated at rest or with nitroglycerin. This is often one of the first manifestations or warning signs of underlying coronary disease.

- **Option A:** Anxiety disorders appear to be caused by an interaction of biopsychosocial factors. Genetic vulnerability interacts with situations that are stressful or traumatic to produce clinically significant syndromes. Anxiety is linked to fear and manifests as a future-oriented mood state that consists of a complex cognitive, affective, physiological, and behavioral response system associated with preparation for the anticipated events or circumstances perceived as threatening.
- **Option C:** Unstable angina doesn't always need a trigger, is more intense, and lasts longer than stable angina. Coronary atherosclerotic disease is the underlying cause of unstable angina in nearly all patients with acute myocardial ischemia. The most common cause of unstable angina is due to coronary artery narrowing due to a thrombus that develops on a disrupted atherosclerotic plaque and is nonocclusive.
- **Option D:** Variant angina usually occurs at rest—not as a result of exercise or stress. There is a decrease in blood supply to the myocardium generating symptoms like chest pain. The coronary arteries may develop spasm as a result of exposure to cold weather, exercise, or a substance that promotes vasoconstriction as alpha-agonists (pseudoephedrine and oxymetazoline). Recreational drug use, for example, cocaine use, is associated with the development of vasospastic angina, especially when used concurrently with cigarette smoking.

2. A 45-year-old man is involved in a minor motor vehicle accident and presents to the emergency room complaining of neck pain. The attending physician, suspecting a potential neck strain, requests a neurological examination to assess any muscle or nerve damage. The nurse, while assessing the patient's range of motion, focuses on the sternocleidomastoid muscle due to its significant role in neck movements. The nurse uses this opportunity to educate the patient on the functions of this muscle and tests his understanding with a question about the right sternocleidomastoid muscle. "Given our conversation about the sternocleidomastoid and its role in neck movement, can you identify the combination below that accurately represents the types of movement produced when the right sternocleidomastoid muscle contracts?" 1. Right cervical flexion 2. Right cervical rotation 3. Left cervical flexion 4. Left cervical rotation

- A. 1 and 3

- B. 1 and 4
- C. 2 and 3
- D. 2 and 4

Correct Answer: B. 1 and 4

Contraction of only one sternocleidomastoid muscle causes rotation of the head to the left side. Contraction of both sternocleidomastoids results in flexion of the neck or extension of the head, depending on what other neck muscles are doing.

3. Which non-antipsychotic medication is used to treat some clients with schizoaffective disorder? A. phenelzine (Nardil)

- A. phenelzine (Nardil)
- B. chlordiazepoxide (Librium)
- C. lithium carbonate (Lithane)
- D. imipramine (Tofranil)

Correct Answer: C. lithium carbonate (Lithane)

Lithium carbonate, an antimanic drug, is used to treat clients with cyclical schizoaffective disorder, a psychotic disorder once classified under schizophrenia that causes affective symptoms, including manic-like activity. Lithium helps control the affective component of this disorder. Lithium was the first mood stabilizer and is still the first-line treatment option, but is underutilized because it is an older drug. Lithium is a commonly prescribed drug for a manic episode in bipolar disorder as well as maintenance therapy of bipolar disorder in a patient with a history of a manic episode. The primary target symptoms of lithium are mania and unstable mood.

- **Option A:** Phenelzine is a monoamine oxidase inhibitor prescribed for clients who don't respond to other antidepressant drugs such as imipramine. Phenelzine is an FDA-approved drug for the management of depression in adults. Off label, the drug may be used for the management of treatment-resistant depression, panic disorder, and social anxiety disorder. Phenelzine is also specifically useful for young women who have depression and mood disorders. Research has not established the safety and efficacy for children or adolescents.
- **Option B:** Chlordiazepoxide, an anti-anxiety agent, generally is contraindicated in psychotic clients. Chlordiazepoxide is a long-acting benzodiazepine and is an FDA approved medication for adults with mild-moderate to severe anxiety disorder, preoperative apprehension and anxiety, and withdrawal symptoms of acute alcohol use disorder. It is also FDA approved for pediatric patients greater than six years old for anxiety.
- **Option D:** Imipramine, primarily considered an antidepressant agent, is also used to treat clients with agoraphobia and those undergoing cocaine detoxification. Imipramine is a tertiary amine tricyclic antidepressant. Tricyclic antidepressants (TCAs) had been approved by the Food and Drug Administration (FDA) as antidepressants in the 1950s. Although it is FDA approved for the treatment of depression, it is a second-line treatment notably in severe depression with melancholic and atypical features, due to its undesirable side effects and due to its toxicity in overdose.

4. A nurse is giving instructions to a client taking ciprofloxacin (Cipro) for the treatment of gonorrhea. The nurse tells the client to?

- A. Report any history of tendon problems.
- B. Resume daily exercise such as biking.
- C. Take an antacid 30 minutes prior.
- D. Take it with a yogurt as part of the treatment.

Correct Answer: A. Report any history of tendon problems

Ciprofloxacin may cause swelling or tearing of a tendon (the fiber that connects bones to muscles in the body), especially in the Achilles' tendon of the heel. This can happen during treatment or up to several months after the client stop taking ciprofloxacin

- **Option B:** This medication can cause dizziness so avoid any activity that requires alertness until the client is sure to perform such activities safely.
- **Option C:** Take ciprofloxacin at least 2 hours before or 6 hours after taking an antacid.
- **Option D:** Eating dairy products such as yogurt will impair the effectiveness of ciprofloxacin.

5. After teaching a pregnant woman who is in labor about the purpose of the episiotomy, which of the following purposes stated by the client would indicate to the nurse that the teaching was effective?

- A. Shortens the second stage of labor.
- B. Enlarges the pelvic inlet.
- C. Prevents perineal edema.
- D. Ensures quick placenta delivery.

Correct Answer: A. Shortens the second stage of labor

An episiotomy serves several purposes. It shortens the second stage of labor, substitutes a clean surgical incision for a tear, and decreases undue stretching of perineal muscles. An episiotomy helps prevent tearing of the rectum but it does not necessarily relieve pressure on the rectum. Tearing may still occur.

- **Option B:** The pelvic inlet or superior aperture of the pelvis is a planar surface that defines the boundary between the pelvic cavity and the abdominal cavity. It is not involved during an episiotomy.
- **Option C:** To prevent perineal edema, ice packs may be applied in the first 24 hours after birth to decrease swelling and pain.
- **Option D:** Placenta delivery may be sped up by either pulling the cord gently with one hand while pressing and kneading the uterus with the other, or exerting downward pressure on the top of the uterus, asking the woman to push at the appropriate time.

6. How should the nurse prepare an injection for a patient who takes both regular and NPH insulin?

- A. Draw up the NPH insulin, then the regular insulin, in the same syringe.
- B. Draw up the regular insulin, then the NPH insulin, in the same syringe.

- C. Use two separate syringes.
- D. Check with the physician.

Correct Answer: B. Draw up the regular insulin, then the NPH insulin, in the same syringe.

Drugs that are compatible may be mixed together in one syringe. In the case of insulin, the shorter-acting, clear insulin (regular) should be drawn up before the longer-acting, cloudy insulin (NPH) to ensure accurate measurements.

- **Option A:** Insulin, regular when administered subcutaneously, it should be injected 30 to 40 minutes before each meal. Avoid cold injections. The injection is in the buttocks, thighs, arms, or abdomen; it is necessary to rotate injection sites to avoid lipodystrophy. Do not inject if the solution is viscous or cloudy; use only if clear and colorless.
- **Option C:** When administered intravenously, U-100 administration should be with close monitoring of serum potassium and blood glucose. Do not use if the solution is viscous or cloudy; administration should only take place if it is colorless and clear.
- **Option D:** For intravenous infusions, to minimize insulin adsorption to plastic IV tubing, flush the intravenous tube with 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.

7. The physician orders heparin, 7,500 units, to be administered subcutaneously every 6 hours. The vial reads 10,000 units per milliliter. The nurse should anticipate giving how much heparin for each dose?

- A. ¼ ml
- B. ½ ml
- C. ¾ ml
- D. 1 ¼ ml

Correct Answer: C. ¾ ml

The nurse solves the problem as follows:

$$10,000 \text{ units} / 7,500 \text{ units} = 1 \text{ ml} / X$$

$$10,000 X = 7,500$$

$$X = 7,500 / 10,000 \text{ or } \frac{3}{4} \text{ ml}$$

- **Option A:** There are 3 primary methods for the calculation of medication dosages, as referenced above. These include Desired Over Have Method or Formula, Dimensional Analysis and Ratio and Proportion.
- **Option B:** Desired over Have or Formula Method is a formula or equation to solve for an unknown quantity (x) much like ratio proportion. Drug calculations require the use of conversion factors, such as when converting from pounds to kilograms or liters to milliliters. Simplistic in design, this method allows us to work with various units of measurement, converting factors to find our answer. Useful in checking the accuracy of the other methods of calculation as above mentioned, thus acting as a double or triple check.
- **Option D:** 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.

8. A 12-year-old boy, Timmy, presents to a pediatric clinic accompanied by his parents. He has a history of recurrent sore throat infections over the past 6 months. His mother reports that although they initially completed antibiotic courses, the last two times, Timmy only took antibiotics for a couple of days until he felt better, and they still have the leftover medication at home. Upon examination, the healthcare provider notes erythema and exudate in Timmy's pharynx along with tender, enlarged cervical lymph nodes. A rapid antigen detection test (RADT) confirms the presence of Group A beta-hemolytic streptococci (GABHS). Given Timmy's history of inadequate antibiotic treatment, the healthcare provider is concerned about the potential complications that may arise from repeated, partially treated GABHS infections. Which of the following conditions is a known complication that may result from unresolved or partially treated GABHS infection?

- A. Influenza
- B. Sickle cell anemia
- C. Histoplasmosis
- D. Rheumatic Fever
- E. Glomerulonephritis
- F. Scarlet Fever

Correct Answer: D. Rheumatic Fever

Rheumatic fever is a known serious complication of untreated or inadequately treated GABHS pharyngitis. It is an inflammatory disease that can affect many of the body's connective tissues — especially those of the heart, joints, brain, or skin.

- **Option A:** Influenza is caused by viruses usually known as type A, B, and C, not by a bacterial infection like GABHS.
- **Option B:** Sickle cell anemia is a genetic disorder and is not related to GABHS infections.
- **Option C:** Histoplasmosis is a pulmonary fungal infection caused by spores of *Histoplasma capsulatum*.
- **Option E:** Although post-streptococcal glomerulonephritis (PSGN) can occur after certain strains of streptococcal infections, it is not as directly related to untreated pharyngeal infections by GABHS as rheumatic fever is. The scenario provided focuses on recurrent sore throat infections which more align with rheumatic fever as a complication.
- **Option F:** While scarlet fever is associated with certain strains of GABHS, it isn't a result of unresolved or inadequately treated GABHS pharyngitis like rheumatic fever. Scarlet fever tends to manifest shortly after a GABHS infection with a characteristic rash.

9. If a client requires a pneumonectomy, what fills the area of the thoracic cavity?

- A. The space remains filled with air only.
- B. The surgeon fills the space with a gel.

- C. Serous fluids fill the space and consolidate the region.
- D. The tissue from the other lung grows over to the other side.

Correct Answer: C. Serous fluids fill the space and consolidate the region

Serous fluid fills the space and eventually consolidates, preventing extensive mediastinal shift of the heart and remaining lung.

- **Option A:** Air can't be left in space. Air in the chest cavity is called a pneumothorax, and it may cause the lungs to collapse.
- **Option B:** There's no gel that can be placed in the pleural space. The pleural cavity is the space that lies between the pleura, the two thin membranes that line and surround the lungs. It contains a small amount of liquid known as pleural fluid.
- **Option D:** The tissue from the other lung can't cross the mediastinum, although a temporary mediastinal shift exists until space is filled.

10. The client with leukemia is receiving Myleran (busulfan) and Zylprim (allopurinol). The nurse tells the client that the purpose if the allopurinol is to prevent:

- A. Mouth sores
- B. Hyperuricemia
- C. Nausea
- D. Alopecia

Correct Answer: B. Hyperuricemia

- **Option B:** Allopurinol decreases uric acid concentrations in serum and urine. In the client receiving chemotherapy, uric acid levels increase as a result of the massive cell destruction that occurs from the chemotherapy. This medication prevents or treats hyperuricemia caused by chemotherapy.
- **Options A, C, and D:** Allopurinol is not used to prevent alopecia, nausea, or mouth sores.

11. A diagnosis of Hodgkin's disease was made to a 58- year old man and is admitted for the initial cycle of chemotherapy. During the hospitalization, the nurse should watch out for the following complication, except?

- A. Fertility problems
- B. Benign prostatic hyperplasia
- C. Secondary cancer
- D. Infection

Correct Answer: B. Benign prostatic hyperplasia

- **Option B:** Hodgkin's disease (Hodgkin's lymphoma) is a type of cancer that affects the lymphatic system (bone marrow, spleen, liver, and lymph node tissue. Symptoms include painless swelling of a lymph node, recurrent fever, night sweats, pruritus, and unexplained weight loss. Prostate involvement is rare in Hodgkin's disease.

- **Options A, C, and D:** Complications of the disease would lead to a weakened immune system resulting in various infections, It can also result in fertility problems related to chemotherapy, and a probability of secondary cancers in the future.

13. The nurse is caring for a client diagnosed with an antisocial personality disorder. The client has a history of fighting, cruelty to animals, and stealing. Which of the following traits would the nurse be most likely to uncover during the assessment?

- A. History of gainful employment.
- B. Frequent expression of guilt regarding antisocial behavior.
- C. Demonstrated ability to maintain close, stable relationships.
- D. A low tolerance for frustration.

Correct Answer: D. A low tolerance for frustration

Clients with an antisocial personality disorder exhibit a low tolerance for frustration, emotional immaturity, and a lack of impulse control. Antisocial personality disorder (ASPD) is a deeply ingrained and rigid dysfunctional thought process that focuses on social irresponsibility with exploitive, delinquent, and criminal behavior with no remorse. Disregard for and the violation of others' rights are common manifestations of this personality disorder, which displays symptoms that include failure to conform to the law, inability to sustain consistent employment, deception, manipulation for personal gain, and incapacity to form stable relationships.

- **Option A:** They commonly have a history of unemployment, miss work repeatedly, and quit work without other plans for employment. Antisocial personality disorder, although a chronic condition with a lifelong presentation, has had moderations shown with advancing ages, with the mean remitted age of 35 years old. Those with less baseline symptomatology showed better-remitted rates. Studies in the past revealed remission rates of 12 to 27% and 27 to 31% rates of improvement, but not remitted. Crime rates and severity reflect this relation as well, with peak crime statistics in late teens and higher severity of crimes at younger ages.
- **Option B:** They don't feel guilty about their behavior and commonly perceive themselves as victims. They also display a lack of responsibility for the outcome of their actions. Those with later presentations of antisocial behavior showed less severe behavioral problems. Those who were either never imprisoned or imprisoned for longer periods displayed greater remission rates than those imprisoned for shorter periods. This finding indicated that short-term incarceration could be somewhat preventive for future antisocial behavior.
- **Option C:** Because of a lack of trust in others, clients with antisocial personality disorder commonly have difficulty developing stable, close relationships. Many individuals diagnosed with antisocial personality disorder remain a burden to their families, coworkers, and closely associated peers, such as neighbors, despite becoming less troublesome with age. Mental health comorbidities and associated addictive disorders, as well as higher mortality rates due to suicides and homicides, only add to this burden.

14. Which of the following signs will require a mother to seek immediate medical attention?

- A. When the first fetal movement is felt.

- B. No fetal movement is felt on the 6th month.
- C. Mild uterine contraction.
- D. Slight dyspnea on the last month of gestation.

Correct Answer: B. No fetal movement is felt on the 6th month.

Fetal movement is usually felt by the mother during 4.5 – 5 months. If the pregnancy is already in its 6th month and no fetal movement is felt, the pregnancy is not normal either the fetus is already dead intra-uterine or it is an H-mole.

- **Option A:** The first fetal movements which are felt by the mother are called quickening. One function of these movements is to alert the pregnant woman that she has a fetus growing in her uterus. Quickening often occurs between the 16th to the 22nd week of pregnancy. This is called a presumptive sign of pregnancy as the other movements of the woman's body can mimic early fetal movements such as flatus, peristalsis, and abdominal muscle contractions.
- **Option C:** Sometime during the second or third trimester, the woman might start to feel mild, sporadic contractions, especially when she is tired or dehydrated, or after sex. These normal contractions, called Braxton Hicks contractions or false labor, are the body's way of rehearsing for birth.
- **Option D:** In the first few weeks of pregnancy, a normal increase in the hormone progesterone causes the woman to breathe more often. This can look and feel like shortness of breath. This hormone expands the lung capacity, allowing blood to carry large quantities of oxygen to the baby.

15. Group members have worked very hard, and the nurse reminds them that termination is approaching. Termination is considered successful if group members:

- A. Decide to continue
- B. Elevate group progress
- C. Focus on positive experience
- D. Stop attending prior to termination

Correct Answer: A. Decide to continue

As the group progresses into the working phase, group members assume more responsibility for the group. The leader becomes more of a facilitator. Comments about behavior in a group are indicators that the group is active and involved. In this phase, the LPN and client evaluate the client's response to treatment and explore the meaning of the relationship and what goals have been achieved. Discussing the achievements, how the client and LPN feel about concluding the relationship, and plans for the future are an important part of the termination phase.

- **Option B:** Termination of a meaningful nurse-client relationship should be final in any setting. To provide the client with even a hint that the relationship will continue is inappropriate, unprofessional, and unethical; for example, the LPN informs the client that he/she may contact the client on social media to check on their condition after discharge.
- **Option C:** Corresponding to the implementation phase of the nursing process, the working phase focuses on self-direction and self-management to whatever extent possible in promoting the client's health and wellbeing; for example, the LPN provides information and teaching to a client with diabetes about both the importance of proper nutrition and how eating healthy will benefit the client long term with regards to blood glucose levels. Because of teaching, the client decides not to eat

the chocolate bar and chooses to eat the apple instead.

- **Option D:** When the client stops attending the group, termination is considered unsuccessful. Every nurse-client relationship, regardless of circumstance, is based on trust, respect, and professional integrity. It requires the appropriate use of authority or power. The LPN must work with the client toward achieving the client's goals and ensure that the client receives safe competent care. The LPN utilizes a caring attitude and behaviors to meet the needs of the client.

16. A nurse is assigned to care for a client with a peripheral IV infusion. The nurse is providing hygiene care to the client and would avoid which of the following while changing the client's hospital gown? Select all that apply.

- A. Using a hospital gown with snaps at the sleeves
- B. Disconnecting the IV tubing from the catheter in the vein
- C. Checking the IV flow rate immediately after changing the hospital gown
- D. Putting the bag and tubing through the sleeve, followed by the client's arm
- E. Keeping splint soiled by blood or fluid leakage

Correct Answer: B & E.

Changing a patient's hospital gown is needed to maintain their cleanliness and the feeling of freshness.

- **Option A:** A kimono-inspired gown opens in the front and uses a system of ties and snaps at essential access points for easy treatment and monitoring. Top snaps offer upper back access. Wide sleeves and side snaps provide easy access for an I.V., and are MRI-compatible.
- **Option B:** The tubing should not be removed from the IV catheter. With each break in the system, there is an increased chance of introducing bacteria into the system, which can lead to infection.
- **Option C:** The flow rate should be checked immediately after changing the hospital gown, because the position of the roller clamp may have been affected during the change. Count the rate of flow of the infusion to make sure it is correct before leaving the bedside.
- **Option D:** Holding the container above the client's arm, slide the sleeve up over the container to remove the used gown. Place the clean gown sleeve for the arm with the infusion over the container as if it were an extension of the client's arm, from the inside of the gown to the sleeve cuff.
- **Option E:** IV board/splints are recommended to secure PIVC placed in or adjacent to areas of flexion. This will adequately immobilize the joint and minimize the risk of venous damage resulting from flexion. Splints should be inspected at least daily and change if soiled by blood or fluid leakage.

17. A client has just had surgery for colon cancer. Which of the following disorders might the client develop?

- A. Peritonitis
- B. Diverticulosis
- C. Partial bowel obstruction
- D. Complete bowel obstruction

Correct Answer: A. Peritonitis

Bowel spillage could occur during surgery, resulting in peritonitis. Intestinal perforations occur most commonly in CRC and in diverticular disease. They are seen less often in other diseases of the colon (ulcerative colitis, Lesniowski-Crohn disease), abdominal trauma therein iatrogenic (complications after surgery, after endoscopic examination, or after radiation therapy), colonic ischemia, and necrosis.

- **Option B:** Diverticulosis doesn't result from surgery or colon cancer. Diverticulosis is a clinical condition in which multiple sac-like protrusions (diverticula) develop along the gastrointestinal tract. Though diverticula may form at weak points in the walls of either the small or large intestines, the majority occur in the large intestine (most commonly the sigmoid colon).
- **Option C:** Partial bowel obstruction may occur before bowel resection. Acute colonic obstruction produces a dilated bowel with a large amount of fecal loading that is proximal to the blockage and is associated with bacterial overgrowth and impairment of blood flow.
- **Option D:** Complete bowel obstruction may occur before bowel resection. Colorectal cancer is the single most common cause of large intestinal obstruction. Approximately 2% to 5% of colorectal cancer patients have an obstruction. Cancer arising in the rectum or left colon is more likely to obstruct than cancer arising in the proximal colon.

18. All of the following measures are recommended to prevent pressure ulcers except:

- A. Massaging the reddened area with lotion.
- B. Using a water or air mattress.
- C. Adhering to a schedule for positioning and turning.
- D. Providing meticulous skin care.

Correct Answer: A. Massaging the reddened area with lotion

Nurses and other healthcare professionals previously believed that massaging a reddened area with lotion would promote venous return and reduce edema to the area. However, research has shown that massage only increases the likelihood of cellular ischemia and necrosis to the area.

- **Option B:** In patients with a high risk of developing pressure injuries, support surfaces to alleviate pressure can be used. This can include higher-speciation foam mattresses, medical-grade sheepskins, continuous low-pressure supports, alternating-pressure devices, low air loss therapy; however, the effectiveness of these devices compared to other surfaces in the treatment of existing pressure injuries has not been conclusively established.
- **Option C:** General care for pressure injuries can include redistribution of pressure with the use of support surfaces and changes in positioning. Redistribution of pressure and appropriate patient positioning is required to prevent the development and worsening of pressure injuries, as these methods can reduce force from friction and shear.
- **Option D:** Wound care, including maintaining a clean environment, debridement, application of dressings, monitoring, and various adjunctive therapies, is generally advised to facilitate the healing of pressure injuries. Options for treatment can be guided by the stage of the pressure injury. Stage 1 pressure injuries can be covered with transparent film dressings as needed.

19. Antonio with lung cancer develops Horner's syndrome when the tumor invades the ribs and affects the sympathetic nerve ganglia. When assessing for

signs and symptoms of this syndrome, the nurse should note:

- A. Miosis, partial eyelid ptosis, and anhidrosis on the affected side of the face.
- B. Chest pain, dyspnea, cough, weight loss, and fever.
- C. Arm and shoulder pain and atrophy of arm and hand muscles, both on the affected side.
- D. Hoarseness and dysphagia.

Correct Answer: A. Miosis, partial eyelid ptosis, and anhidrosis on the affected side of the face.

Horner's syndrome, which occurs when a lung tumor invades the ribs and affects the sympathetic nerve ganglia, is characterized by miosis, partial eyelid ptosis, and anhidrosis on the affected side of the face.

- **Option B:** Chest pain, dyspnea, cough, weight loss, and fever are associated with pleural tumors.
- **Option C:** Arm and shoulder pain and atrophy of the arm and hand muscles on the affected side suggest Pancoast's tumor, a lung tumor involving the first thoracic and eighth cervical nerves within the brachial plexus.
- **Option D:** Hoarseness in a client with lung cancer suggests that the tumor has extended to the recurrent laryngeal nerve; dysphagia suggests that the lung tumor is compressing the esophagus.

20. Nurse Maureen has assisted a physician with the insertion of a chest tube. The nurse monitors the client and notes fluctuation of the fluid level in the water seal chamber after the tube is inserted. Based on this assessment, which action would be appropriate?

- A. Inform the physician.
- B. Continue to monitor the client.
- C. Reinforce the occlusive dressing.
- D. Encourage the client to deep breathe.

Correct Answer: B. Continue to monitor the client.

The presence of fluctuation of the fluid level in the water seal chamber indicates a patent drainage system. With normal breathing, the water level rises with inspiration and falls with expiration. Fluctuation stops if the tube is obstructed, if a dependent loop exists, if the suction is not working properly, or if the lung has re-expanded.

- **Option A:** Monitor water-seal chamber "tidaling." Note whether the change is transient or permanent. The water-seal chamber serves as an intrapleural manometer (gauges intrapleural pressure); therefore, fluctuation (tidaling) reflects pressure differences between inspiration and expiration.
- **Option C:** If the catheter is dislodged from the chest, cover insertion site immediately with petrolatum dressing and apply firm pressure. Notify the physician at once. Pneumothorax may recur, requiring prompt intervention to prevent fatal pulmonary and circulatory impairment.
- **Option D:** Assist the patient with splinting painful areas when coughing, deep breathing. Supporting chest and abdominal muscles makes coughing more effective and less traumatic.

21. 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.

22. A maternity nurse is preparing to care for a pregnant client in labor who will be delivering twins. The nurse monitors the fetal heart rates by placing the external fetal monitor:

- A. Over the fetus that is most anterior to the mother's abdomen.
- B. Over the fetus that is most posterior to the mother's abdomen.
- C. So that each fetal heart rate is monitored separately.
- D. So that one fetus is monitored for a 15-minute period followed by a 15 minute fetal monitoring period for the second fetus.

Correct Answer: C. So that each fetal heart rate is monitored separately.

In a client with a multifetal pregnancy, each fetal heart rate is monitored separately. Simultaneous monitoring of twins is preferable to non simultaneous monitoring to discriminate between their separate FHRs (ACOG, 1989). Synchronizing the internal clocks of both monitors will help produce accurate documentation. Otherwise, time increments should be documented on both monitor tracings for later comparison, to ensure that each twin has been monitored. If the monitor strips are synchronous, portable real-time ultrasound can be used to verify that both twins are being monitored independently

- **Option A:** Among the advantages of simultaneous twin monitoring is the increased likelihood that both twins are being monitored with potentially less nursing time.
- **Option B:** The nonstress test (NST) is the most widely used method of evaluating twins for any of the aforementioned risk factors. Normative data for simultaneous twin NSTs show synchrony or similarity in the tracings with incidences of 57.14% and 58% in twins monitored from 27 weeks until

term.

- **Option D:** Synchrony is thought by some to occur because the first twin's movement produces a vibration and stimulates movement and FHR accelerations in the second twin. Recently, this idea was supported in a limited investigation of twins in which vibratory acoustic stimulation evoked an immediate transition from asynchronous to synchronous FHR tracings in all 16 tests carried out in the study (Sherer, Abramowicz, D'Amico, Caverly, & Woods, 1991).

23. A client is receiving isoetharine hydrochloride (Bronkosol) via a nebulizer. The nurse monitors the client for which side effect of this medication?

- A. Constipation
- B. Diarrhea
- C. Bradycardia
- D. Tachycardia

Correct Answer: D. Tachycardia

Side effects that can occur from a beta 2 agonist include tremors, nausea, nervousness, palpitations, tachycardia, peripheral vasodilation, and dryness of the mouth or throat. Due to the vasodilatory effect of peripheral vasculature and subsequent decrease in cardiac venous return, compensatory mechanisms manifest as tachycardia are relatively common, especially within the first weeks of usage.

- **Option A:** Constipation is not a side effect of isoetharine. Beta-2 agonists have been shown to decrease serum potassium levels via an inward shift of potassium into the cells due to an effect on the membrane-bound Na/K-ATPase, which can potentially result in hypokalemia. Beta-2 agonists also promote glycogenolysis, which can lead to inadvertent elevations in serum glucose.
- **Option B:** Adverse effects of beta-2 agonists most commonly involve the desensitization of the beta-2 adrenergic receptor to the beta-2 agonist. Due to the similar properties between the classes of adrenergic receptors, beta-2 agonists can create an "off-target" effect in stimulating either alpha-1, alpha-2, or beta-1 receptors. The most common side effects of beta-2 agonists involve the cardiac, metabolic, or musculoskeletal system.
- **Option C:** Arrhythmias are seen more commonly in fenoterol usage versus albuterol, and arrhythmias have an increase in frequency in patients with underlying heart disease or concomitant theophylline use. Several studies have also indicated hypoxemia and hypercapnia as exacerbating factors to the cardiotoxic effects of beta-2 agonists.

24. The nurse is teaching the parents of a 3 month-old infant about nutrition. What is the main source of fluids for an infant until about 12 months of age?

- A. Formula or breastmilk
- B. Dilute nonfat dry milk
- C. Warmed fruit juice
- D. Fluoridated tap water

Correct Answer: A. Formula or breastmilk

Formula or breast milk are the perfect food and source of nutrients and liquids up to 1 year of age. Breastfeeding with appropriate supplementation is the preferred method for feeding infants 0-12

months old. Iron-fortified formulas are recommended if the child is not breastfed or requires supplemental formula in addition to breast milk.

- **Option B:** The American Academy of Pediatrics Committee on Nutrition updated their recommendations concerning infant feeding practices during the second six months of life. The committee stated that breastfeeding is the preferred method of feeding during the first year of life and that whole cow's milk may be introduced after six months of age if adequate supplementary feedings are given. Reduced fat content milk is not recommended during infancy.
- **Option C:** When the infants are consuming one-third of their calories from a balanced mixture of iron-fortified cereals, vegetables, fruits, and other foods providing adequate sources of both iron and Vitamin C it is considered adequate supplementary feeding.
- **Option D:** The World Health Organization (WHO) notes that babies that are breastfed don't need additional water, as breast milk is over 80 percent water and provides the fluids your baby needs. Children who are bottle-fed will stay hydrated with the help of their formula. Water feedings tend to fill up your baby, making them less interested in nursing. This could actually contribute to weight loss and elevated bilirubin levels.

25. While examining a client's leg, the nurse notes an open ulceration with visible granulation tissue in the wound. Until a wound specialist can be contacted, which type of dressings is most appropriate for the nurse in charge to apply?

- A. Dry sterile dressing
- B. Sterile petroleum gauze
- C. Moist, sterile saline gauze
- D. Povidone-iodine-soaked gauze

Correct Answer: C. Moist, sterile saline gauze

Moist, sterile saline dressings support wound healing and are cost-effective. If the wound is infected and there are a lot of sloughs, which cannot be mechanically debrided, then a chemical debridement can be done with collagenase-based products. The goal is to help the wound heal as soon as possible by using an appropriate dressing material to maintain the right amount of moisture. When the wound bed is dry, use a dressing to increase moisture and if too wet and the surrounding skin is macerated, use material that will absorb excess fluid and protect the surrounding healthy skin.

- **Option A:** Dry sterile dressings adhere to the wound and debride the tissue when removed. Tulle is a non-adherent dressing impregnated with paraffin. It aids healing but doesn't absorb exudate. It also requires a secondary dressing to hold it in place. It is ideal for burns as one can add topical antibiotics to the dressing. It is known to cause allergies, and this limits its wider use.
- **Option B:** Petroleum supports healing but is expensive. The semipermeable dressing allows for moisture to evaporate and also reduces pain. This dressing also acts as a barrier to prevent environmental contamination. The semipermeable dressing does not absorb moisture and requires regular inspection. It also requires a secondary dressing to hold the semipermeable dressing in place.
- **Option D:** Povidone-iodine can irritate epithelial cells, so it shouldn't be left on an open wound. Plastic film dressings are known to absorb exudate and can be used for wounds with a moderate amount of exudate. They should not be used on dry wounds. They often require a secondary dressing to hold the plastic in place.

26. 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.

27. Hannah's child is scheduled for surgery due to myelomeningocele; the primary reason for surgical repair is which of the following?

- A. To prevent hydrocephalus
- B. To reduce the risk of infection
- C. To correct the neurologic defect
- D. To prevent seizure disorders

Correct Answer: B. To reduce the risk of infection

Surgical closure decreases the risk of infection stemming from damage to the fragile sac, which can lead to meningitis. Prenatal surgery was proven to be more effective than postnatal surgery in lowering the occurrence of future complications.

- **Option A:** Surgical repair does not help relieve hydrocephalus. In fact, some researchers believe that repair exaggerates the Arnold-Chiari malformation and decreases the absorptive surface for cerebrospinal fluid, leading to the more rapid development of hydrocephalus.
- **Option C:** The neurologic deficit cannot be corrected. However, some surgeons believe that early surgery reduces the risk of stretching spinal nerves and preventing further damage. Once the diagnosis has been made, early surgical repair of the spinal lesion is essential in preventing further deficits and neurological damage.
- **Option D:** Surgical repair of the sac doesn't prevent seizure disorder, an impairment of the brain neuron tissue. If deciding to start drug therapy, many medications are options to treat a chronic seizure disorder or epilepsy as first-line medication or adjunctive medications.

28. During a trichology seminar at a prestigious institution, Dr. Patel presented a curious case of a 28-year-old patient exhibiting sudden changes in hair texture and slowed hair growth after recovering from severe malnutrition. Drawing connections between nutrition, systemic health, and hair physiology, Dr. Patel then steers the discussion towards fundamental hair structures. He poses a pertinent question: In the vast realm of hair growth dynamics, which specific structure is instrumental in birthing new hair cells at the foundational level of the hair follicle and remains pivotal in determining both hair growth rate and its texture?

- A. Hair Bulb
- B. Papilla
- C. Shaft
- D. Arrector pili

Correct Answer: A. Hair Bulb

The hair bulb is the base of the hair follicle where active and rapid cell division occurs, leading to the production of new hair cells. As these cells push upwards, they keratinize and form the hair we see. The texture and growth of the hair are significantly influenced by the activity and health of the hair bulb. The presented case of altered hair growth and texture after malnutrition underscores the importance of nutrients in supporting the health and function of the hair bulb.

- **Option B:** Positioned at the base of the hair follicle, the papilla is rich in blood vessels that supply nutrients to the hair bulb. Though crucial for nourishing the hair follicle, the papilla itself does not produce hair cells.
- **Option C:** The shaft is the part of the hair that we see protruding from the skin's surface. It is composed of dead, keratinized cells and does not play a direct role in producing new hair cells.
- **Option D:** The arrector pili muscles (APM) are tiny muscles attached to hair follicles. When these muscles contract (usually in response to cold or emotional stimuli), it causes the hair to stand erect, commonly known as "goosebumps." They don't have a role in the direct production of hair cells.

29. Nurse Marco is developing a plan of care for a client with anorexia nervosa. Which action should the nurse include in the plan?

- A. Restricts visits with the family and friends until the client begins to eat.
- B. Provide privacy during meals.
- C. Set up a strict eating plan for the client.
- D. Encourage the client to exercise, which will reduce her anxiety.

Correct Answer: C. Set up a strict eating plan for the client.

Establishing a consistent eating plan and monitoring the client's weight is very important in this disorder. Establish a minimum weight goal and daily nutritional requirements. Malnutrition is a mood-altering condition, leading to depression and agitation and affecting cognitive function and decision-making. Improved nutritional status enhances thinking ability, allowing initiation of psychological work.

- **Option A:** The family and friends should be included in the client's care. Identify patterns of interaction. Encourage each family member to speak for self. Do not allow two members to discuss a third without that member's participation. Helpful information for planning interventions. The enmeshed, over-involved family members often speak for each other and need to learn to be responsible for their own words and actions.
- **Option B:** The client should be monitored during meals-not given privacy. Use a consistent approach. Sit with the patient while eating; present and remove food without persuasion and comment. Promote a pleasant environment and record intake. Patient detects urgency and may react to pressure. Any comment that might be seen as coercion provides focus on food. When staff responds in a consistent manner, the patient can begin to trust staff responses. The single area in which the patient has exercised power and control is food or eating, and he or she may experience guilt or rebellion if forced to eat. Structuring meals and decreasing discussions about food will decrease power struggles with the patient and avoid manipulative games.
- **Option D:** Exercise must be limited and supervised. Monitor exercise programs and set limits on physical activities. Chart activity and level of work (pacing and so on). Moderate exercise helps in maintaining muscle tone, weight and combating depression; however, the patient may exercise excessively to burn calories.

30. A maternity nurse is preparing for the admission of a client in the 3rd trimester of pregnancy that is experiencing vaginal bleeding and has a suspected diagnosis of placenta previa. The nurse reviews the physician's orders and would question which order?

- A. Prepare the client for an ultrasound.
- B. Obtain equipment for external electronic fetal heart monitoring.
- C. Obtain equipment for a manual pelvic examination.
- D. Prepare to draw a Hgb and Hct blood sample.

Correct Answer: C. Obtain equipment for a manual pelvic examination.

Manual pelvic examinations are contraindicated when vaginal bleeding is apparent in the 3rd trimester until a diagnosis is made and placenta previa is ruled out. Digital examination of the cervix can lead to maternal and fetal hemorrhage.

- **Option A:** A diagnosis of placenta previa is made by ultrasound. A patient presenting with vaginal bleeding in the second or third trimester should receive a transabdominal sonogram before a digital examination. If there is a concern for placenta previa, then a transvaginal sonogram should be performed to confirm the location of the placenta. Transvaginal sonogram has been shown to be superior to a transabdominal sonogram and is safe.
- **Option B:** External fetal monitoring is crucial in evaluating the fetus that is at risk for severe hypoxia. Placental abruption presents with severe abdominal pain, vaginal bleeding, and electronic fetal monitoring may show tachysystole and a nonreassuring fetal heart tracing; this too can lead to high morbidity in mortality to the fetus and mother secondary to hemorrhage.
- **Option D:** The H/H levels are monitored, and external electronic fetal heart rate monitoring is initiated. A leading cause of third-trimester hemorrhage, placenta previa presents classically as painless bleeding. Bleeding is thought to occur in association with the development of the lower uterine segment in the third trimester. Placental attachment is disrupted as this area gradually thins in preparation for the onset of labor; this leads to bleeding at the implantation site, because the uterus is unable to contract adequately and stop the flow of blood from the open vessels.

31. Which of the following should be included in a plan of care for a client who is lactose intolerant?

- A. Remove all dairy products from the diet.
- B. Frozen yogurt can be included in the diet.
- C. Drink small amounts of milk on an empty stomach.
- D. Spread out selection of dairy products throughout the day.

Correct Answer: B. Frozen yogurt can be included in the diet.

Clients who are lactose intolerant can digest frozen yogurt. Yogurt products are formed by bacterial action, and this action assists in the digestion of lactose. The freezing process further stops bacterial action so that limited lactase activity remains. Some people who are lactose-intolerant can eat some kinds of yogurt without problems, especially yogurt with live cultures.

- **Option A:** Elimination of all dairy products can lead to significant clinical deficiencies of other nutrients. Be sure to get enough calcium in the diet, especially if the client avoids milk products completely. To get enough calcium, the client would need to eat calcium-rich foods as often as someone would drink milk. Calcium is very important because it keeps bones strong and reduces the risk of osteoporosis.
- **Option C:** Drinking milk on an empty stomach can exacerbate clinical symptoms. Drinking milk with a meal may benefit the client because other foods, (especially fat) may decrease transit time and allow for increased lactase activity. Limit the amount of milk and milk products in the diet. Try to drink 1 glass of milk each day. Drink small amounts several times a day. All types of milk contain the same amount of lactose.
Option D: Although individual tolerance should be acknowledged, spreading out the use of known dairy products will usually exacerbate clinical symptoms. Eat or drink milk and milk products along with other foods. For some people, combining solid food (like cereal) with a dairy product (like milk) can reduce symptoms.

32. While giving nursing care to a hospitalized adolescent, the nurse should be aware that the major threat felt by the hospitalized adolescent is

- A. Fear of the unknown
- B. Loss of bodily control
- C. Altered body image
- D. Separation from family

Correct Answer: C. Altered body image

The hospitalized adolescent may see each of these as a threat, but the major threat that they feel when hospitalized is the fear of altered body image, because of the emphasis on physical appearance. Changes in physical appearance, function, and body integrity are typically central to the experience of illness and to medical treatment. Unfortunately, dissatisfaction with body image has become more prevalent since the early 1970s, possibly due to an increase in the influence of the media.

- **Option A:** Fear of the unknown is common among toddlers. There is so much going on in the world of a 3-year-old-so much mastery, so many things they've already become familiar with. At the same

time, however, children this age may be disturbed by characteristics they find unfamiliar.

- **Option B:** Adolescents may fear the loss of independence and control. Honest preparations for procedures and surgery is imperative for this age group. Let them know if any procedures or medicines will change the way their bodies look or work.
- **Option D:** It is not unusual for 5-year-olds to still have fears about losing a parent. Separation issues that may or may not have occurred at the beginning of the school year may arise at the end of it.

33. Miss Mary, an 88-year old woman, believes that life should not be prolonged when hope is gone. She has decided that she does not want extraordinary measures taken when her life is at its end. Because she feels this way, she has talked with her daughter about her desires, completing a living will, and left directions with her physician. This is an example of:

- A. Affirming a value
- B. Choosing a value
- C. Prizing a value
- D. Reflecting a value

Correct Answer: C. Prizing a value.

The alternative goal of value awareness is enabling patients to achieve their desired balance between rational and nonrational decision-making, allowing them to be as rational as they can and want to be. That means doing everything possible to make the critical issues clear, thereby expanding the envelope of potentially rational decision-making.

- **Option A:** Nurses engaged with mortality through a process of recognition and through the affirmation of their values. The affirmed values are aligned with the palliative care approach and within the ethics of finitude lens in that their enactment is partly premised on the recognition of patients' accumulated losses related to human facticities (social, temporal, mortal).
- **Option B:** Advance directives treat patients (and their surrogates) as rational actors, who will choose the option with the highest expected utility if provided needed information. The rational actor model assumes well-formulated decisions, with each option (e.g., treatment) represented as a vector of expected outcomes (e.g., pain, anxiety, life expectancy) that a decision-maker can weigh by relative importance.
- **Option D:** Reflection brings learning to life. Reflective practice helps learners find relevancy and meaning in a lesson and make connections between educational experiences and real-life situations. It increases insight and creates pathways to future learning. Reflection is called by many different names in the education field including processing, reviewing, and debriefing.

34. When being admitted to a mental health facility, a young female adult tells Nurse Mylene that the voices she hears frighten her. Nurse Mylene understands that the client tends to hallucinate more vividly:

- A. While watching TV
- B. During mealtime

- C. During group activities
- D. After going to bed

Correct Answer: D. After going to bed

Auditory hallucinations are most troublesome when environmental stimuli are diminished and there are few competing distractions. Be alert for signs of increasing fear, anxiety or agitation. Might herald hallucinatory activity, which can be very frightening to client, and client might act upon command hallucinations (harm self or others). Explore how the hallucinations are experienced by the client. Exploring the hallucinations and sharing the experience can help give the person a sense of power that he or she might be able to manage the hallucinatory voices.

- **Option A:** Help the client to identify the needs that might underlie the hallucination. What other ways can these needs be met? Hallucinations might reflect needs for anger, power, self-esteem, and sexuality. Help the client to identify times that the hallucinations are most prevalent and frightening. Helps both nurse and client identify situations and times that might be most anxiety-producing and threatening to the client.
- **Option B:** Stay with clients when they are starting to hallucinate and direct them to tell the “voices they hear” to go away. Repeat often in a matter-of-fact manner. The client can sometimes learn to push voices aside when given repeated instructions. especially within the framework of a trusting relationship.
- **Option C:** Decrease environmental stimuli when possible (low noise, minimal activity). Decrease the potential for anxiety that might trigger hallucinations. Helps calm the client. Work with the client to find which activities help reduce anxiety and distract the client from a hallucinatory material. Practice new skills with the client. If clients’ stress triggers hallucinatory activity, they might be more motivated to find ways to remove themselves from a stressful environment or try distraction techniques.

35. The school nurse assesses for anorexia nervosa in an adolescent girl. Which of the following findings are characteristic of this disorder? Select all that apply.

- A. Bradycardia
- B. Hypotension
- C. Chronic pain in one or more sites
- D. Fear of having a serious illness
- E. Irregular or absent menses
- F. Refusal to maintain a minimally normal weight

Correct Answer: A, B, E, F

These are all characteristics of anorexia nervosa. Anorexia nervosa is an eating disorder defined by restriction of energy intake relative to requirements, leading to a significantly low body weight. Patients will have an intense fear of gaining weight and distorted body image with the inability to recognize the seriousness of their significantly low body weight.

- **Option A:** Cardiac complications are arguably one of the most severe medical issues stemming from anorexia. Bradycardia (heart rate less than 60 beats per minute) and hypotension (blood pressure less than 90/50) are among the most common physical findings in anorexia, with bradycardia seen in up to 95 percent of patients.

- **Option B:** Bradycardia (pulse <60) and hypotension are among the most common physical findings in patients with anorexia nervosa, with bradycardia seen in up to 95% of patients. Anorexia nervosa should be considered in the differential for unexplained bradycardia in the outpatient setting. Low blood pressure and heart rate universally increase to normal levels after refeeding and restoration of normal weight.
- **Option C:** Chronic pain in one or more sites is common for somatoform pain disorder. The Diagnostic and Statistical Manual for Mental Disorders, Fifth Edition (DSM-5) category of Somatic Symptom Disorders and Other Related Disorders represents a group of disorders characterized by thoughts, feelings, or behaviors related to somatic symptoms. This category represents psychiatric conditions because the somatic symptoms are excessive for any medical disorder that may be present.
- **Option D:** Fear of having a serious illness is common in hypochondriasis. Illness anxiety disorder (IAD) is a recent term for what used to be diagnosed as hypochondriasis, or hypochondria. People diagnosed with IAD strongly believe they have a serious or life-threatening illness despite having no, or only mild, symptoms. Yet IAD patients' concerns are to them very real. Even if they go to doctors and no illnesses are found, they are generally not reassured and their obsessive worry continues.
- **Option E:** Of patients with anorexia nervosa, 20–25 percent may experience amenorrhea before the onset of significant weight loss, and 50–75 percent will experience amenorrhea during the course of dieting and its weight loss. In some patients with anorexia nervosa, amenorrhea occurs only after more marked weight loss. Overall, the development of amenorrhea is most strongly correlated to loss of body weight.
- **Option F:** Many exercise compulsively for extended periods of time. Patients with anorexia nervosa develop multiple complications related to prolonged starvation and purging behaviors.

36. A patient returns to the emergency department less than 24 hours after having a fiberglass cast applied for a fractured right radius. Which of the following patient complaints would cause the nurse to be concerned about impaired perfusion to the limb?

- A. Severe itching under the cast.
- B. Severe pain in the right shoulder.
- C. Severe pain in the right lower arm.
- D. Increased warmth in the fingers.

Correct Answer: C. Severe pain in the right lower arm.

Impaired perfusion to the right lower arm as a result of a closed cast may cause neurovascular compromise and severe pain, requiring immediate cast removal. When there is an increase in compartmental pressure, there is a reduction in the venous outflow. This causes venous pressure and, thus, venous capillary pressure to increase. If the intracompartmental pressure becomes higher than arterial pressure, a decrease in arterial inflow will also occur. The reduction of venous outflow and arterial inflow result in decreased oxygenation of tissues causing ischemia.

- **Option A:** Itching under the cast is common and fairly benign. A cast can cause the client's underlying skin to feel itchy. To relieve itchy skin, turn a hair dryer on a cool setting and aim it under the cast.

- **Option B:** Neurovascular compromise in the arm would not cause pain in the shoulder, as perfusion there would not be affected. Pain is typically severe, out of proportion to the injury. Early on, pain may only be present with passive stretching. However, this symptom may be absent in advanced acute compartment syndrome. In the initial stages, pain may be characterized as a burning sensation or as a deep ache of the involved compartment.
- **Option D:** Impaired perfusion would cause the fingers to be cool and pale. Increased warmth would indicate increased blood flow or infection. Classically, the presentation of acute compartment syndrome has been remembered by “The Five P’s”: pain, pulselessness, paresthesia, paralysis, and pallor. However, aside from paresthesia, which may occur earlier in the course of the condition, these are typically late findings.

37. The nursing instructor is going over burn injuries. The instructor tells the students that the nursing care priorities for a patient with a burn injury include wound care, nutritional support, and prevention of complications such as infection. Based upon these care priorities, the instructor is most likely discussing a patient in what phase of burn care?

- A. Emergent Phase
- B. Immediate Resuscitative Phase
- C. Acute Phase
- D. Rehabilitation Phase

Correct Answer: C. Acute Phase

The acute or intermediate phase of burn care follows the emergent/resuscitative phase and begins 48 to 72 hours after the burn injury. During this phase, attention is directed toward continued assessment and maintenance of respiratory and circulatory status, fluid and electrolyte balance, and gastrointestinal function. Infection prevention, burn wound care that includes wound cleaning, topical antibacterial therapy, wound dressing, dressing changes, wound debridement, and wound grafting, pain management, and nutritional support are priorities at this stage and are discussed in detail in the following sections.

- **Option A:** The emergent phase begins with the onset of burn injury and lasts until the completion of fluid resuscitation or a period of about the first 24 hours. During the emergent phase, the priority of client care involves maintaining an adequate airway and treating the client for burn shock.
- **Option B:** Priorities during the immediate resuscitative phase include first aid, prevention of shock and respiratory distress, detection and treatment of concomitant injuries, and initial wound assessment and care.
- **Option D:** The priorities during the rehabilitation phase include prevention of scars and contractures, rehabilitation, functional and cosmetic reconstruction, and psychosocial counseling.

38. A client is receiving sulfasalazine (Azulfidine) for the treatment of ulcerative colitis. Which of the following assessment findings will concern the nurse most?

- A. Drowsiness
- B. Decreased urine output

- C. Urine discoloration
- D. Vomiting

Correct Answer: B. Decreased urine output

Sulfasalazine is used to treat bowel inflammation, diarrhea (stool frequency), rectal bleeding, and abdominal pain in patients with ulcerative colitis. It is nephrotoxic, so a decrease in urine output is the most serious concern.

- **Options A, C, & D:** These are also side effects but are less serious.

39. A nurse is making initial rounds at the beginning of the shift and notices that the parenteral nutrition (PN) bag of an assigned client is empty. Which of the following solutions readily available on the nursing unit should the nurse hang until another PN solution is mixed and delivered to the nursing unit?

- A. 10% dextrose in water.
- B. 5% dextrose in water.
- C. 5% dextrose in normal saline.
- D. 5% dextrose in lactated Ringer solution.

Correct Answer: A. 10% dextrose in water.

The client is at risk of hypoglycemia. Hence the nurse will hang a solution that has the highest amount of glucose until the new parenteral nutrition solution becomes readily available. Crystalloid fluids are a subset of intravenous solutions that are frequently used in the clinical setting. Crystalloid fluids are the first choice for fluid resuscitation in the presence of hypovolemia, hemorrhage, sepsis, and dehydration.

- **Option B:** Option B is also a crystalloid fluid, but contains less glucose than option A. Other clinical applications include acting as a solution for intravenous medication delivery, to deliver maintenance fluid in patients with limited or no enteral nutrition, blood pressure management, and to increase diuresis to avoid nephrotoxic drug or toxin-mediated end-organ damage.
- **Option C:** Dextrose 5 in .9 Sodium Chloride is a prescription medicine used to treat the symptoms of hypoglycemia. Dextrose 5 in .9 Sodium Chloride may be used alone or with other medications. Dextrose 5 in .9 Sodium Chloride belongs to a class of drugs called Glucose-Elevating Agents; Metabolic and Endocrine, Other.
- **Option D:** 5% Dextrose in Lactated Ringer's Injection provides electrolytes and calories, and is a source of water for hydration. It is capable of inducing diuresis depending on the clinical condition of the patient. This solution also contains lactate which produces a metabolic alkalizing effect.

40. Which action by a nursing assistant (NA) when caring for a patient who has pancytopenia indicates a need for the nurse to intervene?

- A. The NA adds baking soda to the patient's saline oral rinses
- B. The NA makes an oral rinse using 1 teaspoon of salt in a liter of water
- C. The NA puts fluoride toothpaste on the patient's toothbrush
- D. The NA assists the patient to use dental floss after eating

Correct Answer: D. The NA assists the patient to use dental floss after eating

- **Option D:** The use of dental floss is avoided in patients with pancytopenia because of the risk for infection and bleeding.
- **Options A, B, and C:** The other actions are appropriate for oral care of a patient with pancytopenia.

41. Which of the following instruments is used to record intraocular pressure?

- A. Goniometer
- B. Ophthalmoscope
- C. Slit lamp
- D. Tonometer

Correct Answer: D. Tonometer

A tonometer is a device used in glaucoma screening to record intraocular pressure. Instruments measuring intraocular pressure assume the eye is a closed globe with uniform pressure distributed throughout the anterior chamber and vitreous cavity. The normal range of intraocular pressure is 10 to 21 millimeters of mercury.

- **Option A:** A goniometer measures joint movement and angles. A goniometer is a device that measures an angle or permits the rotation of an object to a definite position. In orthopedics, the former applies more. The art and science of measuring the joint ranges in each plane of the joint are called goniometry.
- **Option B:** An ophthalmoscope examines the interior of the eye, especially the retina. The ophthalmoscope illuminates the retina through the normal iris defect that is the pupil. Light rays forming the image of the retina re-emerge through the pupil. The viewing aperture (window) of the ophthalmoscope contains a lens that modifies light rays to assist the user.
- **Option C:** A slit-lamp evaluates structures in the anterior chamber in the eye. A slit lamp is a microscope with a bright light used during an eye exam. It gives the ophthalmologist a closer look at the different structures at the front of the eye and inside the eye. It's a key tool in determining the health of the eyes and detecting eye disease.

42. Which of the following would the nurse identify as the priority nursing diagnosis during a toddler's vaso-occlusive sickle cell crisis?

- A. Ineffective coping related to the presence of a life-threatening disease
- B. Decreased cardiac output related to abnormal hemoglobin formation
- C. Pain related to tissue anoxia
- D. Excess fluid volume related to infection

Correct Answer: C. Pain related to tissue anoxia

For the child in a sickle cell crisis, pain is the priority nursing diagnosis because the sickled cells clump and obstruct the blood vessels, leading to occlusion and subsequent tissue ischemia. Provide support and carefully position affected extremities. Massage gently affected areas. Apply warm, moist compresses to affected joints and other painful areas. Avoid the use of ice or cold compresses.

- **Option A:** Although ineffective coping may be important, it is not the priority. Monitor and note changes in the level of consciousness, reports of headache, dizziness, development of sensory and motor deficits (hemiparesis or paralysis), and seizure activity.
- **Option B:** Decreased cardiac output is not a problem with this type of vaso occlusive crisis. Accumulation and sickling in peripheral vessels may lead to complete or partial blockage of a vessel with diminished perfusion to surrounding tissues. Sudden massive splenic sequestration of dead cells can lead to shock.
- **Option D:** Typically, a sickle cell crisis can be precipitated by a fluid volume deficit or dehydration. Dehydration causes an increase in sickling and occlusion of capillaries other than hypovolemia or a decrease in blood volume. Decreased renal perfusion may indicate vascular occlusion.

43. A male client is diagnosed with herpes simplex. Which statement about herpes simplex infection is true?

- A. During early pregnancy, herpes simplex infection may cause spontaneous abortion or premature delivery.
- B. Genital herpes simplex lesions are painless, fluid-filled vesicles that ulcerate and heal in 3 to 7 days.
- C. Herpetic keratoconjunctivitis usually is bilateral and causes systemic symptoms.
- D. A client with genital herpes lesions can have sexual contact but must use a condom.

Correct Answer: A. During early pregnancy, herpes simplex infection may cause spontaneous abortion or premature delivery.

Herpes simplex may be passed to the fetus transplacentally and, during early pregnancy, may cause spontaneous abortion or premature delivery. Both primary and recurrent HSV infections in pregnant women can lead to intrauterine transmission and resultant congenital HSV infection. More women than men have been reported to be infected, and as expected, the prevalence increases with an increasing number of sexual partners.

- **Option B:** Genital herpes simplex lesions typically are painful, fluid-filled vesicles that ulcerate and heal within 1 to 2 weeks. Genital symptoms are commonly seen in the outpatient primary care setting, despite many going without a clear diagnosis. HSV-2, in particular, may present as a primary infection with painful genital ulcers, sores, crusts, tender lymphadenopathy, and dysuria.
- **Option C:** Herpetic keratoconjunctivitis usually is unilateral and causes localized symptoms, such as conjunctivitis. It is commonly subclinical, and the only manifestation may be mild, self-limiting blepharoconjunctivitis, marked by inflammatory vesicles or ulcers and can include lesions in the corneal epithelium. Mild fever, malaise, or upper respiratory tract infection may also be present.
- **Option D:** A client with genital herpes lesions should avoid all sexual contact to prevent spreading the disease. There is no cure for HSV-2, early identification of symptoms, and prompt institution of pharmacotherapy can lead to early suppression of viral replication. Abstinence during known viral shedding can decrease the risk of transmission to a seronegative partner.

44. The nurse is planning care for the client in spinal shock. Which of the following actions would be least helpful in minimizing the effects of vasodilation below the level of the injury?

- A. Monitoring vital signs before and during position changes.

- B. Using vasopressor medications as prescribed.
- C. Moving the client quickly as one unit.
- D. Applying Teds or compression stockings.

Correct Answer: C. Moving the client quickly as one unit.

Reflex vasodilation below the level of the spinal cord injury places the client at risk for orthostatic hypotension, which may be profound. Immobilize the patient. A sandbag and tape are not sufficient. Spinal immobilization in patients with penetrating trauma is not recommended. Patients with spinal cord injury need to be evaluated in a timely fashion to minimize secondary injuries. Preferably, these patients should be evaluated at level one trauma centers due to the extent of injuries.

- **Option A:** Measures to minimize this include measuring vital signs before and during position changes, use of a tilt-table with early mobilization, and changing the client's position slowly. Oxygenation should be maintained and bradycardia managed with atropine. A Foley should be inserted and the output monitored. Some patients may benefit from low-dose dopamine.
- **Option B:** Vasopressor medications are administered per protocol. The cause of hypotension has to be treated. Hemorrhage may be due to injury in the chest or abdomen. Fluid resuscitation is vital. Crystalloid is often used to reverse the hypotension. The goal should be to bring the blood pressure at 90-100 mm Hg systolic.
- **Option D:** Venous pooling can be reduced by using Teds (compression stockings) or pneumatic boots. Deep vein thrombosis is excessively high in these patients. Prophylaxis should be initiated as soon as possible within days of the injury. Long-term management of spinal shock injury patients always requires multidisciplinary team treatment between different services. Approximately 60% of these patients will require spine stabilization with surgical intervention, and neurosurgery or orthopedic professionals should be consulted early.

45. Nurse Alexandra notices other clients on the unit avoiding a client diagnosed with antisocial personality disorder. When discussing appropriate behavior in group therapy, which of the following comments is expected about this client by his peers?

- A. Lack of honesty
- B. Belief in superstition
- C. Show of temper tantrums
- D. Constant need for attention

Correct Answer: A. Lack of honesty

Clients with antisocial personality disorder tend to engage in acts of dishonesty, shown by lying. Antisocial personality disorder (ASPD) is a deeply ingrained and rigid dysfunctional thought process that focuses on social irresponsibility with exploitive, delinquent, and criminal behavior with no remorse. Disregard for and the violation of others' rights are common manifestations of this personality disorder, which displays symptoms that include failure to conform to the law, inability to sustain consistent employment, deception, manipulation for personal gain, and incapacity to form stable relationships.

- **Option B:** Clients with schizotypal personality disorder tend to be superstitious. It is unlikely that a person with a schizoid personality disorder will present in the clinical setting of his own volition unless prompted by family, or as a result of a co-occurring disorder, such as depression. As with most personality disorders, the behavior is in synchrony with the ego, and thus the patient does not

acknowledge the need to adapt his or her behavior.

- **Option C:** Histrionic personality disorder, or dramatic personality disorder, is a psychiatric disorder distinguished by a pattern of exaggerated emotionality and attention-seeking behaviors. Histrionic personality disorder falls within the “Cluster B” of personality disorders. Cluster B personality disorders include conditions such as narcissistic personality disorder, borderline personality disorder, and antisocial personality disorder. These personality disorders are commonly described as dramatic, excitable, erratic, or volatile. Specifically, people with histrionic personality disorder typically present as flirtatious, seductive, charming, manipulative, impulsive, and lively.
- **Option D:** Clients with histrionic personality disorders tend to overreact to frustrations and disappointments, have temper tantrums, and seek attention. People with a histrionic personality disorder may feel underappreciated or disregarded when they are not the center of attention. These people are typically the life of the party and have a “larger than life” presence. They may be vibrant, enchanting, overly seductive, or inappropriately sexual with most of the people they meet, even when they are not sexually attracted to them. People presenting with a histrionic personality disorder may demonstrate rapidly shifting and shallow emotions that others may perceive as insincere.

46. When doing perineal care in preparation for delivery, the nurse should observe the following, except?

- A. Use up-down technique with one stroke.
- B. Clean from the mons veneris to the anus.
- C. Use mild soap and warm water.
- D. Paint the inner thighs going towards the perineal area.

Correct Answer: D. Paint the inner thighs going towards the perineal area

Painting of the perineal area in preparation for delivery of the baby must always be done but the stroke should be from the perineum going outwards to the thighs. The perineal area is the one being prepared for the delivery and must be kept clean

- **Option A:** Wipe the perineum in one stroke to prevent the transfer of infectious microorganisms from the anal area to the perineum.
- **Option B:** Always wash from front to back to prevent spreading fecal matter from the anal area to the vagina or urethra.
- **Option C:** Use mild soap and warm water. Mild soap would avoid killing the normal flora that lives in and around the perineum.

47. Nurse Kate is aware that one of the following classes of medication protects the ischemic myocardium by blocking catecholamines and sympathetic nerve stimulation is:

- A. Beta-adrenergic blockers
- B. Calcium channel blocker
- C. Narcotics
- D. Nitrates

Correct Answer: A. Beta-adrenergic blockers

Beta-adrenergic blockers work by blocking beta receptors in the myocardium, reducing the response to catecholamines and sympathetic nerve stimulation. They protect the myocardium, helping to reduce the risk of another infarction by decreasing myocardial oxygen demand.

- **Option B:** Calcium channel blockers reduce the workload of the heart by decreasing the heart rate.
- **Option C:** Narcotics reduce myocardial oxygen demand, promote vasodilation, and decrease anxiety.
- **Option D:** Nitrates reduce myocardial oxygen consumption but decrease left ventricular end-diastolic pressure (preload) and systemic vascular resistance (afterload).

48. The long-term complications seen in thalassemia major are associated to which of the following?

- A. Anemia
- B. Growth retardation
- C. Hemochromatosis
- D. Splenomegaly

Correct Answer: C. Hemochromatosis

Long-term complications arise from hemochromatosis, excessive iron deposits precipitating in the tissues, and causing destruction. Hemochromatosis is a disorder associated with deposits of excess iron that causes multiple organ dysfunction. Hemochromatosis occurs when there are high pathologic levels of iron accumulation in the body. Hemochromatosis has been called “bronze diabetes” due to the discoloration of the skin and associated disease of the pancreas.

- **Option A:** Anemia is a sign of this disorder. Skin can show pallor due to anemia and jaundice due to hyperbilirubinemia resulting from intravascular hemolysis. Patients usually report fatigue due to anemia as the first presenting symptom.
- **Option B:** Anemia can inhibit a child’s growth rate, and thalassemia can cause a delay in puberty. Particular attention should focus on the child’s growth and development according to age.
- **Option D:** Cellular damage from hemochromatosis may lead to splenomegaly. Hepatosplenomegaly can result from chronic iron deposition and also from extramedullary hematopoiesis in these organs. Splenic infarcts or autophagy result from chronic hemolysis due to poorly regulated hematopoiesis.

49. The name selected by the original manufacturer based on the chemical structure of the drug is the:

- A. Chemical name
- B. Drug name
- C. Generic name
- D. Trade name

Correct Answer: C. Generic name

The generic name is the name of the active ingredient. The generic name is granted by the USAN Council and is commonly used to identify a drug during its useful clinical lifetime. Each medicine has an approved name called the generic name. A group of medicines that have similar actions often have similar-sounding generic names. For example, phenoxymethylpenicillin, ampicillin, amoxicillin, and flucloxacillin are in one group of antibiotics.

- **Option A:** A chemical name is given when a new chemical entity (NCE) is developed. The chemical name is a scientific name based on the compound's chemical structure (e.g., 6-thioguanine) and is almost never used to identify the drug in a clinical or marketing situation.
- **Option B:** The drug name does not exist. A marketed drug has three names: a chemical name, a generic name, and a brand name. The process for naming a marketable drug involves five steps: NCE submission and patent application, generic naming, brand naming, FDA review, and final approval.
- **Option D:** For drugs that make it all the way through development, testing, and regulatory acceptance, the pharmaceutical company then gives the drug a trade name, which is a standard term in the pharmaceutical industry for a brand name or trademark name.

50. The nurse in charge is caring for an Italian client. He's complaining of pain, but he falls asleep right after his complaint and before the nurse can assess his pain. The nurse concludes that:

- A. He may have a low threshold for pain.
- B. He was faking pain.
- C. Someone else gave him medication.
- D. The pain went away.

Correct Answer: A. He may have a low threshold for pain.

People of Italian heritage tend to verbalize discomfort and pain. The pain was real to the client, and he may need medication when he wakes up. Italian females reported the highest sensitivity to both mechanical and electrical stimulation, while Swedes reported the lowest sensitivity. Mechanical pain thresholds differed more across cultures than did electrical pain thresholds. Cultural factors may influence response to type of pain test.

- **Option B:** Our pain threshold is the minimum point at which something, such as pressure or heat, causes us pain. For example, someone with a lower pain threshold might start feeling pain when only minimal pressure is applied to part of their body. Pain tolerance and threshold varies from person to person.
- **Option C:** When we feel pain, nearby nerves send signals to the brain through the spinal cord. The brain interprets this signal as a sign of pain, which can set off protective reflexes. For example, when one touches something very hot, the brain receives signals indicating pain. This in turn can make one quickly pull the hand away without even thinking.
- **Option D:** Biofeedback is a type of therapy that helps increase the awareness of how the body responds to stressors and other stimuli. This includes pain. During a biofeedback session, a therapist will teach the client how to use relaxation techniques, breathing exercises, and mental exercises to override the body's response to stress or pain.

51. Which statement represents the best rationale for using noninvasive and non-pharmacologic pain-control measures in conjunction with other measures?

- A. These measures are more effective than analgesics.
- B. These measures decrease input to large fibers.
- C. These measures potentiate the effects of analgesics.
- D. These measures block transmission of type C fiber impulses.

Correct Answer: C. These measures potentiate the effects of analgesics.

Noninvasive measures may result in the release of endogenous molecular neuropeptides with analgesic properties. They potentiate the effect of analgesics. The role of non-pharmacological approaches to pain management is evolving, and some non-pharmacological and complementary therapies have an increasingly important contribution to make to holistic patient care alongside analgesics.

- **Option A:** No evidence indicates that noninvasive and nonpharmacologic measures are more effective than analgesics in relieving pain. Exercise, multidisciplinary rehabilitation, acupuncture, CBT, mindfulness practices, massage, and mind-body practices most consistently improve function and/or pain beyond the course of therapy for specific chronic pain conditions.
- **Option B:** Decreased input over large fibers allows more pain impulses to reach the central nervous system. When deciding the most effective non-pharmacological technique, take into consideration the patient's age, developmental level, medical history and prior experiences, the current degree of pain, and/or anticipated pain. The advantage of non-pharmacological treatments is that they are relatively inexpensive and safe.
- **Option D:** There is no connection between type C fiber impulses and noninvasive and nonpharmacologic pain-control measures. Non-pharmacological pain therapy refers to interventions that do not involve the use of medications to treat pain. The goals of non-pharmacological interventions are to decrease fear, distress, and anxiety, and reduce pain and provide patients with a sense of control.

52. An 85-year-old male has been losing mobility and gaining weight over the last two (2) months. The patient also has the heater running in his house 24 hours a day, even on warm days. Which of the following tests is most likely to be performed?

- A. CBC (complete blood count)
- B. ECG (electrocardiogram)
- C. Thyroid function tests
- D. CT scan

Correct Answer: C. Thyroid function tests

Weight gain and poor temperature tolerance indicate something may be wrong with the thyroid function. Thyroid function tests are designed to distinguish hyperthyroidism and hypothyroidism from the euthyroid state. To accomplish this task, direct measurements of the serum concentration of the two thyroid hormones—triiodothyronine (T3) and tetraiodothyronine (T4)—more commonly known as thyroxine, are extensively employed.

- **Option A:** The complete blood count and metabolic profile may show abnormalities in patients with hypothyroidism. Thyroid dysfunction induces different effects on blood cells such as anemia, erythrocytosis, leukopenia, thrombocytopenia, and in rare cases causes' pancytopenia.
- **Option B:** Signs of hypothyroidism on ECG include sinus bradycardia, T-wave inversions (TWIs), QTc prolongation, and ventricular arrhythmias. Hypothyroidism can affect the cardiovascular system physiology and structure. These changes are often reflected on ECG.
- **Option D:** Ultrasonography of the neck and thyroid can be used to detect nodules and infiltrative disease. High-resolution ultrasonography (USG) is the most sensitive imaging modality available for examination of the thyroid gland and associated abnormalities. Ultrasound scanning is non-invasive, widely available, less expensive, and does not use any ionizing radiation. Further, real-time ultrasound imaging helps to guide diagnostic and therapeutic interventional procedures in cases of thyroid disease.

53. When auscultating the chest of a client with pneumonia, the nurse would expect to hear which of the following sounds over areas of consolidation?

- A. Bronchial
- B. Bronchovesicular
- C. Tubular
- D. Vesicular

Correct Answer: A. Bronchial

Chest auscultation reveals bronchial breath sounds over areas of consolidation. When bronchial sounds are heard in areas distant from where they normally occur, the patient may have consolidation (as occurs with pneumonia) or compression of the lung. These conditions cause the lung tissue to be dense.

- **Option B:** Bronchovesicular is normal over mid lobe lung regions. Bronchovesicular sounds can be heard during inspiration and expiration and have a mid-range pitch and intensity. They are commonly heard over the upper third of the anterior chest.
- **Option C:** Tubular sounds are commonly heard over large airways. Bronchial sounds (also called tubular sounds) normally arise from the tracheobronchial tree and vesicular sounds normally arise from the finer lung parenchyma. Loud, harsh, and high-pitched bronchial sounds are typically heard over the trachea or at the right apex.
- **Option D:** Vesicular breath sounds are commonly heard in the bases of the lung fields. Vesicular breath sounds are soft, low-pitched, predominantly inspiratory, and appreciated especially well at the posterior lung bases.

54. After the first hemodialysis treatment, your patient develops a headache, hypertension, restlessness, mental confusion, nausea, and vomiting. Which condition is indicated?

- A. Disequilibrium syndrome
- B. Respiratory distress
- C. Hypervolemia

D. Peritonitis

Correct Answer: A. Disequilibrium syndrome

Disequilibrium occurs when excess solutes are cleared from the blood more rapidly than they can diffuse from the body's cells into the vascular system. The dialysis disequilibrium syndrome is defined as a clinical syndrome of neurologic deterioration that is seen in patients who undergo hemodialysis. It is more likely to occur in patients during or immediately after their first treatment but can occur in any patient who receives hemodialysis.

- **Option B:** Patients with end-stage renal failure treated by hemodialysis have a marked increased risk for cardiovascular death. These patients have both an accelerated form of arteriosclerosis with calcification in atheromatous intimal plaques and also medial calcification due to Monckeberg's. In extreme cases, soft tissue calcification can lead to calciphylaxis resulting in skin ulceration, amputation, and death.
- **Option C:** Having too much water in the body is called fluid overload or hypervolemia. One of the main functions of the kidneys is to balance fluid in the body. If too much fluid builds up in the body, it can have harmful effects on health, such as difficulty breathing and swelling.
- **Option D:** Peritonitis is a peritoneal dialysis-related infection caused by bacteria entering the abdomen from outside the body and infecting the peritoneum. Bacteria may enter the body through the open ends of the PD catheter during exchanges.

55. A 58-year-old male patient, Mr. Thompson, is admitted to the telemetry unit after presenting with episodes of dizziness and palpitations. He has a known history of heart disease and is being closely monitored for any cardiac arrhythmias. The on-duty nurse takes this opportunity to mentor a junior nurse on the intricacies of the cardiac action potential, using Mr. Thompson's ECG tracings as a visual aid. The senior nurse explains the phases and stresses the importance of understanding the underlying cellular events that lead to the observed patterns on the ECG. While discussing, she poses a question to the junior nurse about the events during the depolarization phase. Reflecting on the teaching session and the patient's condition, which of the following events will NOT occur during the depolarization phase of the cardiac action potential?

- A. Influx of calcium ions into the cardiac cell
- B. Efflux of potassium ions from the cardiac cell
- C. Closure of sodium channels
- D. Activation of voltage-gated sodium channels

Correct Answer: B. Efflux of potassium ions from the cardiac cell

Efflux of potassium ions from the cardiac cell occurs during the repolarization phase, not during depolarization.

- **Option A:** Influx of calcium ions into the cardiac cell is an essential event during the depolarization phase, contributing to the plateau phase of the action potential.
- **Option C:** Closure of sodium channels is a critical event during depolarization as it leads to the influx of sodium ions, initiating the action potential.

- **Option D:** Activation of voltage-gated sodium channels is a crucial step during the depolarization phase, allowing the influx of sodium ions and the rapid upstroke of the action potential.

56. A nurse is preparing the client's morning NPH insulin dose and notices a clumpy precipitate inside the insulin vial. The nurse should:

- A. Draw up and administer the dose.
- B. Shake the vial in an attempt to disperse the clumps.
- C. Draw the dose from a new vial.
- D. Warm the bottle under running water to dissolve the clump.

Correct Answer: C. Draw the dose from a new vial.

The nurse should always inspect the vial of insulin before use for solution changes that may signify a loss of potency. NPH insulin is normally uniformly cloudy. Clumping, frosting, and precipitates are signs of insulin damage. In this situation, because potency is questionable, it is safer to discard the vial and draw up the dose from a new vial.

- **Option A:** Crystalline NPH insulin administration is subcutaneous. Administration is not Intramuscular or intravenous. NPH insulin is available in a two-phase solution, which means that apart from NPH, it has a solvent or a rapid-acting insulin solution. It comes in the form of a subcutaneous suspension or suspension pen-injector.
- **Option B:** The abdominal subcutaneous injection causes quicker absorption as compared to arms or thighs. The most significant advantage of NPH is that it can be included in premixed formulation with regular insulin. NPH in premixed formulations does not affect the potency and time-action profile of regular insulin. Exercise, massage, and local heat application increase NPH insulin absorption.
- **Option D:** NPH insulin has a somewhat higher risk of hypoglycemia. Inadequate resuspension is thought to contribute to the high day to day variability in the pharmacodynamic and pharmacokinetic profile of NPH insulin, leading to hypoglycemia. Patients can adequately resuspend NPH by rotating the vial several times until it's uniformly cloudy.

57. A 48-year-old male client is brought to the psychiatric emergency room after attempting to jump off a bridge. The client's wife states that he lost his job several months ago and has been unable to find another job. The primary nursing intervention at this time would be to assess for:

- A. A past history of depression.
- B. Current plans to commit suicide.
- C. The presence of marital difficulties.
- D. Feelings of excessive failure.

Correct Answer: B. Current plans to commit suicide

Whether there is a suicide plan is a criterion when assessing the client's determination to make another attempt. Keep accurate and thorough records of client's behaviors (verbal and physical) and all nursing/physician actions. Put on either suicide precaution (one-on-one monitoring at one arm's length away) or suicide observation (15-minute visual check of mood, behavior, and verbatim statements),

depending on level of suicide potential. Protection and preservation of the client's life at all costs during crisis is part of medical and nursing staff's responsibility. Follow unit protocol.

- **Option A:** Keep accurate and timely records, document client's activity, usually every 15 minutes (what client is doing, with whom, and so on). Follow unit protocol. Accurate documentation is vital. The chart is a legal document as to the client's "ongoing status," intervention taken, and by whom.
- **Option C:** Encourage the client to talk about their feelings and problem solving alternatives. Talking about feelings and looking at alternatives can minimize suicidal acting out. Encourage the client to talk freely about feelings and help plan alternative ways of handling disappointment, anger, and frustration. Gives the client other ways of dealing with strong emotions and gaining a sense of control over their lives.
- **Option D:** Encourage the client to avoid decisions during the time of crisis until alternatives can be considered. During crisis situations, people are unable to think clearly or evaluate their options readily. Construct a no-suicide contract between the suicidal client and nurse. Use clear, simple language. When the contract is up, it is renegotiated (If this is accepted procedure at your institution). The no-suicide contract helps client know what to do when they begin to feel overwhelmed by pain (e.g., "I will speak to my nurse/counselor/support group/family member when I first begin to feel the need to end my life").

58. Four hours after a difficult labor and birth, a primiparous woman refuses to feed her baby, stating that she is too tired and just wants to sleep. The nurse should:

- A. Tell the woman she can rest after she feeds her baby.
- B. Recognize this as a behavior of the taking-hold stage.
- C. Record the behavior as ineffective maternal-newborn attachment.
- D. Take the baby back to the nursery, reassuring the woman that her rest is a priority at this time.

Correct Answer: D. Take the baby back to the nursery, reassuring the woman that her rest is a priority at this time.

The behavior described is typical of this stage and not a reflection of ineffective attachment unless the behavior persists. Mothers need to reestablish their own well-being in order to effectively care for their baby.

- **Option A:** Response 1 does not take into consideration the need for the new mother to be nurtured and have her needs met during the taking-in stage.
- **Option B:** During the taking hold phase, the woman starts to initiate actions on her own and makes decisions without relying on others. Demonstrate newborn care to the mother and watch her do a return demonstration of every procedure.
- **Option C:** This dependence is mainly due to her physical discomfort from hemorrhoids or the after pains, from the uncertainty of how she could care for the newborn, and also from the extreme tiredness she feels that follows childbirth and not a reflection of ineffective attachment.

59. Lily , age 5, with an intelligence quotient of 65 is admitted to the hospital for evaluation. When planning care, the nurse should keep in mind that this child is:

- A. Within the lower range of normal intelligence
- B. Mildly retarded but educable
- C. Moderately retarded but trainable
- D. Completely dependent on others for care

Correct Answer: B. Mildly retarded but educable.

According to the American Association on Mental Deficiency, a person with an intelligence quotient (IQ) between 50 and 70 is classified as mildly mentally retarded but educable. However, it is no longer a standard to classify intellectual disability by IQ score alone. For instance, if an individual has an IQ below 70, but has a good adaptive function, the subject does not have an intellectual disability.

- **Option A:** On the other side, individuals with a normal, or even higher than normal IQ, may manifest severe deficits in adaptive functions and are, therefore, classified as having an intellectual disability. In turn, the current diagnosis of intellectual disability also considers a person's adaptive function.
- **Option C:** One with an IQ between 35 and 50 is classified as moderately retarded but trainable. The DSM-5 also has "Unspecified Intellectual Disability" (Intellectual Developmental Disorder) to describe individuals over the age of 5 suspected of having an intellectual disability who has difficulty completing required tests, usually because of limitations resulting from blindness, deafness, or concurrent mental illness.
- **Option D:** One with an IQ below 36 is severely and profoundly impaired, requiring custodial care. When initiating therapy, a healthcare provider must be aware of the various avenues of treating intellectual disability to orchestrate a multidisciplinary and individually tailored treatment appropriately.

60. To avoid fecal impaction, psyllium (Metamucil) should be administered with at least how many ounces of fluid?

- A. 4
- B. 6
- C. 8
- D. 10

Correct Answer: C. 8

Bulk-forming laxatives must be given with at least 8 ounces of liquid plus additional liquid each day to prevent intestinal obstruction. Bulk-forming laxatives retain fluid in the stool and increase stool weight and consistency. Psyllium, dietary fiber, carboxymethylcellulose, and methylcellulose are common examples. It is important to take ample amounts of water for bulk-forming agents to work. Lack of water, in turn, leads to bloating and can cause bowel obstruction.

- **Option A:** Most laxatives are safe when used appropriately and in patients without contraindications. Bulk-forming agents like lactulose can have adverse effects like bloating, nausea, vomiting, and diarrhea. With prokinetic agents, adverse effects like a headache, nausea, and diarrhea have been described.
- **Option B:** Stimulant laxatives are known to cause abdominal pain. Cisapride and tegaserod were withdrawn from the market after cardiovascular adverse effects, including prolonged QT interval that increases the risk for Torsades de Pointes. Mineral oil can cause aspiration and lipid

pneumonia.

- **Option D:** Osmotic agents like magnesium can cause metabolic disturbances, especially in the presence of renal involvement. Also, magnesium excretion depends on renal function, and its use requires caution in renal impairment. Osmotic agents result in volume load and should be used with caution in renal or cardiac dysfunction.

61. The nurse is assessing an infant with developmental dysplasia of the hip. Which finding would the nurse anticipate?

- A. Unequal leg length
- B. Limited adduction
- C. Diminished femoral pulses
- D. Symmetrical gluteal folds

Correct Answer: A. Unequal leg length

Shortening of a leg is a sign of developmental dysplasia of the hip. The hip is a “ball-and-socket” joint. In a normal hip, the ball at the upper end of the thigh bone (femur) fits firmly into the socket, which is part of the large pelvis bone. In babies and children with developmental dysplasia (dislocation) of the hip (DDH), the hip joint has not formed normally. The ball is loose in the socket and may be easy to dislocate.

- **Option B:** Limited adduction is not a sign of developmental dysplasia. In all cases of DDH, the socket (acetabulum) is shallow, meaning that the ball of the thighbone (femur) cannot firmly fit into the socket. Sometimes, the ligaments that help to hold the joint in place are stretched. The degree of hip looseness, or instability, varies among children with DDH.
- **Option C:** Femoral pulses in a client with developmental dysplasia of the hip are normal.
- **Option D:** Asymmetric gluteal folds with uneven gluteal creases are associated with developmental hip dysplasia.

62. What is the first step in the qualitative research process?

- A. Data analysis
- B. Sample
- C. Review of literature
- D. Study design

Correct Answer: C. Review of literature

Review of literature is the 1st step in the qualitative research process. A literature review is a survey of scholarly sources on a specific topic. It provides an overview of current knowledge, allowing the researcher to identify relevant theories, methods, and gaps in the existing research.

- **Option A:** Data analysis is the sixth step in the qualitative research process. Data Analysis is the process of systematically applying statistical and/or logical techniques to describe and illustrate, condense and recap, and evaluate data. An essential component of ensuring data integrity is the accurate and appropriate analysis of research findings.

- **Option B:** Sampling is the third step in the qualitative research process. Sampling is a process used in statistical analysis in which a predetermined number of observations are taken from a larger population. The methodology used to sample from a larger population depends on the type of analysis being performed, but it may include simple random sampling or systematic sampling.
- **Option D:** The study design is the second step in the qualitative research process. Study design is a process wherein the trial methodology and statistical analysis are organized to ensure that the null hypothesis is either accepted or rejected and the conclusions arrived at reflecting the truth.

63. Which of the following blood gas abnormalities is initially most suggestive of pulmonary edema?

- A. Anoxia
- B. Hypercapnia
- C. Hyperoxygenation
- D. Hypocapnia

Correct Answer: D. Hypocapnia

In an attempt to compensate for increased work of breathing due to hyperventilation, carbon dioxide decreases, causing hypocapnia. If the condition persists, CO₂ retention occurs and hypercapnia results. Hypoxemia and hypocapnia occur in stages 1 and 2 of pulmonary edema because of a ventilation/perfusion (V/Q) mismatch. In stage 3 of pulmonary edema, right-to-left intrapulmonary shunt develops secondary to alveolar flooding and further contributes to hypoxemia.

- **Option A:** Oxygen diffusion is impaired between the alveolus and the pulmonary capillaries. Causes are usually interstitial edema, interstitial inflammation or fibrosis. Clinical examples include pulmonary edema and interstitial lung disease.
- **Option B:** In more severe cases, hypercapnia and respiratory acidosis are usually observed. The decision regarding intubation and the use of mechanical ventilation is frequently based on many clinical parameters, including oxygenation, ventilation, and mental status.
- **Option C:** The alveolar epithelial and alveolar capillary endothelial cells are vulnerable targets for O₂-free-radical-induced injury caused by hyperoxia. In acute lung injury (ALI) caused by hyperoxia, hyperpermeability of the pulmonary microvasculature causes flooding of the alveolus with plasma extravasations leading to pulmonary edema and abnormalities in the coagulation and fibrinolysis pathways promoting fibrin deposition.

64. A client with a vancomycin-resistant enterococcus (VRE) infection is admitted to the medical unit. Which action can be delegated to a nursing assistant who is assisting with the client's care?

- A. Monitor the results of the laboratory culture and sensitivity test.
- B. Educate the client and family members on ways to prevent transmission of VRE.
- C. Implement contact precautions when handling the client.
- D. Collaborate with other departments when the client is transported for the ordered test.

Correct Answer: C. Implement contact precautions when handling the client.

All hospital personnel who care for the client are responsible for the correct implementation of contact precautions.

- **Options A, B, and D:** The other options should be carried out by a licensed nurse.

65. The human body functions optimally in a state of homeostasis.

- A. True
- B. False
- C. Maybe
- D. Homeostasis has nothing to do with metabolic balance.

Correct Answer: A. True

The maintenance of acid-base balance, which in one part of homeostasis, is evidenced by an arterial plasma pH value of 7.35-7.45. Many mechanisms in the body work together to achieve and maintain this delicate narrow range of pH that is essential for normal cell function.

66. A male adult client voluntarily admits himself to the substance abuse unit. He confesses that he drinks one (1) qt or more of vodka each day and uses cocaine occasionally. Later that afternoon, he begins to show signs of alcohol withdrawal. What are some early signs of this condition?

- A. Vomiting, diarrhea, and bradycardia
- B. Dehydration, temperature above 101° F (38.3° C), and pruritus
- C. Hypertension, diaphoresis, and seizures
- D. Diaphoresis, tremors, and nervousness

Correct Answer: D. Diaphoresis, tremors, and nervousness

Alcohol withdrawal syndrome includes alcohol withdrawal, alcoholic hallucinosis, and alcohol withdrawal delirium (formerly delirium tremens). Signs of alcohol withdrawal include diaphoresis, tremors, nervousness, nausea, vomiting, malaise, increased blood pressure and pulse rate, sleep disturbance, and irritability.

- **Option A:** Although diarrhea may be an early sign of alcohol withdrawal, tachycardia — not bradycardia — is associated with alcohol withdrawal. Alcohol withdrawal symptoms occur when patients stop drinking or significantly decrease their alcohol intake after long-term dependence. Withdrawal has a broad range of symptoms from mild tremors to a condition called delirium tremens, which results in seizures and could progress to death if not recognized and treated promptly.
- **Option B:** Dehydration and an elevated temperature may be expected, but a temperature above 101° F indicates an infection rather than alcohol withdrawal. Pruritus rarely occurs in alcohol withdrawal. Alcohol withdrawal can range from very mild symptoms to the severe form, which is named delirium tremens. The hallmark is autonomic dysfunction resulting from the excitation of the central nervous system. Mild signs/symptoms can arise within six hours of alcohol cessation. If symptoms do not progress to more severe symptoms within 24 to 48 hours, the patient will likely recover.

- **Option C:** If withdrawal symptoms remain untreated, seizures may arise later. Withdrawal seizures can typically be managed with benzodiazepines as well, but may require adjunct therapy with phenytoin, barbiturates, and may even require intubation and sedation with propofol (Diprivan), ketamine (Ketalar), or in the most severe cases dexmedetomidine (Precedex).

67. Neurovascular assessment for a fracture patient includes: Select all that apply.

- A. Prosthesis
- B. Polyps
- C. Pain
- D. Pallor
- E. Pulselessness
- F. Paresthesia
- G. Paralysis
- H. Poikilothermia

Correct Answer: C, D, E, F, G, and H

When damage occurs to a muscle or muscle group within the fascial compartment, the resulting swelling and bleeding can create an increased pressure that, if left untreated, can choke off circulation, eventually leading to localized cellular hypoxia and death. The six P's of compartment syndrome for warning signs to watch for are Pain, Pallor, Pulselessness, Paresthesia, Paralysis, and Poikilothermia.

- **Option A:** The major components of lower extremity prosthesis include the socket, suspension mechanism, knee joint (if needed), pylon, and the terminal device. The goals of lower limb prosthesis include comfortability, lightweight, durable, aesthetically pleasing, low maintenance, and appropriate mechanical function for the amputee's functional status.
- **Option B:** Polyps are abnormal tissue growths that most often look like small, flat bumps or tiny mushroom-like stalks. Most polyps are small and less than half an inch wide. Polyps in the colon are the most common, but it's also possible to develop polyps in places that include: ear canal.
- **Option C:** Complications can be prevented when pain is identified and treated early. Pain can be caused by sensory nerve damage and/or diminished blood flow. Use a pain assessment tool to assess severity of pain. A hallmark of neurovascular compromise is pain disproportionate to the injury
- **Option D:** Pallor or cyanosis may indicate inadequate arterial supply; dusky, cyanotic, mottled, or purple black coloration may indicate inadequate venous return. Consider the patient's usual skin tone and any skin conditions when performing this assessment; cyanosis can present differently in different skin tones.
- **Option E:** Assess upper extremity peripheral pulses (brachial, radial, and ulnar) and lower extremity peripheral pulses (femoral, popliteal, posterior tibialis, and dorsalis pedis) bilaterally. Be sure to assess for the presence of pulses distal to any injury.
- **Option F:** Ask the patient about changes in sensation, such as tingling, numbness (paresthesia), pressure, or burning. A pressure sensory exam often consists of assessing light touch with a cotton swab and assessing temperature discrimination with warm and cold stimuli; pinprick sensation can be tested using the sharp end of a disposable safety pin.

- **Option G:** Assess range of motion and strength. The patient's ability to perform specific movements is a key indicator of motor function of specific nerves. Loss of motor function is often a late sign of neurovascular compromise; thus, frequent assessment and careful attention is required to detect these subtle changes in the patient.
- **Option H:** Poikilothermia, the inability to maintain a constant core temperature independent of ambient temperature, markedly influences both the mental and physical function of affected patients; furthermore, prolonged hypothermia can induce numerous complications.

68. One of your patients is receiving digitalis orally and is also to receive an antacid at the same time. Your most appropriate action, based on the pharmacokinetics of antacids, is to:

- A. Delay the digitalis for 1 to 2 hours until the antacid is absorbed.
- B. Give the antacid at least 2 to 4 hours before administering the digitalis.
- C. Administer both medications as ordered and documented in the nurse's notes.
- D. Contact the physician regarding the drug interaction and request a change in the time of dosing of the drugs.

Correct Answer: D. Contact the physician regarding the drug interaction and request a change in the time of dosing of the drugs.

When antacids are taken with acidic drugs (for example, digoxin [Digitek], phenytoin [Dilantin], chlorpromazine [Thorazine], [isoniazid]), they cause the absorption of the acidic drugs to be decreased, which causes low blood concentrations of the drugs, which ultimately results in reduced effects of the drugs.

- **Option A:** Avoid taking antacid medicines for indigestion or heartburn within two hours of taking a digoxin dose, because they can stop the digoxin from being absorbed properly if taken too close together.
- **Option B:** Numerous pharmacological agents have been shown to produce clinically significant pharmacokinetic interactions with digoxin. Drugs that reduce digoxin absorption include the antacids aluminum hydroxide, magnesium hydroxide, and magnesium trisilicate, the antidiarrheals kaolin and pectin, the hypocholesterolemic agent cholestyramine and the chemotaxins cyclophosphamide, vincristine, and bleomycin.
- **Option C:** Alteration of the timing of the administration of digoxin from that of a second drug (e.g. as with liquid antacids, kaolin-pectin, or meals of high fiber content), or alteration of the dose of digoxin based on the anticipated change in kinetics (as with spironolactone, quinidine or medications altering gut function or motility), can improve the clinical effectiveness of digoxin therapy.

69. A nurse is collecting data during an admission assessment of a client who is pregnant with twins. The client has a healthy 5-year-old child that was delivered at 37 weeks and tells the nurse that she doesn't have any history of abortion or fetal demise. The nurse would document the GTPAL for this client as:

- A. Gravida 3, para 2001
- B. Gravida 2, para 0101

C. Gravida 1, para 1101

D. Gravida 2, para 1001

Correct Answer: D. Gravida 2, para 1001

Pregnancy outcomes can be described with the acronym GTPAL.

- “G” is Gravidity, the number of pregnancies.
- “T” is term births, the number of born at term (37 weeks or after).
- “P” is preterm births, the number born between 20-36 weeks gestation.
- “A” is abortions or miscarriages, losses before 20 weeks.
- “L” is live births, the number of births of living children.

70. The use of barbiturates in treating insomnia include which of the following? Select all that apply.

A. Barbiturates deprive people of NREM sleep

B. Barbiturates deprive people of REM sleep

C. When the barbiturates are discontinued, the NREM sleep increases.

D. When the barbiturates are discontinued, the REM sleep increases.

E. Nightmares are often an adverse effect when discontinuing barbiturates.

Correct Answer: B, D, & E.

Barbiturates are a group of sedative-hypnotic medications used for the treatment of seizure disorder, neonatal withdrawal, insomnia, preoperative anxiety, induction of coma for increased intracranial pressure

- **Option A:** The demonstration of a relationship between the profusion of eye movements and the “activity” or vividness of the accompanying dream and the finding that barbiturates not only decrease the overall amount of REM sleep but also reduce the profusion of eye movements per minute of REM sleep led to the prediction that barbiturate administration would result in dream experiences of a more tranquil nature
- **Option B:** Barbiturates deprive people of REM sleep. To determine the effect of barbiturates on sleep, two subjects, after a control period, received 200 mg. of sodium amylobarbitone for 26 nights. All night sleep records taken during this period showed that the barbiturate shortened the delay to sleep, increased the total sleep period, lengthened the delay to rapid eye movement (R.E.M.) sleep, and depressed R.E.M. sleep.
- **Option C:** After five nights R.E.M. sleep returned to baseline values —that is, showed tolerance. On stopping the drug withdrawal phenomena were seen, even to this small dose of the drug. In a second experiment a subject dependent on 600 mg. of Tuinal was found to have low normal R.E.M. sleep while on drugs. On withdrawal, delay to sleep increased and total sleep time fell. R.E.M. sleep was doubled and the delay to R.E.M. became abnormally short.
- **Option D:** When the barbiturate is stopped and REM sleep once again occurs, a rebound phenomenon occurs. During this phenomenon, the person’s dream time constitutes a larger percentage of the total sleep pattern, and the dreams are often nightmares.

71. Exchange of gases takes place in which of the following organs?

- A. Kidney
- B. Lungs
- C. Liver
- D. Heart

Correct Answer: B. Lungs

Gas exchange is the transport of oxygen from the lungs to the bloodstream and the expulsion of carbon dioxide from the bloodstream to the lungs. It transpires in the lungs between the alveoli and a network of tiny blood vessels called capillaries, which are located in the walls of the alveoli.

- **Option A:** The renal system consists of the kidney, ureters, and urethra. The overall function of the system filters approximately 200 liters of fluid a day from renal blood flow which allows for toxins, metabolic waste products, and excess ions to be excreted while keeping essential substances in the blood. The kidney regulates plasma osmolarity by modulating the amount of water, solutes, and electrolytes in the blood. It ensures long-term acid-base balance and also produces erythropoietin which stimulates the production of red blood cells.
- **Option C:** The liver is a critical organ in the human body that is responsible for an array of functions that help support metabolism, immunity, digestion, detoxification, vitamin storage among other functions. It comprises around 2% of an adult's body weight. The liver is a unique organ due to its dual blood supply from the portal vein (approximately 75%) and the hepatic artery (approximately 25%).
- **Option D:** The heart is a muscular organ situated in the center of the chest behind the sternum. It consists of four chambers: the two upper chambers are called the right and left atria, and the two lower chambers are called the right and left ventricles. The right atrium and ventricle together are often called the right heart, and the left atrium and left ventricle together functionally form the left heart.

72. A client is prescribed with carbamazepine (Tegretol) for the treatment of bipolar disorder. Which of the following laboratory results indicates that the client is experiencing a side effect of this medication?

- A. Neutrophil count of 1,200/mm³.
- B. Platelet count of 160,000/mm³.
- C. Uric acid level of 4mg/dl.
- D. SGPT (ALT) level 50 units per liter of serum.

Correct Answer: A. Neutrophil count of 1,200/mm³.

Carbamazepine is used to treat seizures and nerve pain such as trigeminal neuralgia and diabetic neuropathy. It causes a decreased level of platelet count, white blood cells, and neutrophil count. The normal range for neutrophils is 1,500 to 8,000/mm³).

- **Options B, C, & D:** All of these are normal values.

73. A nurse is caring for a 22-year-old individual with a known diagnosis of epilepsy. During the nurse's shift, the patient begins to have a tonic-clonic seizure. During the active phase of the seizure, which of the following actions should the nurse take? Select all that apply.

- A. Place the patient on their back, remove dangerous objects from the immediate vicinity, and insert a padded tongue depressor.
- B. Place the patient in a lateral position (on their side), remove any hazardous objects nearby, and prepare to use a bite block if needed.
- C. Position the patient supine (on their back), clear the area of any items that might cause injury, and restrain their limbs gently.
- D. Turn the patient to a side-lying position, ensure the environment is safe from potential hazards, and use a pillow or a hand to protect the head.
- E. Keep the patient in a prone position, secure the perimeter for safety, and monitor their respiratory status closely.
- F. Roll the patient onto their side to prevent aspiration, remove objects that could cause harm, and observe for cessation of seizure activity.

Correct Answers: B, D, and F.

During a seizure, it is important to prevent injury to the patient. Placing the patient on their side can help maintain an open airway and allow any oral secretions or vomitus to drain, preventing aspiration. Removing dangerous objects helps to minimize the risk of injury. While a bite block may be used in some situations to prevent the patient from biting their tongue, it is not recommended to insert anything into the mouth of someone who is actively seizing due to the risk of injury or aspiration. Protecting the head is also crucial to prevent trauma during convulsive movements.

74. Nurse Mariane is caring for an infant with spina bifida. Which technique is most important in recognizing possible hydrocephalus?

- A. Obtaining skull X-ray
- B. Measuring head circumference
- C. Performing a lumbar puncture
- D. Magnetic resonance imaging (MRI)

Correct Answer: B. Measuring head circumference

Measuring head circumference is the most important assessment technique for recognizing possible hydrocephalus, and is a key part of routine infant screening. Congenital hydrocephalus is usually present at birth. An unusually large head is a significant sign of congenital hydrocephalus.

- **Option A:** X-rays of the skull may show erosion of sella turcica, or so-called "beaten copper cranium" appearance, but are seldom helpful or indicated with the availability of better imaging techniques. Ultrasonography through anterior fontanelle may be used in infants for evaluating the ventricular system and progression of hydrocephalus.
- **Option C:** A lumbar puncture isn't appropriate. CSF analysis could be done to help with the diagnosis and to exclude residual infection. Neuroimaging plays a central role in confirming the diagnosis in suspected cases, identifying the cause and possible treatment. In cases of acute

hydrocephalus, an emergency head computed tomographic (CT) scan is the first option to assess the ventricular size.

- **Option D:** MRI may be used to confirm the diagnosis. Magnetic resonance imaging (MRI) of the brain is the study of choice as it shows better the posterior fossa structures, can differentiate between brain tumors and degenerative diseases and can differentiate NPH from cerebral atrophy.

75. Which phase of hepatitis would the nurse incur strict precautionary measures at?

- A. Icteric
- B. Non-icteric
- C. Post-icteric
- D. Pre-icteric

Correct Answer: D. Pre-icteric

Pre-icteric is the infective phase and precautionary measures should be strictly enforced. However, most patients are not always diagnosed during this phase. Nonspecific symptoms occur; they include profound anorexia, malaise, nausea and vomiting, a newly developed distaste for cigarettes (in smokers), and often fever or right upper quadrant abdominal pain. Urticaria and arthralgias occasionally occur, especially in HBV infection.

- **Option A:** During the icteric phase, precautionary measures should already be in place. After 3 to 10 days, the urine darkens, followed by jaundice. Systemic symptoms often regress, and patients feel better despite worsening jaundice. The liver is usually enlarged and tender, but the edge of the liver remains soft and smooth. Mild splenomegaly occurs in 15 to 20% of patients. Jaundice usually peaks within 1 to 2 weeks.
- **Option B:** There is no non-icteric phase. Some manifestations of acute hepatitis are virus-specific, but in general, acute infection tends to develop in predictable phases. Acute viral hepatitis is a common, worldwide disease that has different causes; each type shares clinical, biochemical, and morphologic features. The term acute viral hepatitis often refers to infection of the liver by one of the hepatitis viruses.
- **Option C:** During the post-icteric phase, precautionary measures should already be in place. During this 2- to 4-week period, jaundice fades. Appetite usually returns after the first week of symptoms. Acute viral hepatitis usually resolves spontaneously 4 to 8 weeks after symptom onset.

76. In a 50-year-old widower who had a transient ischemic attack, what is the most common vasodilator used for his treatment?

- A. norepinephrine
- B. dopamine (Intropin)
- C. papaverine (Pavabid)
- D. nitroprusside (Nitropress)

Correct Answer: D. nitroprusside (Nitropress)

Nitroprusside (Nitropress) is used in this situation. Sodium nitroprusside (SNP) is a potent vasodilator that first gained FDA approval for the treatment of severe hypertension in 1974. From a hemodynamic

perspective, the net result is a decrease in systemic vascular resistance (afterload), ventricular filling pressures, and systemic blood pressure with an increase in cardiac output. A and B are sympathomimetics used to treat hypotension.

- **Option A:** Norepinephrine's predominant use is as a peripheral vasoconstrictor. Specifically, the FDA has approved its use for blood pressure control in specific acute hypotensive states, as well as being a potential adjunct in the treatment of cardiac arrest with profound hypotension. Also, norepinephrine generally has more predictive pharmacologic properties than other alpha agonists. This predictive quality, in combination with some of its beta-agonism (which improves cardiac function relative to pure alpha agonists), makes norepinephrine a widely used vasoactive agent.
- **Option B:** Dopamine (DA) is a peripheral vaso stimulant used to treat low blood pressure, low heart rate, and cardiac arrest, especially in acute neonatal cases via a continuous intravenous drip. Indications for DA include maintenance of blood pressure for chronic congestive heart failure, trauma, renal failure, and even open-heart surgery and shock from myocardial infarction or septicemia. DA administration in low doses may also be beneficial to manage hypotension, low cardiac output, and inadequate organ perfusion (often indicated by low urine production).
- **Option C:** Papaverine is contraindicated in myocardial depressant states. Papaverine is a vasodilator that relaxes smooth muscles in the blood vessels to help them dilate (widen). This lowers blood pressure and allows blood to flow more easily through the veins and arteries. Papaverine is used to treat many conditions that cause spasms of smooth muscle.

77. The nurse is providing discharge teaching to the client who was given a prescription for nifedipine (Adalat) for blood pressure management. Which instructions should the nurse include? Select all that apply.

- A. "Increase water intake."
- B. "Increase calcium intake."
- C. "Take pulse rate each day."
- D. "Weigh at the same time each day."
- E. "Palpitations may occur early in therapy."
- F "Be careful when rising from sitting to standing."

Correct Answers: C, D, E, & F.

Nifedipine is a calcium-channel blocker. Its therapeutic outcome is to decrease blood pressure. Its method of action is blockade of the calcium channels in vascular smooth muscle, promoting vasodilation.

- **Option A:** Increased water intake is not indicated in the client with cardiovascular disease. This medicine may cause fluid retention (edema) in some patients.
- **Option B:** Nifedipine does not affect serum calcium levels. During the depolarization phase of smooth muscle cells, there is an influx of calcium ions through voltage-gated channels. Nifedipine inhibits the entry of calcium ions by blocking these voltage-dependent L-type calcium channels in vascular smooth muscle and myocardial cells.
- **Option C:** Also, the client is taught to take his or her own pulse. Nifedipine is a calcium channel blocker. It works by affecting the movement of calcium into the cells of the heart and blood vessels. As a result, nifedipine relaxes blood vessels and increases the supply of blood and oxygen to the heart while reducing its workload.

- **Option D:** Weight should be checked regularly to monitor for early signs of heart failure. Since nifedipine may potentially cause fluid build-up, it is also essential to check the client's weight regularly.
- **Option E:** Side effects that can occur early in therapy include reflex tachycardia (palpitations) and first-dose hypotension, leading to orthostatic hypotension.
- **Option F:** Reduced intracellular calcium reduces peripheral arterial vascular resistance and dilatation of coronary arteries, leading to a reduction in systemic blood pressure and increased myocardial oxygen delivery. Nifedipine thus has hypotensive and antianginal properties.

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

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

Correct Answer: A, C, & F

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

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

very acceptable for the vagina.

79. A client arrives in the emergency department with an ischemic stroke and receives tissue plasminogen activator (t-PA) administration. Which is the priority nursing assessment?

- A. Time of onset of current stroke
- B. Complete physical and history
- C. Current medications
- D. Upcoming surgical procedures

Correct Answer: A. Time of onset of current stroke

The time of onset of a stroke to t-PA administration is critical. Administration within 3 hours has better outcomes. Tissue plasminogen activator (tPA) is classified as a serine protease (enzymes that cleave peptide bonds in proteins). It is thus one of the essential components of the dissolution of blood clots. Its primary function includes catalyzing the conversion of plasminogen to plasmin, the primary enzyme involved in dissolving blood clots.

- **Option B:** A complete history is not possible in emergency care. For the management of acute myocardial infarction in adults, administer alteplase as soon as possible after the onset of symptoms. The patient's weight determines the dose to be administered, which is not to exceed 100 mg irrespective of the selected administration method (accelerated infusion preferred by the AHA/ACCA or slower, 3-hour infusion as per manufacturer's labeling).
- **Option C:** Current medications are relevant, but the onset of current stroke takes priority. Monitor closely with any drug that causes anticoagulation as there is an increased risk of bleeding. Through pharmacodynamic synergism, defibrotide increases the effects of tPA drugs and is thus contraindicated. Prothrombin complex concentrate, human can cause pharmacodynamic antagonism of the tPA drugs. Nitroglycerin could decrease the serum concentration of tPA drugs. Salicylates could enhance the toxic effects of thrombolytic drugs. Monitor therapy, as there is an increased risk of bleeding.
- **Option D:** Upcoming surgical procedures will need to be delayed if t-PA is administered. tPA is a thrombolytic (i.e., it breaks up blood clots) formed by aggregation of activated platelets into fibrin meshes by activating plasminogen. More specifically, it cleaves the zymogen plasminogen at its Arg561-Val562 peptide bond to form the serine protease, plasmin. Plasmin, an endogenous fibrinolytic enzyme, breaks the cross-links between fibrin molecules, which are the structural support of the blood clot, and its activity is extremely short-lived.

80. Which of the following nursing interventions should you use to prevent footdrop and contractures in a patient recovering from a subdural hematoma?

- A. High-top sneakers
- B. Low-dose heparin therapy
- C. Physical therapy consultation
- D. Sequential compressive device

Correct Answer: A. High-top sneakers

High-top sneakers are used to prevent foot drop and contractures in patients with neurologic conditions.

- **Option B:** Heparin therapy is not applicable to the treatment of foot drop and contractures.
- **Option C:** A consult with physical therapy is important to prevent foot drop, but you can use high-top sneakers independently.
- **Option D:** Sequential compression devices (SCDs) are inflatable sleeves that fit around the legs. The sleeves are attached to a pump that inflates and deflates the sleeves. The pumping action acts like muscles to help blood flow and prevent clots. SCDs are often used after surgery until the client can get up and walk.

81. A nurse observes the client receiving fat emulsions is having hives. A nurse reviews the client's history and notes which of the following may be caused by the complaint of the client?

- A. Allergy to an egg.
- B. Allergy to peanuts.
- C. Allergy to shellfish.
- D. Allergy to corn.

Correct Answer: A. Allergy to an egg.

Fat emulsions (lipids) contain egg yolk phospholipids and should not be given to clients with egg allergies. Intravenous fat emulsions (IFEs) are a vital component of total parenteral nutrition, because they provide essential fatty acids. IFE is a sterile fat emulsion that contains egg-yolk phospholipids. Although egg allergy is listed as a contraindication, adverse reactions are uncommon.

- **Option B:** Hypersensitivity reactions to TPN can be managed by withholding the TPN and treating with antihistamines if needed until the reaction resolves. Identification, possibly by epicutaneous allergy testing, and removal of the offending agent(s) from the TPN is necessary if TPN therapy must be restarted.
- **Option C:** Although ingestion of egg lecithin in cooked food is generally tolerated by egg-allergic people, administration of intravenous egg-containing lipid emulsions may cause significant adverse reactions.
- **Option D:** If the patient has an allergy to amino acids, dextrose, fat emulsion, or any other part of total parenteral nutrition, he should be referred to a doctor first. If the patient has an allergy to corn, corn products, eggs, peanuts, or soybeans, he should talk with a doctor.

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

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

Correct Answer: C. Intravenous (IV)

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

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

83. 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.

84. A leukemia patient has a relative who wants to donate blood for transfusion. Which of the following donor medical conditions would prevent this?

- A. A history of hepatitis C five years previously.
- B. Cholecystitis requiring cholecystectomy one year previously.
- C. Asymptomatic diverticulosis.
- D. Crohn's disease in remission.

Correct Answer: A. A history of hepatitis C five years previously.

Hepatitis C is a viral infection transmitted through bodily fluids, such as blood, causing inflammation of the liver. Patients with hepatitis C may not donate blood for transfusion due to the high risk of infection in the recipient. Transmission can be parenteral, perinatal, and sexual, with the most common mode being the sharing of contaminated needles among IV drug users. Also, other high-risk groups include people who require frequent blood transfusions and organ transplantation of organs from infected donors.

- **Option B:** Cholecystitis is inflammation of the gallbladder that occurs most commonly because of an obstruction of the cystic duct by gallstones arising from the gallbladder (cholelithiasis). Ninety percent of cases of cholecystitis involve stones in the gallbladder (ie, calculous cholecystitis), with the other 10% of cases representing acalculous cholecystitis.
- **Option C:** Diverticular disease (diverticulosis, diverticulitis) is a general term that refers to the presence of diverticula, small pouches in the large intestinal (colonic) wall. The cause of diverticulosis is unclear, but it has been associated with increased pressure from constipation or increasing abdominal girth in obesity. The classic high-fat and low-fiber diet of the Western culture may be a major contributor to the development of diverticulosis.
- **Option D:** Crohn's disease is an idiopathic, chronic inflammatory process that can affect any part of the gastrointestinal tract from the mouth to the anus. Crohn's disease is believed to be the result of an imbalance between proinflammatory and anti-inflammatory mediators. Although genetic susceptibility, luminal antigenic drive, and environmental triggers are also important factors, animal models demonstrate that no single factor is sufficient to induce intestinal inflammation.

85. Which of the following diagnostic tests should be performed annually over age 50 to screen for colon cancer?

- A. Abdominal CT scan
- B. Abdominal x-ray
- C. Colonoscopy
- D. Fecal occult blood test

Correct Answer: D. Fecal occult blood test

Surface blood vessels of polyps and cancers are fragile and often bleed with the passage of stools. A fecal occult blood test is used to find blood in the feces, or stool, which can be a sign of polyps or cancer. A positive test, meaning that blood is found in the feces, can be from causes other than a colon polyp or cancer, including bleeding in the stomach or upper GI tract and even eating rare meat or other

foods. There are 2 types of tests: guaiac (FOBT) and immunochemical (FIT). Polyps and cancers do not bleed continually, so FOBT must be done on several stool samples each year and should be repeated every year. Even then, this screening test provides a fairly small reduction in deaths from colorectal cancer, around 30% if done yearly and 18% if done every other year.

- **Option A:** Abdominal CT scan can help establish tumor size and metastasis. Ct colonography, sometimes called virtual colonoscopy, is a screening method being studied in some centers. It requires interpretation by a skilled radiologist to provide the best results. A radiologist is a doctor who specializes in obtaining and interpreting medical images. CT colonography may be an alternative for people who cannot have a standard colonoscopy due to the risk of anesthesia, which is medication to block the awareness of pain, or if a person has a blockage in the colon that prevents a full examination.
- **Option B:** Abdominal x-ray is a commonly performed diagnostic x-ray examination that produces images of the organs in the abdominal cavity including the stomach, liver, intestines, and spleen. When an abdominal x-ray is performed to provide pictures of the kidneys, ureters, and bladder, it's called a KUB x-ray.
- **Option C:** A colonoscopy can help locate a tumor as well as polyps, which can be removed before they become malignant. A colonoscopy allows the doctor to look inside the entire rectum and colon while a patient is sedated. A flexible, lighted tube called a colonoscope is inserted into the rectum and the entire colon to look for polyps or cancer. During this procedure, a doctor can remove polyps or other tissue for examination. The removal of polyps can also prevent colorectal cancer.